





# University Catalog

## 2025-2026

RUSH UNIVERSITY

The Rush University Catalog is published as a guide for the faculty and students. The university reserves the right to add, amend, delete or deviate from any specifications herein at any time and to apply such changes to registered and accepted students. Policies as stated in the catalog supersede policies in departmental student handbooks. Students are responsible for reading the catalog and acquainting themselves with the university policies and regulations to which they are required to adhere. Additionally, students are responsible for knowing the degree requirements relevant to their majors and for enrolling in the courses satisfying those requirements.

Rush University believes the information contained herein is accurate as of August 7, 2025.

RUSH UNIVERSITY

# Welcome to Rush University

Dear Students:

Welcome to Rush! Rush University is a nationally recognized health science university that includes the College of Nursing, the College of Health Sciences and Rush Medical College. Rush University is the academic enterprise of Rush University Medical Center. You're now part of a student body of nearly 3,000 students. Rush also trains nearly 800 residents and fellows in a wide variety of Graduate Medical Education programs.

The Rush system has a long history with roots that began more than 180 years ago when Rush Medical College was chartered on March 2, 1837, two days before the city of Chicago was chartered.

The mission of Rush University is to champion a vibrant learning environment in health and biomedical sciences through collaboration, education, research and equity for our students, faculty, staff and the communities we serve. Your classroom will extend from the lecture halls and small group meeting places of our university buildings to the labs of our research buildings, the wards of the three hospitals of Rush University System for Health. It also includes our extensive ambulatory sites and, importantly, into our neighboring communities where we develop and partner on health improvement strategies. We also offer national and international opportunities for professional growth and our online instruction is nationally recognized for excellence.

The university provides an educational experience built around a teacher-practitioner model that trains the next generation of health care professionals and providers while promoting a research and innovation environment that goes hand in hand with clinical excellence. We believe that the best teachers are often the ones who are doing the work — whether it is research, clinical care, administrative work or work in our community. You will learn from many who model this teacher-practitioner approach and learn from one another, as we will also learn from you.

Education and training are not limited to these programs. You are entering fields that require a commitment to lifelong learning. Our faculty will both model and demonstrate how important this commitment is for your own effectiveness and professional satisfaction. We envision that you will have an extremely nurturing and positive experience. You will love it.

At Rush University, we take our responsibility to educate you very seriously. Learning the science — whether in the lab, the classroom or at the bedside — is only part of it. Interacting with patients and colleagues and learning how to be part of a team are critically important skill sets that we will work on together. Individual support of others, be they patients or colleagues, and understanding our own personal health needs and your own need for support are also important parts of your professional development.

Finally, your work here, our work as a university, a medical center and system as a whole — none of this exists in a vacuum. We are part of a community and part of a storied medical history. Our goal is to create a diverse and inclusive educational environment where all are welcomed, as inequities in health care must be identified and addressed. Students play an important role in our efforts inside at Rush and in our community to identify and correct these inequities.

You are about to begin an adventure in learning that will never end and will be constantly rewarding. We, your faculty, are looking forward to meeting and working with you. Please feel free to call on any of us for questions and support. Our mission statement was mentioned above, but it could be shortened to "We're here for you."

Congratulations and welcome to the Rush family.

**Robert S.D. Higgins, MD, MSHA**
President and Chief Academic Officer, Rush University

## About Rush University

## Rush University Mission, Vision and Values

### Mission

Rush University champions a learning environment in health and biomedical sciences through collaboration, education, research and equity for our students, faculty, staff and the communities we serve.

### Vision

Rush University is a model for improving health through innovative research and transformative education in a culture of excellence and equity.

### Core Values

As the academic component of Rush University Medical Center, the university shares the medical center's core values: innovation, collaboration, accountability, respect and excellence. The I CARE values guide the efforts of Rush University students, faculty, researchers and staff.

## History of Rush University

Rush University is the academic component of Rush University Medical Center. Founded in 1972, the university has expanded from one college and fewer than 100 students to three colleges and more than 2,700 students. It includes Rush Medical College, Rush University College of Nursing and the College of Health Sciences.

**Rush Medical College** is named for Benjamin Rush, a physician from Pennsylvania and signer of the Declaration of Independence. Rush Medical College was chartered in 1837 and opened officially on Dec. 4, 1843, with 22 students enrolled in a 16-week course. During the first century of operation, more than 10,000 physicians received their training at Rush Medical College.

Rush Medical College was affiliated with the University of Chicago from 1898 until 1942, when the medical college temporarily suspended its educational program, though it continued its corporate existence. Its faculty continued undergraduate and graduate teaching of medicine and the biological sciences as members of the faculty of the University of Illinois. The charter of the medical college was reactivated in 1969, when it became part of the medical center. Rush Medical College reopened in 1971 with a class of 66 first-year students and 33 third-year students. First-year class size reached its projected maximum of 120 in 1976.

Rush Medical College is also home to four graduate programs in the Division of Translational Sciences. In 2024, the four programs that made up Rush University Graduate College were transferred to the DTS under the medical college. These programs prepare graduates for rewarding careers as scientists, educators and leaders in academia, industry and government.

**Rush University College of Nursing** represents a combined heritage dating back to the late 19th century when its first antecedent, the St. Luke's Hospital School of Nursing, opened in 1885 to offer diploma education to nurses. In 1903, the Presbyterian Hospital School of Nursing accepted its first students. From 1956 to 1968, nurses were taught at the merged Presbyterian-St. Luke's Hospital School of Nursing. Before the establishment of the College of Nursing in 1972, more than 7,000 nurses had graduated from these three schools.

**The College of Health Sciences**, established in 1975, traces its origins to the School of Medical Technology sponsored by Presbyterian-St. Luke's Hospital from 1959 to 1972. This school was the second largest of its kind in the city of Chicago. During its operation, it provided a one-year professional internship program to more than 200 baccalaureate students in medical technology. Today the College of Health Sciences offers doctoral programs in audiology and health sciences, 10 programs at the master's level, and bachelor's programs in health sciences, imaging sciences and vascular ultrasound technology.

## Rush University Seal

The Rush University seal is a shield, a classic Greek symbol of preservation and protection and also a medieval British emblem used for identification. It recognizes the university's overarching commitment to educating health care professionals who preserve life and protect patients, and it is the distinguishing identification of Rush University. Its two colors, green and gold, merge the tradition of the past with the custom of the present, as old gold was the single historical color of Rush Medical College and green is used for the modern medical center.

The motto, "ministrare per scientiam," translated from Latin means to "minister (care for or serve) through scientific knowledge." It was adopted by the Board of Trustees in September 1993 to reflect the commitment to educate caring professionals whose practice is based in knowledge. The shadow in the background is the anchor cross, a symbol of hope and steadfastness, which became the emblem of the merged Presbyterian and St. Luke's hospitals in 1957 and the foundation that created the vision for Rush University.

Superimposed on top is the stylized version of the anchor cross that was adopted in 1971 during the merger of Rush Medical College and Presbyterian-St. Luke's Hospital. The final elements are Chicago, the university's home city, and the date of the university's founding, 1972. The Rush University Board of Overseers adopted the seal in 1999.

## Rush University Medical Center

### Mission

The mission of Rush is to improve the health of the individuals and diverse communities we serve through the integration of outstanding patient care, education, research and community partnerships.

### Vision

RUSH will be the leading academic health system in the region and nationally recognized for transforming health care.

### Core Values

**I CARE**

**I**nnovation
**C**ollaboration
**A**ccountability
**R**espect
**E**xcellence

These five values, known as our I CARE values, convey the philosophy behind every decision RUSH employees make. RUSH employees also commit themselves to executing these values with compassion. This translates into a dedication — shared by all members of the RUSH community — to providing the highest quality patient care.

## History of Rush University Medical Center

Rush University Medical Center is one of Chicago's oldest health care organizations. Its heritage extends back to 1837, when Rush Medical College was established. St. Luke's Hospital, founded in 1864, and Presbyterian Hospital, founded in 1883, merged in 1956 to form Presbyterian-St. Luke's Hospital. The subsequent incorporation of these pioneer institutions in 1969 created Rush-Presbyterian-St. Luke's Medical Center, which was renamed Rush University Medical Center in 2003.

RUSH is an academic health system comprising Rush University Medical Center, Rush University, Rush Copley Medical Center and Rush Oak Park Hospital.

## Educating Future Health Care Providers

Rush University is home to one of the first medical colleges in the Midwest and one of the nation's top-ranked nursing colleges, as well as graduate programs in allied health, health systems management and biomedical research. In addition, the medical center offers many highly selective residency and fellowship programs in medical and surgical specialties and subspecialties. Rush's unique practitioner-teacher model for health sciences education and research gives students the opportunity to learn from world-renowned instructors who practice what they teach.

## Office of the Provost

The provost is the chief operating officer of the university, committed to advancing our mission through outstanding health sciences education and impactful research in a culture of inclusion, health promotion and diversity, while upholding the university core values of innovation, collaboration, accountability, respect and excellence.

Responsible for strategic planning and execution, the provost provides leadership for core university functions and creates pathways for achieving goals for the academy. The provost reports to the president and is a member of the senior leadership team.

In addition, the provost works with vice provosts accountable for Student Affairs, Academic Affairs, Faculty Affairs and Research Affairs.

The vice provost of Student Affairs is the chief student affairs officer and responsible for positively influencing the student experience. This includes leadership for the administration, development, assessment and enhancement of student support services, consistent with the university's

mission and goals. The vice provost of Student Affairs oversees the following areas: student life activities, enrollment management, student diversity, records and registration, student financial aid, international students, accessibility services, Title IX support, student health, student health insurance plan, commencement and student complaints. The Office of Student Affairs is designed to help you navigate through the complexities of being a student and will always keep your success and wellness at the forefront.

The vice provost for Academic Affairs supports the academic programs of Rush University and assures that the university is accredited by the Higher Learning Commission and other accreditation bodies that oversee and regulate our academic programs. The vice provost for Academic Affairs works with the provost and deans in providing leadership for colleges, academic departments and academic degree programs. Academic Affairs advances the university academic priorities, supports interprofessional and cross-college educational initiatives, coordinates development and assessment of academic programs and curricula, identifies and implements effective teaching strategies and technologies, and supports faculty with assessment of student learning outcomes. In addition to assuring institutional effectiveness, the vice provost of Academic Affairs oversees the university library, the Center for Academic Excellence, the Center for Teaching Excellence and Innovation, the Rush Center for Clinical Skills and Simulation, Interprofessional Education and the Human Anatomy Lab.

The vice provost for Faculty Affairs works with each college in support of our high-quality faculty so that every opportunity is available to our students for a superb learning experience. Faculty Affairs offers a full range of support for faculty by providing faculty development and mentoring, faculty recruitment, onboarding, promotions and retention, while advancing diversity. In addition to faculty management, the vice provost of Faculty Affairs oversees Global Health, the Office of Mentoring programs and the Center for Innovative and Lifelong Learning (CILL), which provides continuing education for all health disciplines and enables the many learning modalities and topics needed for licensing and license renewals. CILL offers professional and leadership development programs, career advancement opportunities, career and leadership coaching, consulting services and customized retreats and programs. Familiarity with CILL will help maintain your commitment to lifelong learning and your connection to Rush after you graduate and join the ranks of Rush alumni.

The vice president for Research is responsible for the oversight and integrity of all research performed, reported and published from Rush University. The vice provost oversees laboratory research, clinical trials and translational research, the Office of Research Affairs, grants administration, team science, community research and large collaborative grant efforts. The strong research administration at Rush provides students with limitless possibilities for success in research-related health care fields and affords opportunities to explore research as a career path.

## Student Characteristics

Statistics below are based on fall 2024 enrollment figures.

| Fall 2024 Enrollment | Male | Female | Unknown/Other | Total |
|---|---|---|---|---|
| Rush Medical College | 258 | 323 | 1 | 582 |
| College of Nursing | 132 | 1,043 | 3 | 1,178 |
| College of Health Sciences | 162 | 672 | 2 | 836 |
| The Division of Translational Science | 33 | 82 | 2 | 117 |
| Non-Degree Seeking | 11 | 41 | 4 | 56 |
| **Grand Total** | | | | **2,769** |

| Students by Race and Ethnicity | Total |
|---|---|
| American Indian or Alaska Native | 0 |
| Asian | 426 |
| Black or African American | 305 |
| Hispanic | 440 |
| Native Hawaiian or Other Pacific Islanders | 4 |
| White | 1,412 |
| Two or More Races | 98 |
| Unknown | 60 |
| Non-Resident Alien | 24 |
| **Total** | **2,769** |

| Student Financial Aid Data | % |
|---|---|
| Title IV Aid Recipients (total student body): | 52% |
| Pell Grant Recipients (undergraduates only): | 40% |

# Accreditation, Authorization and Licenses

## Rush University

**All Programs**
**Higher Learning Commission**
230 S. LaSalle St., Suite 7-500
Chicago, IL 60604
(800) 621-7440
www.hlcommission.org

**Illinois Board of Higher Education**
1 N. Old State Capitol Plaza, Suite 333
Springfield, IL 62701
(217) 782-2551
www.ibhe.org

*Illinois Board of Higher Education has authorized all degree programs offered through Rush University.*

## Rush Medical College

**Medicine, MD**
**Liaison Committee on Medical Education**
655 K St. NW, Suite 100
Washington, DC 20001
(202) 828-0596
www.lcme.org

## College of Nursing

**Nursing (MSN, DNP, Post-Graduate Certificate)**
**Commission on Collegiate Nursing Education (CCNE)**
The master's degree program in nursing, Doctor of Nursing Practice program, and post-graduate APRN certificate program at Rush University is accredited by the Commission on Collegiate Nursing Education, 655 K St. NW, Suite 750, Washington, DC 20001
(202) 887-6791
www.aacn.nche.edu/ccne-accreditation

**Nurse Anesthesia, DNP**
**Council on Accreditation of Nurse Anesthesia Educational Programs**
222 S. Prospect Ave.
Park Ridge, IL 60068
(847) 655-1160
home.coa.us.com

## College of Health Sciences

**Audiology (AuD); Speech-Language Pathology (MS)**
**The Council on Academic Accreditation in Audiology and Speech-Language Pathology**
American Speech-Language-Hearing Association
2200 Research Blvd., Suite 310
Rockville, MD 20850
(800) 498-2071
caa.asha.org

**Blood Bank Technology (certificate)**
**Commission on Accreditation of Allied Health Education Programs (CAAHEP)**
9355 - 113th St. N, #7709
Seminole, FL 33775
(727) 210-2350
Fax: (727) 210-2354
www.caahep.org

**Committee on Accreditation of Specialist in Blood Bank Technology Schools (CoA-SBBT)**
4550 Montgomery Ave., Suite 700 North Tower
Bethesda, MD 20814
(301) 215-6540

**Dietetic Internship; Clinical Nutrition (MS)**
**Accreditation Council for Education in Nutrition and Dietetics**
120 S. Riverside Plaza, Suite 2190
Chicago, IL 60606
(312) 899-0040 ext. 5400
www.eatright.org

**Health Systems Management (MS)**
**Commission on Accreditation of Health Care Management Education**
1121 N. Bethlehem Pike, Suite 60-119
Spring House, PA 19477
(301) 298-1820
www.cahme.org

**Medical Laboratory Science (MS)**
**National Accrediting Agency for Clinical Laboratory Sciences**
5600 N. River Road, Suite 720
Rosemont, IL 60018
(773) 714-8880
www.naacls.org

**Occupational Therapy (OTD)**
**Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA)**
6116 Executive Boulevard, Suite 200,
North Bethesda, MD 20852-4929
(301) 652-2682 or (301) 652-AOTA
www.acoteonline.org

**Commission on Accreditation of Allied Health Education Programs (CAAHEP)**
9355 - 113th St. N, #7709
Seminole, FL 33775
(727) 210-2350
Fax: (727) 210-2354
www.caahep.org

**Cardiovascular Perfusion (MS)**
**Accreditation Committee - Perfusion Education (AC-PE)**
519 West Ridge Road
Littleton, CO 80120
(303) 794-6283
www.ac-pe.org

**Physician Assistant (MS)**
**Accreditation Review Commission on Education for the Physician Assistant**
12000 Findley Road, Suite 275
Johns Creek, GA 30097
(770) 476-1224
www.arc-pa.org

**Respiratory Care (MS)**
**Commission on Accreditation for Respiratory Care (Co-ARC)**
264 Precision Blvd.
Telford, TN 37690
(817) 283-2835, ext. 107
www.coarc.com

**Religion, Health and Human Values (MA and Certificate CPE)**
**Association for Clinical Pastoral Education (ACPE)**
55 Ivan Allen Jr. Blvd., Suite 835
Atlanta, GA 30308
(404) 320-1472
www.acpe.edu

**Commission on Accreditation of Allied Health Education Programs (CAAHEP)**
9355 - 113th St. N. #7709
Seminole, FL 33775
(727) 210-2350
Fax: (727) 210-2354
www.caahep.org

**Vascular Ultrasound (BS)**
**Joint Review Committee on Education in Diagnostic Medical Sonography (JRCDMS)**
6021 University Blvd., Suite 500
Ellicott City, MD 21043
(443) 973-3251
www.jrcdms.org

## Graduate Medical Education

**Graduate Medical Education**
**Accreditation Council of Graduate Medical Education (ACGME)**
401 N. Michigan Ave., Suite 2000
Chicago, IL 60611
(312) 755-5000
www.acgme.org

## Continuing Education

**Continuing Education (Medical)**
**Accreditation Council for Continuing Medical Education (ACCME)**
**Joint Accreditation c/o ACPE**
190 S. LaSalle St., Suite 2850
Chicago, IL 60603
(312) 664-3575
www.jointaccreditation.org

**Continuing Education (Nursing)**
**American Nurses Credentialing Center (ANCC)**
**Joint Accreditation c/o ACPE**
190 S. LaSalle St., Suite 2850
Chicago, IL 60603
www.jointaccreditation.org

**Continuing Education (Social Work, Physical Therapy, Psychology)**
**Illinois Department of Financial and Professional Regulation (IDFPR)**
320 W. Washington St., 3rd Floor
Springfield, IL 62786
(888) 473-4858
www.idfpr.com

**Continuing Education (Pharmacy)**
**Accreditation Council for Pharmacy Education (ACPE)**
**Joint Accreditation c/o ACPE**
190 S. LaSalle St., Suite 2850
Chicago, IL 60603
(312) 664-3575
www.acpe-accredit.org

**Continuing Education (Psychology)**
**American Psychological Association (APA)**
**Joint Accreditation c/o ACPE**
190 S. LaSalle St., Suite 2850
Chicago, IL 60603
(312) 664-3575
www.jointaccreditation.org

## Research

**Human Subject Research**
**Association for the Accreditation of Human Research Protection Programs**
3720 S. Flower St., Third Floor
Los Angeles, CA 90089
(213) 821-1154
oprs.usc.edu/policies-and-procedures/aahrpp

**U.S. Food and Drug Administration**
10903 New Hampshire Ave.
Silver Spring, MD 20993
(888) 463-6332
www.fda.gov

**Office for Human Research Protections**
1101 Wootton Parkway, Suite 200
Rockville, MD 20852
(240) 453-6900
www.hhs.gov/ohrp

**Office for Civil Rights**
U.S. Department of Health and Human Services
233 N. Michigan Ave., Suite 240
Chicago, IL 60601
(800) 368-1019
www.hhs.gov/ocr/index.html

**Animal Subject Research**
**U.S. Department of Agriculture**
1400 Independence Ave., S.W.
Washington, DC 20250
(202) 720-2791
www.usda.gov

**Office of Laboratory Animal Welfare**
RKL 1, Suite 360, MSC 7982
6705 Rockledge Drive
Bethesda, MD 20892
(301) 496-7163
olaw.nih.gov

**Association for Assessment and Accreditation of Laboratory Animal Care**
5205 Chairman's Court, Suite 300
Frederick, MD 21703
(301) 696-9626
www.aaalac.org

## Other Accreditation

**Rush Center for Clinical Skills and Simulation**
**American College of Surgeons (ACS)**
**Society for Simulation in Healthcare (SSH)**

## Authorization

The Illinois Board of Higher Education has authorized all degree programs offered through Rush University.

Illinois Board of Higher Education
1 N. Old State Capital Plaza, Suite 333
Springfield, IL 62701-1377
(217) 782-2551
(217) 782-8548 (Fax)
www.ibhe.state.il.us

Rush University participates in the State Authorization Reciprocity Agreement (SARA). SARA is overseen by a National Council and administered by four regional education compacts (Midwestern Higher Education Compact, New England Board of Higher Education, Southern Regional Education Board and Western Interstate Commission for Higher Education)

## Licenses

State of Illinois
Department of Public Health
Cook County Board of Health



## Rush University Medical Center Memberships

*Rush University Medical Center belongs to the following organizations:*

Association of American Medical Colleges

American Association of Colleges of Nursing

Federation of Independent Illinois Colleges and Universities

Association of Schools of Allied Health Professions

Association of University Programs in Health Administration

National League for Nursing

Association for Health Services Research

American Hospital Association

Illinois Hospital Association

Voluntary Hospitals of America

Metropolitan Chicago Health Care Council

Blue Cross/Blue Shield Health Care Service Corp.

Council of Graduate Schools

Midwestern Association of Graduate Schools

Illinois Association of Graduate Schools

Association for Clinical Pastoral Education

Association of Bioethics Program Directors

Council of Academic Programs in Communication Disorders and Sciences

Interuniversity Consortium for Political and Social Science

Physician Assistant Education Association

Illinois Academy of Physician Assistants

American Academy of Physician Assistants

## Rush University Affiliated Colleges and Universities

*The following colleges and universities have programs that are affiliated with one or more academic program at Rush University:*

Benedictine University, Lisle, Illinois

Carleton College, Northfield, Minnesota

Claflin University, Orangeburg, South Carolina

Concordia University, River Forest, Illinois

Cornell College, Mount Vernon, Indiana

Dominican University, River Forest, Illinois

Eureka College, Eureka, Illinois

Fisk University, Nashville, Tennessee

Illinois College, Jacksonville, Illinois

Knox College, Galesburg, Illinois

Lake Forest College, Lake Forest, Illinois

Lawrence University, Appleton, Wisconsin

Lewis University, Romeoville, Illinois

Monmouth College, Monmouth, Illinois

North Central College, Naperville, Illinois

Northeastern Illinois University, Chicago, Illinois

Ripon College, Ripon, Wisconsin

Spelman College, Atlanta, Georgia

St. Norbet College, De Pere, Wisconsin

Wheaton College, Wheaton, Illinois

Xavier University of Louisiana, New Orleans, Louisiana

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**Rush University Medical Center Leadership**

# Leadership and Governance

## Rush University Medical Center University Governors

Robert A. Wislow
*Chairman*

Matthew F. Bergmann

Quinn Capers IV, MD

Alyson J. Coates

Ann Watson Cohn, EdD

Lewis M. Collens

Bradley J. Henderson

Kenneth H. M. Leet

Richard E. Melcher, MD

Karl A. Palasz

John J. Sabl, JD

Carole B. Segal
*(Chair Emerita)*

Paul W. Theiss

Barbara Jil Wu, PhD

## Rush University Leadership

Robert S.D. Higgins, MD, MSHA
*President, Rush University*

Julie Hoff, PhD
*Provost, Rush University*

Robert S.D. Higgins, MD, MSHA
*Acting Dean, Rush Medical College*

Christine M. Kennedy, PhD
*Dean, College of Nursing*

Jason S. Turner, PhD
*Interim Dean, College of Health Sciences*

Vince Gattuso, MBA
*Chief Financial Business Officer*

David Katz, PhD
*Vice Provost, Academic Affairs; Chief Knowledge Officer*

Deborah Martin, PhD
*Vice Provost, Student Affairs*

Bethany Martell, MBA
*Vice President, Research Operations and CRA*

Linda Bond, MSN
*Associate Vice President, Clinical Research and Regulatory Operations*

Kristin Moody, MBA
*Associate Vice President, Basic and Translational Science*

Gayle B. Ward, JD
*Associate Vice President, Operations*

Princess L. J. Currence, DSW
*University Diversity, Equite and Inclusion Officer*

Sharon D. Gates, DSW
*Senior Director, Student Diversity and Community Engagement*

John McClatchy
*Senior Director, Medical Affairs*

David J. Nelson, MBA
*Senior Director and University Registrar*

Jeff Oswald, DVM
*Senior Director, Comparative Research Center*

John Cobb
*Director, IRB Administration*

Jennifer Comerford, MA
*Director of Interprofessional Continuing Education*

Stephanie Crane, MD
*Director of the Office of Global Health*

Christopher Ferrigno, PhD
*Director, Human Anatomy Laboratory*

Marie S. Ferro-Lusk, MSW
*Director, Student Accessibility Services*

Jill Gable, MBA
*Director, Student Financial Aid*

Jennifer Garcia
*Director, Sponsored Programs Administration*

Melita Isic, MBA
*Director, University Affairs*

Chrystal Johnston, MS
*Director, Clinical Research Coordinators*

Kapula Patalinghug, MM
*Director, Student Affairs*

Dawn Paulsen, MS
*Director, Clinical Regulatory Coordinator*

Michelle Sergel, MD
*Interim Director, Rush Center for Clinical Skills and Simulation*

Janet Shlaes, PhD
*Director of the Center for Innovative & Lifelong Learning*

Scott Thomson, MLIS
*Director, Library of Rush University Medical Center*

Angela Velez-Solic, PhD
*Director, Instructional Design and Learning Innovation*

Amarjit Virdi, PhD
*Director, Office of Mentoring Programs*

Corey Woods, MSN
*Director, Clinical Research Nursing*

## Rush University Medical Center Board of Directors

William A. Downe
*Chairman*

Christine A. Edwards
*Vice Chair*

Quinn Capers IV, MD

Karen Jaffee Cofsky

Ann Watson Cohn, EdD

Susan Crown (Chair Emerita)

Peter M. Ellis

Sandra P. Guthman

David C. Habiger

Darrel H. Hackett

William J. Hagenah

Bradley J. Henderson

Francis O. Idehen, Jr.

Kip Kirkpatrick

D'Andrae Larry

Kenneth H. M. Leet

Pamela Forbes Lieberman

Wayne L. Moore

Jonathan A. Myers, MD

William A. Mynatt, Jr.

Sheila A. Penrose

Katherine H. Peterson

Stephen N. Potter

Stephen R. Quazzo

Eric A. Reeves

Joan S. Rubschlager

John J. Sabl

David H. B. Smith, Jr.

Jennifer W. Steans

Joan E. Steel

Paul W. Theiss

Shundrawn A. Thomas

Nicole J. Walker

Robert A. Wislow

Barbara Jil Wu, PhD

Sam Yagan

## Rush University Medical Center Leadership

### Officers of the Board

William A. Downe
*Chairman*

Christine A. Edwards
*Vice Chair*

### Officers of the Corporation

Omar B. Lateef, DO
*President and Chief Executive Officer, Rush University System for Health and Rush University Medical Center*

Matt Walsh, MHA
*Chief Operating Officer*

Peter Briechle, PhD
*Interim Chief Development Officer*

Carl T. Bergetz, JD
*General Counsel and Corporate Secretary*

John Diederich, MA, MBA
*President and Chief Executive Officer, Rush Copley Medical Center*

Jeffrey M. Gautney
*Chief Information Officer*

Courtney Kammer, MHA
*Chief Human Resources Officer*

Patricia Steeves O'Neil, MAE
*Chief Financial Officer*

Dino P. Rumoro, DO, MPH
*President and Chief Executive Officer, Rush Oak Park Hospital*

Paul E. Casey, MD
*Senior Vice President and Chief Medical Officer*

Luis Garcia, MD
*President, Rush Medical Group*

Robert S.D. Higgins, MD
*President, Rush University, Senior Vice President and Chief Academic Officer*

Kate H. Jones
*Senior Vice President and Chief Strategy Officer*

Brian Stein, MD
*Vice President and Chief Quality Officer*

Ildemaro González
*Chief Diversity, Equity and Inclusion Officer*

Kate Schaafsma
*Chief Pharmacy Officer*





## Rush University Campus Information & Student Resources

- Campus Information
- Medical Center and Facilities
- Alumni Relations
- Center for Academic Excellence
- Center for Clinical Wellness
- Center for Teaching Excellence and Innovation
- Creative Media (Formerly Rush Production Group)
- Digital and Information Services (D&IS) Service Desk and Field Services Support
- Fitness Center
- International Student Services
- Library and Archives
- Matthews Rush University Bookstore
- Media Services
- Office of General Education Resources
- Office of Institutional Effectiveness (OIE)
- Office of Interprofessional Education
- Office of Student Accessibility Services
- Office of Student Diversity and Community Engagement
- Office of Student Life and Engagement
- Student Activities and Programming
- Student Organizations
- Career Development
- Food Pantry
- Student Lounge
- Student Lockers
- Voter Registration
- Office of the Registrar
- Quick Copy Center
- Rush BMO Institute for Health Equity
- Rush Community Service Initiatives Program
- Student Health
- Student Identification Cards
- Student Identity Access Management and Email Accounts
- Worship/Prayer/Meditation Opportunities

## Campus Information

The main campus of Rush University and Rush University Medical Center is located on the Near West Side of Chicago — not far from downtown (the Loop). The area surrounding the campus is undergoing redevelopment. Of particular interest is the Chicago Technology Park, which incorporates biomedical research facilities and programs.

Townhomes and condominiums have been built in Garibaldi Park, just east of the medical center campus, and many new businesses are flourishing in the Taylor Street area. There are other health care facilities in the Illinois Medical District, including the University of Illinois at Chicago, the John H. Stroger, Jr. Hospital of Cook County and the Jesse Brown VA Medical Center.

The university is centrally and conveniently located. The main campus consists of 22 buildings, including facilities for achieving the goals of the medical center: patient care, education and research. The main campus also includes two indoor parking facilities.

Armour Academic Center is the hub of most student activities. The Library of Rush University Medical Center and the McCormick Educational Technology Center are located in the Armour Academic Center, along with classrooms, laboratories, academic computing, specialized facilities, the Student Affairs suite, the Office of Student Life and Engagement, the Office of Student Diversity and Community Engagement, the administrative offices of Rush Medical College, Rush University College of Nursing and the College of Health Sciences, along with the Rush University bookstore and cafeteria.

## Medical Center and Facilities

Laboratories are located throughout the medical center complex but are principally found in Jelke South. Additional departmental laboratories are located in the Cohn Research Building and in the Tech 2000 building located at 2000 W. Harrison St. In addition to the Chicago campus, Rush University System for Health includes Rush Copley Medical Center in Aurora, Illinois, and Rush Oak Park Hospital, located in Oak Park, Illinois.

Directly across the Eisenhower Expressway from the main campus is the Triangle Office Building, which is home to Finance, Legal Affairs, Philanthropy, Marketing and Communications, the Data Center, Rush Wellness and other functions of Rush.

## Alumni Relations

The Office of Alumni Relations is located in the Rush East Building, Suite 300, at 1201 W. Harrison St. Though the legacy of a Rush education dates back to 1837, Rush University is a relatively young institution. Since the university's inception in 1972, it has conferred more than 20,000 degrees in the health professions. The Office of Alumni Relations provides channels for the College of Health Sciences, College of Nursing and Rush Medical College, as well as our predecessor school alumni and former medical center house staff to stay connected to Rush as follows:

- Remain informed of current developments at the university and medical center
- Develop an active interest in and involvement with their alma mater
- Maintain contact with fellow alumni and faculty
- Take advantage of continuing education opportunities offered through Rush University
- Promote and perpetuate the high standards of excellence in patient care, education and scientific advancement consistent with the objectives of Rush University Medical Center
- Enhance the student experience by making a gift

At this time, the following formally organized active alumni associations exist for Rush University graduates:

- Rush University Department of Health Systems Management Alumni Association
- The Rush Medical College Alumni Association
- The Rush-Presbyterian-St. Luke's Nurses Alumni Association

Stay connected!
Alumni Directory: rushu.rush.edu/alumni/connect/alumni-directory
Email: alumni@rush.edu
Facebook: www.facebook.com/rushuniversityalumni
Website: rushu.rush.edu/alumni

## Center for Academic Excellence

The Center for Academic Excellence (CAE) provides academic support services to all Rush students, free of charge. Services include support for writing, including citation format, resumes and personal statements, academic coaching, including study skills, test-taking and time management strategies and math/statistical data support. The center's administrative services and staff are located in Room 588, within the Library of Rush University Medical Center (fifth floor of the Armour Academic Center). For more information, call (312) 942-1304, email cae@rush.edu or visit www.rushu.rush.edu/rush-experience/student-services/center-academic-excellence.

## Center for Clinical Wellness

The Center for Clinical Wellness is a healing environment designed for, and tailored to, Rush students, house staff and employees. Made possible by a significant philanthropic gift, the center will seek to address three primary goals:

1. Creation of a culture of wellness, including programs to address burnout, support resilience and increase joy in work
2. Increase support for mental health, including access to care, reduction in stigma and strategic partnerships to prevent suicide
3. Production of leading research through an emphasis on data and analytics

The center provides a network of on-site and virtual tools as part of an overarching wellness ecosystem including free therapy, coaching, peer support and other wellness-related services.

For additional specifics — including appointment scheduling, location, hours and current service offerings — please visit the Center for Clinical Wellness webpage at insiderush.eush.edu/wellness.

### Phone Numbers Students May Need

***Wellness Triage Pager***
***(24/7 Support within 60 minutes)***
(312) 942-6000 ext. 2323

***Center for Clinical Wellness***
rushwellness@rush.edu

***Rush Student Assistance Program***
***(24/7 Immediate Support)***
(877) 465-1324

***Rush University Medical Center Campus Security***
(312) 942-5678

***Rush University Medical Center Emergency Room***
(312) 942-0100

***Rush University Medical Center Employee and Corporate Health Services***
(312) 942-5878

***Rush Issues of Concern Hotline***
(877) 787-4009

***Rush Medical College***
(312) 942-6915

***Rush Lifetime Medical Associates***
(312) 942-8000

**Crisis Lines:**

***Chicago Police Department***
911

***National Suicide and Crisis Hotline***
(800) 273-8255

***YWCA Chicago Rape Crisis Hotline***
(888) 293-2080

***Chicago Alcoholics Anonymous 24-Hour Hotline***
(312) 346-1475

***Chicagoland Region of Narcotics Anonymous 24-Hour Hotline***
(708) 848-4884

***Northwestern Memorial Hospital 24-Hour Hotline***
(312) 926-8100

***Domestic Violence Helpline (City of Chicago)***
(877) 863-6338

***Sarah's Inn Hotline (domestic violence)***
(708) 386-4225

## Center for Teaching Excellence and Innovation

The Center for Teaching Excellence and Innovation, or CTEI (pronounced 'city'), works in partnership with faculty on instructional design and course development. Staff members and CTEI programs also expand the use of educational technologies and optimize the learning management system to enhance course goals. The center has a staff of instructional designers and an instructional technologist to support all faculty who teach at Rush.

The Center is committed to assisting faculty with their courses, from curriculum development through delivery, whether instruction is offered online, face-to-face, or a

combination of online and face-to-face. CTEI staff support faculty through highly personalized one-on-one consultations, formal training for online teaching and regularly scheduled workshops.

The center is located on the ninth floor of the Armour Academic Center, Suite 919. Please email ctei@rush.edu or visit www.rushu.rush.edu/ctei to learn more about available resources or to request assistance with course design or instructional delivery. The services CTEI provides for all faculty members are free of charge.

## Creative Media (Formerly Rush Production Group)

Creative Media is an award-winning media production team that is a department within Marketing/Communications. The team works to effectively visualize and execute the Rush University System for Health brand. Creative Media's photographs and diverse video work can be seen on rush.edu, e-newsletters such as Rush News and social media posts, as well as on local and national media. Photographers handle headshots for all Rush University Medical Center and Rush Oak Park medical staff and Rush University faculty.

Visual content is created for consumer marketing and publicity; photos and videos are utilized for patient education and testimonials, events, people profiles and staff recruitment. In addition, content is created for Rush University college department curriculums, events, student profiles and student recruitment.

Please be aware that with the increase in marketing needs for the growing Rush system, Creative Media is not able to cover all requests, particularly if they have limited marketing utility. For general questions please email us at creativemedia@rush.edu or call (312) 942-8278. For a marketing request that is not a headshot, please fill out the form at this link as completely as possible: https://rbrand.solvedp.com/Account/Login?ReturnUrl=%2fworkflow%2fproject%2f35088

Headshots are taken every Tuesday alternating mornings and afternoons in AAC 448. You can make headshot appointments online at outlook.office365.com/owa/calendar/rushproductiongroup1@rush.edu/bookings/. If a headshot is for personal use and not for university use, there is a $40 charge. Finished headshots are available in the Rush Media Library at medialibrary.rush.edu/headshots/#/.

Creative Media does not have the resources to record video of classroom lectures or most university and hospital speaking events. For those seeking class recordings in the Armour Academic Center, please contact Media Services at (312) 563-2527 and press 1 at the prompt. Please call (312) 942-4969 for audiovisual assistance for the rest of the medical center. To schedule your event, please send your request to media_services@Rush.edu five business days in advance.

We no longer print posters or photographs. Please contact Quick Copy Center in AAC 780, at (312) 942-6697.

## Digital and Information Services (D&IS) Service and Field Services Support

The Digital and Information Services (D&IS) Service Desk and Field Services team provides year-round support to the university. Its mission is to facilitate university teaching and learning through its technical services support. This support also includes classroom and in-person and phone assistance for students, faculty and staff.

The Service Desk can be reached by calling (312) 563-2527 and using option No. 2. The Service Desk is a top shop for all issues that can be handled remotely or over the phone. Additionally, it can assist with creating Service Now tickets for new issues and requests. If necessary, the Service Desk will forward a ticket to the Field Services team for additional support.

One of the primary roles of Field Services is to provide first-level audiovisual support for classrooms, meeting rooms and auditoriums throughout the university and medical center.

Additionally, Field Services provides equipment rentals. Tablets, laptops, projectors, camcorders, audio recorders and other accessories are also available to students for limited checkout. Most media and equipment may be booked ahead of time.

D&IS also coordinates the Academic Testing Center, or ATC, located in the Triangle Office Building. The ATC accommodates up to 81 students for testing and includes a multipurpose waiting area that can function as a collaborative learning space. The ATC is also reserved through the Astra room scheduling system.

The D&IS staff is available to both students and faculty to support instruction by meeting the technology needs of the university both on and off campus. D&IS staff also assist students and faculty in diagnosing, troubleshooting, software installations and hardware deployments.



## Fitness Center

Whether you're trying to get in shape, lose weight, be more active or unwind after a busy day, the Rush Fitness Center is just what you're looking for. The Fitness Center offers group exercise classes and one-on-one personal training. In addition, the facility includes a variety of machines and equipment, a fitness studio, cardio and strength training, stretching areas, lockers rooms, showers and amenities. Membership is free to students.

For membership inquiries, please call (312) 947-2348 or email us at rushfitnesscenter@rush.edu.

## International Student Services

International Student Services (ISS) is housed within the Office of the Registrar and located in Suite 440 of the Armour Academic Center. ISS provides services for F-1 international students who are authorized to study at Rush by the Department of Homeland Security's Student and Exchange Visitor Program.

International Student Services serves students in the following ways:

- Orients new students to the Rush community in collaboration with the Office of Student Life and Engagement
- Guides incoming F-1 international students with navigation of visa processes and other issues concerning international admission or transfer of F-1 immigration status to Rush
- Provides F-1 students comprehensive information to maintain F-1 immigration status, comply with immigration regulations and learn about available student visa benefits, such as Optional Practical Training
- Consults with and advises faculty and staff regarding F-1 student affairs
- Advocates for international students as an integral part of the diversity and culture of the Rush community
- Serves F-1 international student graduates for work authorization and reporting matters, international travel issues and other necessary assistance

Please visit Rush's International Student Services webpage or call (312) 942-2030 for additional information.

## Library and Archives

### Library of Rush University Medical Center

The Library serves the education, practice and research needs of university students, faculty and staff through an extensive collection of print and electronic resources available to all students and university affiliates. A complete overview of all library resources and services is available on the library website, library.rush.edu.

Electronic holdings, all of which are available both on-campus and off, 24 hours a day, include over 120 databases such as CINAHL Complete, ClinicalKey, AccessMedicine, MEDLINE (via both PubMed and Ovid), RefWorks, UpToDate, Scopus and an extensive electronic journal collection with access to over 10,000 titles.

In addition, the Library is a member of the Consortium of Academic and Research Libraries of Illinois (CARLI), whose benefits include an integrated library system (I-Share) that serves 86 institutions, provides electronic resource brokering and free access to a collection of 27 EBSCOHost databases and over 2,000 Springer health science eBooks. With I-Share, students, faculty and staff can request materials online directly from the other 85 member libraries or check out materials in person using a Rush ID card. The library also utilizes fully electronic systems for course reserves and interlibrary loan processing and delivery (ILLIAD).

Library holdings are evaluated annually based on usage and consumer feedback. New resources are added to continually, both due to demand and through subscription services and state-funded resources gained via CARLI.

Reference librarians are available to all Rush affiliates both on campus and off. In addition to answering questions via telephone and in-person, reference staff members are available via email and live chat to assist faculty, staff and students. Reference librarians are also available to provide customized classroom support, research support and other traditional services. The librarians also create and maintain over 50 individual web-based guides on a variety of topics to assist students at their point of need. Guides are created to address specific topics (example: "an overview of resources for PT students"), teach specific processes (example: "how to find databases") and to teach users how to use specific resources (example "how to use CINAHL"). All are available through the library homepage.

The library offers approximately 20,000 square feet of dedicated study space, all of which is available to students

24 hours a day, seven days a week via badge swipe access. The library has multiple learning environments to meet different needs, including both collaborative and quiet study. Computers with printing capabilities are available, as are group study rooms, modern individual study carrels with light and power and individual short-term student lockers.

### Rush University Medical Center Archives

The Rush University Medical Center Archives tells Rush's story through its collections, which showcase its esteemed and enduring history of education, research, patient care and community service. Dating back to the founding of Rush Medical College in 1837, the Rush Archives identifies, preserves, organizes and enables access to valuable Rush records from our earliest years to current digital assets.

The Rush Archives engages with the Rush community and the public. Rush University students can broaden their understanding of course materials by exploring Rush's past contributions to health care. Students, faculty, staff and alumni are encouraged to contribute their experiences and materials to strengthen and diversify the collections for future researchers. Rush's archivist provides reference services, hosts historic tours, makes presentations, helps create exhibits and assists with records consultations and acquisitions.

The Rush Archives office is located in the basement of the Triangle Office Building at 1700 W. Van Buren St., Suite 086. Learn more about the history of Rush and explore our collections online: https://library.rush.edu/rusharchives.

## Matthews Rush University Bookstore

The Matthews Rush University Bookstore is a health sciences bookstore serving the needs of students, faculty and staff at Rush University Medical Center. Located on the second floor of the Armour Academic Center, across from the cafeteria. The bookstore stocks some of the required and recommended textbooks for courses offered at Rush University, as well as an assortment of reference and review books. Textbooks can be ordered if available with the publishers.

The bookstore also supplies Rush insignia items, medical apparel and equipment, school supplies and stationery, snacks/drinks and miscellaneous gifts. Special orders are handled by the bookstore and will generally be fulfilled in one to two weeks depending on the item. Please keep in mind that some special orders for apparel can take several weeks to produce. Please inquire with the bookstore manager at benedicto_carlos@Rush.edu.

## Media Services

Media Services, located in the Professional Office Building, provides a wide range of audiovisual support and training for meeting rooms and auditoriums throughout the university and medical center. Media Services provides recommendations to faculty, staff or students who are purchasing audiovisual equipment and directly coordinates all aspects of deploying new AV systems. Media Services also serves as a Level 3 support to the university's Field Services group for all AV related issues.

Additionally, Media Services also provides support for system wide meetings, events and town halls. To schedule your event, please send your request to media_services@rush.edu

## Office of General Education Resources

The Office of General Educational Resources offers a wide variety of services to Rush University students and faculty. Available services include laboratory services and general copy services. The office is located in the Multidisciplinary Laboratory area on the seventh floor of the Armour Academic Center, Room 720.

Lab space is available Monday through Friday from 8 a.m. to 4:30 p.m. but must be reserved by faculty. Students who need special laboratory instruments or services for education or research projects should discuss their needs in advance with the staff. Please call (312) 942-6791 if you have any questions. Printing services for a variety of purposes (duplication services, binding, sorting, collating, color copies, laminating, signs and banners) can be arranged by emailing quick_copy@rush.edu or reaching out by phone at (312) 942-6697.

## Office of Institutional Effectiveness (OIE)

Rush University's Office of Institutional Effectiveness (OIE) provides leadership and support in the area of institutional research, accreditation, academic planning, assessment and regulatory mandates.

The OIE fulfills its mission in the following ways:

- Provides comprehensive information to support institutional planning, policy formation, decision-making and evaluation of effectiveness
- Coordinates responses to external accountability mandates and a wide range of internal and external requests for information about the university
- Provides guidance and coordination support for campus-wide and unit-level assessment of academic programs and administrative processes to support the university's quality improvement efforts
- Guides and facilitates the process of reaffirmation of accreditation and substantive change reporting
- Provides evidence of institutional effectiveness

## Office of Interprofessional Education

The Office of Interprofessional Education (OIPE) advances person-centered, collaborative learning and impactful scholarship, which fosters a culture of inclusion for our students and promotes the health and well-being of our diverse communities. OIPE develops integrative curricula where students from two or more disciplines learn from, with and about one another to enable effective collaboration, improve health outcomes and prepare them for the complex and challenging health care system of the future.

Engagement in interprofessional education and collaborative practice offers opportunities for students to address the social and environmental determinants of health and health equity through didactic and experiential curricula. Beyond the IPEC core competencies, students gain exposure to community engagement, sustainability, age-friendly health practices and telehealth. For additional information, contact jan_a_odiaga@rush.edu.

## Office of Student Accessibility Services

Rush University is committed to fostering a diverse and inclusive learning environment where all students can succeed. Guided by our core values: Innovation, Collaboration, Accountability, Respect and Excellence (I CARE), Student Accessibility Services works to ensure accessibility and cultivate a supportive, respectful, and accountable culture that will attract and educate students who will help to make the population of health care professionals reflective of the national population, including individuals with disabilities. In addition, Rush University is committed to ensuring equal access to its facilities, programs and services is available to students with disabilities.

To be eligible for accommodations, a student must have a documented disability as defined by the Americans with Disability Act, as amended. Students must complete a Request for Accommodation form and submit diagnostic documentation of their disability to engage in the interactive process.

All documentation submitted is confidential and is not shared with faculty or staff, nor does it reside on a transcript. Students are encouraged to apply to the Office of Student Accessibility Services as soon as possible to discuss reasonable accommodations for their specific academic programs.

To learn more about accommodations at Rush University and/or to apply, please visit the Office of Student Accessibility Services. Or you can contact the director of the Office of Student Accessibility Services:

Marie Lusk, MBA, MSW, LSW
600 S. Paulina St. AAC 901
Chicago, IL. 60612
(312) 942-5237
student_accessibility@rush.edu

## Office of Student Diversity and Community Engagement

Diversity, equity and inclusion are critical to our mission at Rush University — to provide outstanding health sciences education in a climate of inclusion.

The Office of Student Diversity and Community Engagement strives to create an inclusive environment and learning community where students, faculty and staff of all backgrounds feel welcome and supported, having opportunities to share their personal experiences.

Accordingly, the office collaborates with the entire Rush University community within the four colleges and university stakeholders to incorporate diversity and cultural principles within the campus. These aims are undergirded by the goal and vision of the office:

### Goal

Shape and sustain an inclusive and cultural campus environment for all students at Rush University steeped in health equity.

### Vision

Rush University will serve as a leader in creating and fostering an inclusive environment in which students, faculty and staff from all backgrounds embody and respect attitudes, values and diverse perspectives in all areas of their work.

To achieve the goal and vision of Student Diversity, there is a commitment to the following:

**Student Professional Development:** Provide opportunities for students to engage in diversity and inclusion leadership opportunities and professional development activities to enhance their diversity, inclusion and multicultural awareness.

**Education and Training:** Offer ongoing trainings, webinars, workshops, lecture series and events to promote diversity and inclusion awareness, and leadership for students and the greater campus community.

**Supporting Academic Success:** Assist in developing co-curricular programming that build capacity to navigate diversity and inclusion issues and that complement the learning environment and foster academic achievement.

**Campus Climate:** Implement a systematic, continuous assessment of campus climate for students and action plans to enhance and strengthen a welcoming, diverse and inclusive student environment.

**Rush University Cultural Center (RUCC):** The RU Cultural Center is available to provide safe space for students to gather and share/learn cultural experiences, find community and meet with staff to learn how to access available resources and experiences. There is an energy pod inside the center that students can use to relieve stress by meditating or taking a 20-minute nap. Students are welcome to use the pod on a first come, first served basis.

Student Diversity is in the Rush University Cultural Center, AAC, Suite 202. For additional information, please call (312) 942-3670 or email sharon_gates@Rush.edu.

## Office of Student Life and Engagement

The mission of the Office of Student Life and Engagement is to provide services and opportunities that will enhance each student's academic experience and connection with Rush University. The Student Life and Engagement staff works closely with students, faculty and administration to identify student needs, and design and implement programs and policies to meet those needs.

The professional staff serves as advisers to student organizations; provides career services to students in each academic discipline; in partnership with the Office of the Registrar supports university orientation/onboarding for new students; assists with the development and implementation of commencement events; sponsors educational, multicultural and social activities for all students and supports student organizations.

Office of Student Life and Engagement
Armour Academic Center
600 S. Paulina St., Suite 984
Chicago, IL 60612
Phone: (312) 942-6302
Student_Life@rush.edu
www.rushu.rush.edu/student-life-and-engagement

## Student Activities and Programming

The Office of Student Life and Engagement sponsors programs that are open to all Rush University students, faculty and staff. The primary objective of these programs is to enhance the co-curricular life of the Rush student community. The office sponsors a variety of campus events, including but not limited to Welcome Back Week, Fall Into Rush (student organization fair), Finals Relief Week, Constitution Day and Student Appreciation Week.

In addition, the office encourages the exploration of Chicago's many cultural, educational and social resources and regularly collaborates with university partners to offer relevant, diverse and engaging student programming. Student Life and Engagement staff also serve as advisers to student organizations and helps plan and implement events. Students wishing to become involved are encouraged to visit www.rushu.rush.edu/getting-involved and contact the Office of Student Life and Engagement at student_life@rush.edu.

## Student Organizations

The Office of Student Life and Engagement recognizes the interests and goals of each student organization through administrative and limited financial support. Students who wish to establish a new organization are encouraged to email student_life@rush.edu to meet with a staff member.

Currently, there are more than 45 active organizations and affinity groups, including the RU Student Senate, American Medical Student Association, the National Student Speech Language Hearing Association, Rush Medical College Student Council, RU Student Nurses Association and the Student Occupational Therapy Association. A full listing and descriptions of all approved organizations can be found on the Student Life and Engagement involvement webpage.

## Career Development

The Office of Student Life and Engagement assists students who are preparing for job searches, including internship/externship, full-time positions and residency application processes with resumes, curriculum vitae, cover letters, personal statements and interviewing techniques. Career workshops are offered, and a variety of career resources are available in the office for student use and on the Rush University portal. Students wishing to make a one-on-one appointment for career assistance should contact the Office of Student Life and Engagement at student_life@rush.edu. Virtual career services appointments are available.

Students are also individually assigned academic advisers from their associated colleges who are knowledgeable about the student's educational program. These advisers help with curriculum selection, academic progression, and professional and career development.

## Food Pantry

In partnership with the Office of Student Affairs, Rush Veggie RX and the Office of Student Diversity and Community Engagement the Office of Student Life and Engagement assists in the management of the campus food pantry by providing appointments for food insecure students to access healthy produce and healthy non-perishable items. To sign up for the Food Pantry, please contact student_life@rush.edu.

## Student Lounge

The Student Lounge, located on the north end of the ninth floor of the Armour Academic Center (Room 992), is equipped with couches, tables and chairs, a multifunction printer/copy machine and a kitchen with refrigerators and microwave ovens. All students are invited and encouraged to use the facilities of the lounge. A student ID proxy card mechanism, located in the west corridor by the back door, allows students 24-hour access to the lounge via Room 984.

## Student Lockers

The Office of Student Life and Engagement assigns lockers upon request during the new student onboarding experience. Lockers are located throughout the Armour Academic Center, and most lockers are shared with another student. Rush University assumes no responsibility for the loss of personal property from lockers.

To request a locker, or should any difficulties arise with a locker, contact the Office of Student Life and Engagement, located in the Armour Academic Center, Room 984 or email student_life@rush.edu.

## Voter Registration

Voter registration materials are available through the Office of Student Life and Engagement, located in Armour Academic Center, Room 984. Voter registration can also be completed online at ova.elections.il.gov/ and www.cookcountyclerkil.gov/elections/voter-registration. Voter registration materials allow students to vote in local, state and federal elections..

## Office of the Registrar

The Office of the Registrar supports the academic mission of the university by facilitating the transition of students from matriculation to degree completion; creating, interpreting and enforcing academic and administrative policies and procedures; overseeing the Family Educational Rights and Privacy Act of 1974 (FERPA); scheduling all classroom space in the Armour Academic Center and academic testing in the Triangle Office Building; fulfilling transcript and credentialing/licensing requests; and providing accessible, reliable, responsive and courteous personal services and support that meet the diverse needs of the university's students, faculty, staff, administration and alumni.

More information about the Office of the Registrar is available at www.rushu.rush.edu/registrar.

## Quick Copy Center

Located on the seventh floor of Armour Academic Center, Room 780, the Quick Copy Center duplicates materials for educational purposes as well as general needs. A full range of services is offered including, front-back copying, three-hole punched copies, booklets with multiple binding options,

business cards, post cards, laminations, limited layout design, colored copying easel stand poster boards and large format posters and banners on a variety of materials.

Personal copy requests can be accommodated for faculty and students at a reasonable fee.

## Rush BMO Institute for Health Equity

The Rush BMO Institute for Health Equity, or the Institute, was formally founded in 2021 and built on a strong ongoing mission dedicated to health equity. The Institute links the many health equity initiatives that Rush has spearheaded for decades. It is committed to strategically connecting neighbors, community leaders, nonprofit organizations and other healthcare institutions to advance health equity — the idea that everyone should have a fair and just opportunity to be as healthy as possible. The Institute is a catalyst for community health and vitality through multifaceted approaches to dismantling barriers to health and promoting health equity both within and outside of Rush.

Our approach is based on a unique partnership with the community that we call bi-directional learning with the community voice at the center of all our work. The Institute helps Rush to effectively incubate, pilot, scale and sustain promising solutions with this bi-directional model, partnering with our communities to advance the following:

- University curriculum review and enhancements with a health equity lens focused on antiracism and social justice
- Education and training programs like the Rush Education and Career Hub give community members a pathway to higher-paying careers and strengthen academic attainment
- Community clinical practices, like our school-based health centers and College of Nursing faculty practices staffed by nurse practitioners, embed high-quality care within Rush's surrounding communities to address health access issues and train future generations of health care providers
- Community engagement initiatives that address social determinants of health, including programs to combat food and housing insecurity
- Policy and advocacy for health equity initiatives including the evaluation of benefits and burdens of proposed health policy and legislation
- Community-based health equity research tied into NIH grants and philanthropic support working with the community to develop evidence-based solutions and understand the factors preventing communities from thriving

## Rush Community Service Initiatives Program

The mission of the Rush Community Service Initiatives Program, or RCSIP, is to provide community-based volunteer experiences for Rush students. These experiences enhance our students' ability to work in interprofessional teams, develop patient relationships, care for diverse populations and provide targeted services based on community need.

RCSIP achieves its mission through the following:

- Aligning volunteer experiences with the findings from the Rush Community Health Needs Assessment
- Developing community programs that align with Rush's community implementation plan
- Providing appropriate support and training for student volunteers
- Assessing the outcomes of community programs
- Evaluating the effects of community service experiences on the personal learning and development of the students

For additional information please contact:
Sharon Gates
Senior Director, Community Engagement
(312) 942-3670
sharon_gates@rush.edu

## Student Health

Students can contact the Rush University Office of Student Health at student_health@rush.edu for confidential student health-related information. The Office of Student Health works collaboratively with each college to ensure compliance with required vaccination policies.

### Hazardous Exposure Procedures

Exposure Incident Definition: Eye, mouth, mucous membrane, non-intact skin contact or parenteral exposure to blood or potentially infectious or hazardous materials that result from the performance of a duty related to a student's educational program.



### Hazardous Exposure Procedure at Rush University Medical Center

1. Wash injured area with soap and water. Use water only for the eyes, nose or mouth.
2. Immediately report the incident to your preceptor, supervisor and/or course instructor. Do not complete the employee injury report.
3. Immediately call, and then report to, Employee and Corporate Health Services, or ECHS, during regular hours (Monday - Friday, 7:30 a.m. to 4 p.m.), Room 475, fourth floor of the Atrium, 1650 W. Harrison St., (312) 942-5878 for blood/body fluid exposures only. People who are exposed to hazardous materials or other injuries should report to the Emergency Department, or ED, and follow up with a health care provider. Medical students should follow up with Lifetime Medical Associates.
4. If ECHS is closed, immediately report to the ED, first floor of the Tower, 1620 W. Harrison St., (312) 947-0100. Please bring your student ID or indicate that you are a student and not an employee. If a student is seen in the ED, they must report to ECHS the next business day. Medical students should follow up with Lifetime Medical Associates.
5. Supply the ECHS or ED nurse or physician with the following information on the source: name, date of birth, medical record number, known medical diseases (e.g., hepatitis B, HIV) and patient room number. All information is recorded confidentially in the Blood/Body Fluid Exposure Record.
6. If the incident occurs in the OR, have personnel draw two red top tubes on source, label them with source information and take them to the ECHS or ED. Students will be counseled or treated as deemed appropriate by ECHS or ED personnel.
7. Follow up with ECHS as directed for follow-up lab work and treatment as indicated. Only medical students will follow -up with Lifetime Medical Associates (LMA).
8. If you are not on Rush's main campus, follow the protocol at your facility. If directed to the Rush ED, bring source patient information (No. 4) and source blood in two red top tubes with source information. Email ru.report_exposures@rush.edu with the exposed student's name, college, course, date, time and details of exposure for follow-up and billing. Follow-up care should be received at ECHS or Lifetime Medical Associates.

## Student Identification Cards

Rush students are required to wear their student ID card at all times while on campus. Students not wearing a valid student ID card may be asked to leave the university or medical center and related clinical sites. A valid student ID card is needed to access and use the library, laboratories, bookstore and student lounge, and is required for admission to some school events.

The student ID card is valid only while the student is enrolled at Rush University and is immediately deactivated upon graduation, withdrawal or dismissal from the university. Students must return their ID card to the Office of the Registrar upon separation from the university.

New students who complete the onboarding checklist form will be issued their ID card during the orientation. Otherwise, new students can request an ID card from their college representative starting the Friday before the term of matriculation.

The Armour Academic Center building door on the 4th floor overpass from the main parking garage opens Sunday through Saturday from 5:30 a.m. and is locked at 8 p.m. At all other times, this door is keycard access only. The opening and closing times may change if there is a special event in the building or a special request is made. Visitors may enter Rush through the main visitor entrance in the Atrium Building and request a visitor pass.

In order to make it easier for students to enter the Armour Academic Center after the building has been locked at night, and to utilize new and extended-hour study spaces, there is a card reader on the ground floor of the Armour Academic Center near the Starbucks cafe accessible Sunday through Saturday 6 a.m. to 7 p.m. Rush student, faculty and employee ID cards are accepted by the card reader.

The Rush Security Badging Office is located on the ground floor of the Atrium Building and is open for ID card replacement on the following days:

| | |
|---|---|
| Monday | 7:30 a.m.-10:30a.m. & 1:30 p.m.-4 p.m. |
| Tuesday | 7:30 a.m.-10:30a.m. & 1:30 p.m.-4 p.m. |
| Wednesday | 7:30 a.m.-10:30a.m. & 1:30 p.m.-4 p.m. |
| Thursday | 7:30 a.m.-10:30a.m. & 1:30 p.m.-4 p.m. |
| Friday | 7:30 a.m.-10:30a.m. & 1:30 p.m.-4 p.m. |

If an ID is lost and you need a replacement, it will be a $10 charge via Student Accounts.

## Student Identity Access Management and Email Accounts

Rush University creates Rush network accounts and email accounts for all admitted degree-, certificate- and non-degree seeking students prior to their term of matriculation. Learning Management System (LMS) access uses the student's network account and is authorized shortly after a student enrolls in their courses for their term of entry to Rush.

### Network Accounts

A student's network account consists of a unique username and Rush email address which is associated and accessible to only one individual. The student's network account is used to access all secure systems at Rush, including the Learning Management System (LMS) and Rush email.

Users can update their passwords by contacting the Service Desk at the number listed below. A generic sign-on used by groups of individuals is not allowed. Sharing a sign-on and password or the unauthorized access to another person's computer account is not permitted and can lead to disciplinary action up to, and including, dismissal.

Every Rush-affiliated user is responsible for every transaction originating from their computer account. Anyone engaging in unauthorized use, disclosure, alteration or destruction of data is subject to disciplinary action. Computer accounts may not be used in any manner that would be illegal or violate the following:

- Rush University Medical Center's Code of Conduct Policy
- Any Rush policy addressing privacy or confidentiality or the use or disclosure of patient, staff, physician, student or other data

A student's network account will be deactivated for the following reasons:

- **Inactivity:** network accounts that are not used for six months will be deactivated by Information Services without notice.
- **Withdrawal or Dismissal:** network accounts may be immediately deactivated for a student who withdraws or is dismissed from the institution.
- **Graduation:** students will have access to their network account for up to three months following graduation.

Students who are also active employees will retain access to their network account after they are no longer actively enrolled as a student.

Students are expected to check their Rush email account regularly since Rush University considers email an official means of communication. Often, students receive important news and deadlines via the campus email system. Students should also use their Rush email account to communicate with faculty and staff rather than using a personal email account.

If a student has a problem with their email account, they should contact Information Services at (312) 563-2527, option No. 2, or 3clas@rush.edu.

Rush University Medical Center has the right to assign, reassign or terminate any individual's access to electronic communications, information systems or networks, and take disciplinary actions-up to and including dismissal-in response to any negligent or deliberate misuse thereof. Email belongs to the recipient. A user's mailbox is treated in the same manner as any other file belonging to that user.

Information proprietary to Rush University Medical Center may not be shared outside the organization without the approval of management. Patients' (HIPAA) protected information may qualify as a medical record and is considered confidential. Therefore, email related to patient care, treatment, therapy or testing should be incorporated into the patient's medical record or be encrypted. Rush University Medical Center is not responsible for the content of emails received.

Examples of actions that may be subject to disciplinary action include the following:

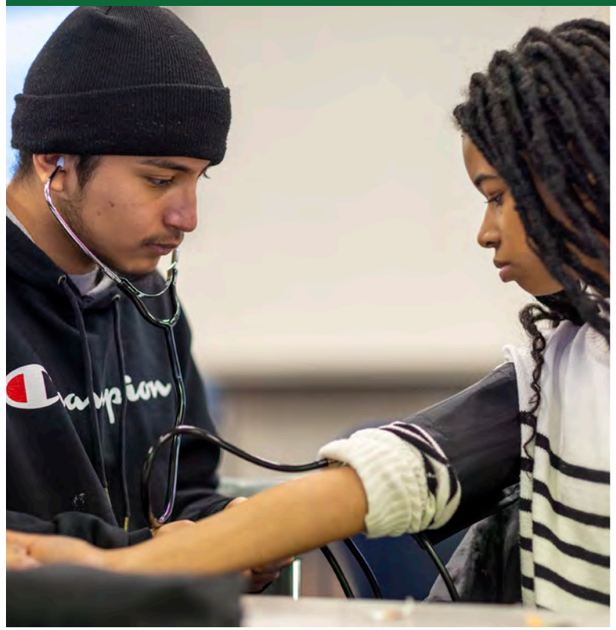
- Sharing account information, including username and password
- Attempting to gain access to another user's password, username or email account
- Attempting to read, delete, copy or modify the email of other users
- Posting email messages with sexually explicit images or language that may be construed as harassment, or disparagement of others based on a person's race, color, sexual orientation, gender identity and/or expression, religion, national origin, ancestry, age, marital or parental status, disability as defined by Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, Americans with Disabilities Act Amendments Act of 2008, veteran's status, pregnancy or any other category protected by federal or state law or county or city ordinance
- Spamming

## Worship/Prayer/Meditation Opportunities

The Department of Religion, Health and Human Values provides weekly opportunities for worship/prayer/meditation in the J. Hall Taylor Memorial Chapel, located on the first floor of the Kellogg building near elevator C, as well as special services on faith-group holidays. Two meditation rooms, available at all times as a refuge for the spirit, are located on the fourth floor (Tower Smith Family Lounge) as well as the second floor of the Johnson R. Bowman (JRB) building.

Rush University has also opened a new meditation space or prayer room for students, faculty and staff to utilize located in the library. To access the room, enter the library through the fifth-floor entrance, walk toward the back and you'll see stairs on your left. Go to the top of the stairs and walk east toward the windows. The door is in the far southeast corner. The room formerly housed the rare book collection. This space is available for use 24/7.

A directory of churches in the area is available by calling the Department of Religion, Health and Human Values at (312) 942-5571. Chaplains are available for consultation about professional and personal issues.



# Rush University Academic & University Policies

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# Academic Policies

## Academic Honesty

Rush University students and faculty belong to an academic community with high scholarly standards and one that is committed to honesty and integrity in teaching, learning and research. Academic honesty violations are serious breaches of trust that hinder the success that the Rush academic community depends upon. The Rush University Academic Honesty Policy provides information on the types of behavior that violates this trust and the actions that will be taken to safeguard and restore it.

Academic honesty violations are counter to Rush's I CARE core values of innovation, collaboration, accountability, respect and excellence. As essential as academic honesty is to the trust that is fundamental to the educational process, academic misconduct violates one of the most basic ethical principles of an academic community and will result in sanctions imposed under the university's disciplinary system.

**Examples of academic misconduct that would subject a student to disciplinary action include, but are not limited to:** cheating; plagiarism; collusion; gaining or seeking unfair advantage in relation to any work submitted; helping others to gain an unfair advantage; removing examination materials from a secure examination area; the unauthorized downloading or copying of examinations that are given online; fabricating assigned academic work, including clinical assessments, and presenting them as authentic; facilitating academic dishonesty; and unauthorized examination behavior.

- **Academic Misconduct** refers to any academic behavior that is in violation of the policy.
- **Plagiarism** refers to any attempt by students to use the work, words or ideas of others without proper attribution, or any attempt to pass off the work, words or ideas of others as their own. Such acts are considered plagiarism whether they occur intentionally. Acts of plagiarism include, but are not limited to:
  - Presenting any phrase or extracts verbatim without using quotation marks and without any reference to the author.
  - Paraphrasing all or part of an author's work and presenting it without any, or with inadequate, reference to the author.
  - Copying or paraphrasing all or part of another student's work or otherwise presenting another student's work as their own.
- **Collusion** is an agreement or cooperation to cheat or deceive for a fraudulent purpose. Collusion applies to students (past, present and future) who intentionally cooperate to gain an unfair advantage in the gaining of an award, qualification or grade.
- **Cheating** is using unauthorized materials, including electronic devices, or obtaining unauthorized help from another person in any work submitted for academic credit.
- **Fabrication** is inventing information or citations in an academic or clinical exercise.
- **Facilitating academic dishonesty** is providing unauthorized material or information to another person.
- **Unauthorized examination behavior** is conversing with another person, passing or receiving material to/from another person or source or temporarily leaving an examination site to visit an unauthorized site or without permission.

### Disciplinary Action

Disciplinary actions will be imposed by the program/college including but not limited to warning, probation, suspension or expulsion from the university on those members of the learning community who violate the Academic Honesty Policy.

## Student Code of Conduct

Rush University provides outstanding health sciences education and conducts impactful research in a culture of inclusion, focused on the promotion and preservation of the health and well-being of our diverse communities.

All students enrolled at Rush University are expected to uphold the I CARE values of innovation, collaboration, accountability, respect and excellence.

The Rush University Student Code of Conduct sets the standards for expected professional behavior within the university and the medical center. Commitment to this code is a shared responsibility of all faculty, staff and students within the Rush University community to ensure the highest standards of behavior — whether in the classroom, the laboratory or in the clinical setting — and to ensure that education obtained at Rush provides a sound foundation for each student's future success as an academic, scientific or health care professional.

The Student Code of Conduct provides the framework for how students should conduct themselves as members of the academic learning community. At Rush University, we value and support freedom of expression in a manner that is civil and respectful to others.

Examples of conduct that would subject a student to disciplinary action include, but are not limited to the following:

- Obstruction or disruption of teaching, research, administration, clinical practice and community outreach or other university or medical center activities
- Falsification of student records, transcripts or financial aid forms or applications
- Theft of, or damage to, university or medical center property or the property of a member of the university or medical center community
- Threatened or physical abuse of any person, or action that threatens or endangers the safety of others
- Misrepresentation, falsification, alteration or misuse of university or medical center documents, records or identification, or research data
- Unauthorized use or entry of university or medical center facilities
- Conviction of a crime deemed serious enough to render the student unfit to pursue their profession
- Conduct that is inconsistent with the ethical code of the profession the student is preparing to enter
- Unlawful use or possession of controlled substances on the university or medical center campus
- Unauthorized possession or concealment of firearms or other weapons on the university or medical center premises at any time
- Attempting to gain access to another's email or computer account, username or password
- Knowingly setting off false fire, safety or security alarm
- An accusation of student and/or faculty academic dishonesty or misconduct made in bad faith

### Student Code of Conduct Violation Enforcement

Any violations of this Student Code of Conduct or suspicion of student or academic misconduct should be reported to the student's college for further review in accordance with the procedures specified by the college. Each college will be expected to set standards for addressing Student Code of Conduct violations and cases of misconduct in a fair and consistent manner that best fits their respective student population.

Adherence to the Student Code of Conduct is required upon matriculation. The Student Code of Conduct may also be enforced for off-campus actions when the student is representing themselves as a member of the university.

**Good Standing:** A student who has upheld the guidelines of the Student Code of Conduct and has not been found in violation of the policy resulting in either probation, suspension or expulsion.

### Student Conduct Sanctions

In determining appropriate sanctions when violations of the Student Code of Conduct occur, the college will use the current case as well as any past disciplinary infractions that were upheld. Disciplinary sanctions will be determined by reviewing the statements and interest of the complainant, the respondent and the impact that the infraction may have on the university community. The college will take into consideration the severity of the complaint, the safety of the respondent, university community and any other relevant factors when imposing sanction. The following list of sanctions is not considered an exhaustive list, but a guide to follow when determining the appropriate sanction for the violation.

**Warning:** A written notification that a violation of the Student Code of Conduct occurred and that any further responsible finding of misconduct may result in more severe disciplinary action. A warning is noted for administrative purposes and is not considered a part of the student's disciplinary record. In addition, a warning does not adversely affect a student's standing.

**Probation:** A written notification of reprimand that the matter is serious and in violation of the Student Code of Conduct. Probation is for a designated period and may include more severe sanctions, if found responsible for additional violations of the Student Code of Conduct, including suspension or expulsion from the college. Notification of probation is considered a change in good standing status with the college/university and the student(s) may be restricted from participating in other college or university activities.

**Loss of Privileges:** Denial of the use of certain college facilities or the right to participate in certain activities, events, programs or to exercise certain privileges for a designated period.

**Restitution:** A student may be required to make payment to an individual, the college or the university related to the misconduct for damage, destruction, defacement, theft or unauthorized use of property.

**No Contact Restrictions:** Are those set by the college administrator, university administrator and director of security that the party is restricted from having contact whether direct or indirect with a designated party. These restrictions may include indirect or direct contact such as email, texting, U.S. mail or any other contact via a third party.

**Educational Requirements/Referrals:** The college reserves the right to impose counseling or substance assessments or other required educational sanctions.

**Suspension:** The separation of a student from the college for a specified period, after which the student is eligible to return. The suspension letter will include all the conditions that must be met before a student is reconsidered for readmission.

Students who are on suspension may not participate in any college and/or university sponsored activities both on campus and offsite that are owned or operated by Rush University and Rush University Medical Center.

**Expulsion:** Expulsion is the permanent separation of the student from the college and their academic program, and all educational activities sanctioned by Rush University.

## Student Complaint Policy

Rush University embraces a philosophy of respect and accountability as supported by the I CARE values (innovation, collaboration, accountability, respect and excellence). Rooted in these I CARE values, the Student Complaint Policies and Procedures are meant to balance a supportive and equitable process to assist students with submitting complaints. According to the Higher Learning Commission Institutional Records of Student Complaints (HLC, 2018), "An institution shall make available an account of the student complaints it has received, its processing of those complaints, and how that processing comports with the institution's policies and procedures on the handling of grievances or complaints."

To this end, the university strives to provide a seamless complaint process experience by making available to the student body a convenient online complaint submission process and a toll-free hotline phone number through the NAVEX Global Student Complaint Portal* (hereafter "Student Complaint Portal"). The Student Complaint Portal and Hotline offers students a confidential as well as an anonymous mechanism to submit their complaints.

The university's Student Complaint Policies and Procedures should:

1. Provide clear instructions on how to submit a formal student complaint
2. Distinguish the various types of student complaints, (i.e., examples of academic versus non-academic complaints)
3. Provide a list of external agencies to report student complaints

**NAVEX Global is a third-party hosted resource with secured servers and is not hosted by Rush University.*

**NAVEX Global is a third-party hosted resource with secured servers and is not hosted by Rush University.*

Rush University endeavors to provide an environment where student concerns are addressed and resolved in a manner that fosters both respect and equality. The university encourages students to seek informal and formal procedures to allow students the flexibility to adjudicate their complaints, depending on the nature or seriousness of the complaint(s). No retaliation or reprisal shall be tolerated against a student for submitting, in good faith, a complaint either on an informal or formal basis.

All student complaint submissions will be kept confidential to the extent possible to provide thorough investigations, maintain campus safety and to ensure compliance with federal, state or local policies. Submission of complaints through the Student Complaint Portal are not meant to override any existing policies or procedures such as grade appeals, student professionalism code of conduct, Title IX, Discrimination and Harassment or any policy established by law or the university. The Student Complaint Portal is designed to work interdependently with existing student policies and procedures. Students are encouraged to file their complaint as soon as possible to ensure that all practical information is collected and available to resolve and improve the student's experience.

### Student Complaint Portal: Process of filing a complaint

1. When a student files a complaint through the Student Complaint Portal or through the Student Complaint toll-free call center, the student will receive a unique username and are asked to choose a password. Please see link to the Student Complaint Portal.
2. Students can return to the Student Complaint Portal again either by internet or telephone and access the original report to add more detail or answer questions posed by a university representative to further help resolve any open issues.
3. Once a complaint is filed through the Student Complaint Portal, the university will review or refer the complaint to determine the appropriate follow-up. At all times, the complaint will be kept confidential to the extent possible to allow for proper investigation. Only individuals with legitimate reasons will have access to the filed complaint.
4. If the student complaint is required to be referred to a specific contact person or process (i.e., Title IX or Grade Appeals), the student will be notified that the complaint has been referred to the appropriate area for further review and the complaint will be facilitated through that specific process. However, the student complaint ticket will remain open until the complaint has been finalized and closed.
5. If a decision is not rendered after progressing through the appropriate steps, leadership of the specific area will be notified for additional review unless an existing policy dictates a different course of action. Students also have the right to file a formal complaint with external accrediting or regulating agencies affiliated with Rush University if they believe that this matter was not resolved in earnest. Links to these accrediting and regulatory agencies are listed in this policy.
6. A submission of a formal student complaint can be anonymous or non-anonymous. Anonymous complaints will be investigated to the degree that the institution has enough information to proceed with an investigation.
7. All non-anonymous complaints should contain the following information:
   - The student complainant should include their name, student identification number and contact information, including telephone number and email address, on the form.
8. All complaints should contain the following information:
   - The name of the alleged student, employee, faculty, department, etc., involved in the complaint
   - A detailed written statement that describes the nature of the complaint, including the date, day, approximate time and location of the occurrence.
   - The date of submission of the complaint will be documented in the Student Complaint Portal.

### Informal Resolution

Students should begin the informal process by addressing their complaint directly with the staff, faculty or other students involved with the complaint. (Note: This requirement does not apply to alleged cases of harassment, violence, sexual misconduct, discrimination or situations that are governed by the university Academic Honesty Policy).

### Formal Resolution

In the event the student is not able to resolve their complaint through informal means, the student should file a formal written complaint using the Student Complaint Portal or by reporting their complaint through the Hotline. The university will review all complaints submitted through the Student Complaint Portal.

**Academic Complaints (non-exhaustive)*

### Harassment and Discrimination

Rush University is committed to the principles of equal opportunity and promoting and maintaining an environment that emphasizes the dignity and worth of every member its community. Rush University strives to have an environment that is free from unlawful Sexual Harassment, discrimination, harassment, and related retaliation. Students should report these types of incidents to the Title IX Coordinator or Office of Institutional Equity and follow the procedures in Rush's Prohibition against Sexual Harassment in Rush Programs and Activities (HR-A 2.00(A)) and Rush's Prohibition against Discrimination, Harassment, and Sexual Misconduct (HR-A 2.00

Nancee B. Hofheimer
Title IX Coordinator
Rush University Medical Center
(312) 942-2104

### Disruptive Conduct/Behavior Complaints Against Staff, Faculty and Other Students

The Code of Conduct sets the standards for expected professional behavior within the university and the medical center. Commitment to this Code is a shared responsibility of all faculty, staff and students within the Rush University community to ensure the highest standards of behavior-whether in the classroom, the laboratory, or in the clinical setting-and that education obtained at Rush provides a sound foundation for each student's future success as an academic, scientific or health care professional. Violations of these standards are subject serious sanctions. Students witnessing this type of behavior are encouraged to file a complaint via the Student Complaint Portal.

## State Authorization Reciprocity Agreements (SARA) Complaint Process

The State Authorization Reciprocity Agreements (SARA) provides a streamlined, reciprocity-based process for participating postsecondary institutions to gain approval to offer distance education in SARA member states. Institutions approved by their states to participate in SARA must be appropriately accredited and meet academic and financial requirements designed to protect and benefit students.

SARA member institutions are required to inform students of the SARA Complaint process. To comply with

this requirement institutions must list the SARA complaint process on the institution's website and in the institution's catalog.

This requirement only applies to those complaints resulting from distance education courses, activities and operations provided by SARA-participating institutions to students in other SARA participating states. Complaints about a SARA institution's in-state operations are to be handled under the state's normal provisions, not those of SARA.

Complaints against an institution operating under SARA policies go first through the institution's own procedures for resolution of grievances. Please note, SARA does not adjudicate complaints about grades or student conduct violations. Also, allegations of criminal offenses or alleged violations of a state's general-purpose laws may be forwarded directly to the relevant state agencies.

If a student is not satisfied with the outcome of the complaint they made to their institution (except for complaints about grades or student conduct violations) they may appeal to SARA, within two years of the incident through the SARA Portal Entity in the home state of the institution against which the complaint was filed.

The student may appeal the institution's decision to the SARA State Portal Entity listed below:

Nkechi Onwuameze, PhD
Assistant Director for Academic Affairs
Illinois SARA Coordinator
Illinois Board of Higher Education
1 N. Old State Capitol Plaza, Suite 333
Springfield, Illinois 62701-1377
217.557.7382
sara@ibhe.org

## University Honor Code

The Rush University Honor Code is as follows:

*I pledge that my academic, research and/or clinical work will be of the highest integrity. I shall neither give nor receive unauthorized aid; I shall not represent the work of others as my own; I shall not engage in scientific misconduct, and I shall treat all persons with the greatest respect and dignity, just as the ethical codes of Rush University Medical Center and my future profession demand.*

*I recognize that behaviors that impede learning or undermine academic, research and clinical evaluation - including but not limited to falsification, fabrication and plagiarism -are inconsistent with Rush University values and must be reported.*

### Implementation of the Honor Code

This Rush University Honor Code (from now on referred to as the "Code") sets the standards for expected professional behavior within the university and the medical center. Commitment to this Code is a shared responsibility of all faculty, staff and students within the Rush University community to ensure the highest standards of behavior-whether in the classroom, the laboratory or in the clinical setting-and to ensure that education obtained at Rush provides a sound foundation for each student's future success as an academic, scientific or health care professional.

### Code Enforcement

Annually, all students have the opportunity to attest to their commitment of the Code during the completion of annual mandatory trainings within the learning management system. Any violations of this Code or suspicion of student or academic misconduct should be reported to the student's college for further review in accordance with the procedures specified by that college. Each college will be expected to set standards for addressing Honor Code violations and cases of misconduct in a fair and consistent manner that best fits their respective student population. Students refusing to sign the Code attestation must submit a letter to their dean's office explaining why. Adherence to the Code is required for matriculation, whether or not the document has been signed. The Code may also be enforced for off-campus actions when the student is representing themselves as a member of the university.

## Demonstration

Rush University recognizes the importance of freedom of inquiry and the open exchange of ideas, including viewpoints that may not reflect majority opinions. This policy addresses free expression and peaceful demonstration by members of the Rush community, including faculty, staff, students and invited guests.

Rush is committed to supporting the rights of community members to engage in freedom of expression, including peaceful protests and orderly demonstrations. As an academic medical center serving the community, applicable Rush policies, as well as state and federal laws must be taken into consideration. The right of Rush community members to demonstrate may not disrupt university operations and may not interfere with the rights of others to engage in and benefit from the educational programs and services of the university or its affiliated hospitals. Accordingly, the following guidelines are in place:

- Community members may not prevent or obstruct the speech or expression of another community member. Provided, Rush Security or other university officials may act consistent with this policy to ensure the speech or other expression of community members is consistent with the guidelines in this policy.
- Community members may not interfere with the rights of others to participate or not participate in a university activity. No community member may employ force or violence, or constitute an immediate threat of force or violence, against persons or property.
- Community members may not claim to speak for or otherwise represent the university or the Rush system, unless officially sanctioned by the president or their designee.
- Community members may not engage in disruptive conduct that substantially prevents, impairs, or obstructs the operations of the university or the Rush system's clinical mission, including but not limited to teaching, study, research, patient care, or administrative activities. No community member may use or occupy campus facilities so as to disrupt or impede such events or activities in a manner that deprives others of the benefit or enjoyment of the facility or activities. Space may be occupied only when assigned through established University procedures. Demonstrations may not impede the free flow of pedestrian or vehicular traffic, block thoroughfares, or obstruct the entry or exit points of campus buildings. Demonstrations must occur within the hours of normal operations of the facility or the space in which they occur (if applicable) unless prior approval is obtained. Placards, banners, and signs generally are allowed in accordance with Rush's signage policies but may not be used in a manner that is dangerous or serves as an impediment to others.
- The role of Rush Security during a demonstration is to maximize the safety and security of community members as well as university property. When enforcing this policy, other Rush policies, or applicable law, Rush Security or other university officials may request community members to identify themselves and/or to relocate or leave a university location. If placards, banners, or signs are deemed to be dangerous or serve as an impediment to others, Rush Security or other university officials may request the community members carrying the placards, banners, or signs to move to a different location or remove their materials. When possible, participants will first be given a warning to leave or relocate or remove placards, banners, or signs unless a safety issue prevents that step and requires immediate action. Community members are expected to follow these requests.
- Community members participating in demonstrations are subject to other applicable university and Rush system policies, city ordinances, and state and federal law.
- While faculty and employees may attend and participate in demonstrations, they may not use Rush resources to support or endorse any cause or matter without prior approval. They must also follow applicable time and attendance processes for events taking place during working hours.
- This policy is not intended to preclude or dissuade any employee from engaging in activities protected by state or federal law, including the National Labor Relations Act.

**Advance Arrangements:**

- Students and/or student groups are encouraged to notify the Office of Student Life and Engagement in advance of any demonstration. Advance notice allows the University to help ensure that the event takes place in a constructive and peaceful manner. Community members are expected to follow applicable guidelines for seeking permission to use University space to conduct demonstrations. When conducting such events, student organizers are expected to promote a safe environment and, to the best of their ability, ensure participants adhere to the Student Code of Conduct (UAC0030). Faculty and staff must adhere to the Rush system's Code of Conduct (HR-A 01.00) and Prohibition on Disruptive Conduct (HR-E 01.50).

  A student or student group planning a demonstration is required to submit an event request form to the Office of Student Life and Engagement no later than five (5) days before the event. If an external speaker is scheduled to attend the demonstration, they should complete a legal speaker agreement/contract following Rush legal requirements. A fully executed agreement should be in place prior to the event.
- For events occurring on city sidewalks and streets adjacent to the University, students should make appropriate arrangements to acquire city permits and should adhere to city ordinances and applicable state and federal law.
- Occasionally an invited speaker or event will raise a credible likelihood (based on prior incidents or communications of intent) that the speaker or event may prompt a demonstration or become the target of threats or violence. In these circumstances, community members

planning an event are encouraged to notify the Office of Student Life and Engagement and/or Rush Security as soon as is feasible to consult and conduct a risk assessment.

- Community members planning an event may need additional security, especially if there is a possibility of protest or dissent. Rush Security will assess and determine the safety and security needs for the event. Their assessment may result in the presence of security officers, and processes such as bag-check, event ticketing, and other steps to maximize the safety of attendees and the broader community.

## Inappropriate Degree Usage

A student may not indicate they have earned a specific degree or certificate from Rush University until the following have been fulfilled:

- All degree or certificate requirements have been successfully completed
- Completed Degree Approval and Intent to Graduate forms have been submitted to the Office of the Registrar
- The official date of graduation for a particular term has been reached
- The degree or certificate has been officially conferred by the Office of the Registrar

A student who disregards this policy will be referred to the committee that addresses professional ethics violations for that student's program or college.

## Continuous Enrollment/Active Student Status

To maintain an active status, Rush University requires continuous enrollment in most of its academic programs from the time a student matriculates through a student's graduation. Exemptions for the summer term only include Health Systems Management (residential track) majors. Students who are not officially enrolled each term or have not submitted a Petition for Leave of Absence or Voluntary Withdrawal form risk being administratively withdrawn from the University by the Office of the Registrar.

A student enrolled in a noncredit residency or academic enrichment program prior to receipt of a degree must be registered for their program's continuous enrollment course to retain active student status.

Any degree- or certificate-seeking student not enrolling in a new course but needing to replace an outstanding incomplete grade must register for their program's continuous enrollment course until the grade is satisfied.

A student who is auditing a course and is not allowed in other courses during the same term must register for their program's continuous enrollment course to be charged appropriately.

Students who have completed all coursework in a program but require an external assessment to graduate may enroll in a specific section of continuous enrollment that does not have a tuition charge with approval from the program director or designee. In these instances, the college will request two separate sections of the continuous enrollment course for billing purposes (one section with a charge and one without) at the time the Scheduling Coordinator requests the course sections each term.

Enrollment will require that faculty consent be added in the self-service system (by the program director or their designee) before the student can enroll in the appropriate section. The college or division is responsible for notifying the student of which section of continuous enrollment they should add to their schedule.

## Credit by Proficiency

A student who passes a proficiency examination at Rush University will earn academic credit toward the degree. Programs have the discretion to offer credit by proficiency (e.g., standardized examinations, such as ACT Proficiency Examination Program (PEP) Challenge or Advanced Placement (AP) exams) and/or achieved prior learning (such as Continuing Education Units). The medical degree program does not offer credit by proficiency.

Credit awarded by proficiency and/or achieved prior learning is based on documented equivalence with courses offered by the program. The minimum standards and format for demonstrating proficiency are determined by program faculty. Formats for demonstrating proficiency may include departmentally developed examinations, licensure/certification exams, portfolios and competency demonstrations.

Credit awarded by proficiency and/or achieved prior learning will equal the credit value of the course(s) as listed in the Rush University Catalog under which the student matriculated. Information that is posted on the transcript for approved credit is the prefix, number and title of the course, the credits awarded and grade of "K."

Credit awarded by proficiency will appear on the transcript in the appropriate term the credit was earned. Credit for achieved prior learning will appear on the transcript in the student's term of matriculation. Credit earned by these mechanisms will not be used in calculating the student's grade-point average.

The student's program reserves the right to assess a fee or partial tuition based on what the student would have been charged.

Bachelor's degree candidates holding advanced certifications (as defined by their academic program) may receive credit by proficiency based on their advanced certification credential. An undergraduate student holding an advanced certification credential must complete their final 36 credit hours of coursework in residence at Rush University to graduate.

No more than one-third of the total number of required program credits may be granted to a graduate-level student as credit by proficiency.

## Academic Credit

Academic credit is awarded to a student upon the successful completion of an approved instructional course or by the demonstration of competencies, proficiencies or fulfillment of learning outcomes equivalent to that provided by an approved instructional course.

One unit of academic credit is the measure of the total time commitment a typical student is expected to devote to learning per week of study.

Total time devoted to learning includes but is not limited to: classroom or faculty instruction in either a synchronous or asynchronous mode; time devoted to individual conferences with instructors; reading and completion of learning activities and assignments; posting in online discussion folders; performance demonstrations; examinations; work associated with completion of capstone assignments, thesis, or dissertations; laboratory work; clinical practica; or any other activity required of the student.

One hour of credit is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that reasonably approximates not less than one hour classroom or direct faculty instruction and a minimum of two hours of out of class student work each week for approximately 15 weeks for one semester or one trimester hour of credit or the equivalent of at least 37.5 hours of work for one semester or one trimester hour of credit. In this context, an hour of work is defined as 50 minutes.

## Grade-Point Average

Transfer credits from institutions outside of Rush University are not included in the grade-point average, or GPA, calculation. Transfer credits internal to Rush University are included in the GPA calculation. Separate GPAs are calculated for a student's undergraduate and graduate records. The GPA is calculated using all grades in courses that could count toward the program.

The GPA is reset from 0.0 when a student successfully completes a program and matriculates into a new program at the graduate or professional level. Transcripts show the GPA for each term in which grade points are earned and show a cumulative GPA for all work taken at Rush University for each program degree level.

When a course is repeated, only the most recent attempt is computed in the GPA, though all grades will display on the transcript.

No grade points are assigned for work taken on a pass/no-pass basis, and therefore such work is not computed in the GPA. A GPA is not reported for medical students in Rush Medical College.

Undergraduate students who are required to enroll in courses that typically are taught at the graduate level will have these courses count toward their undergraduate programs of study; thus, the credits and grade points will be calculated as part of the undergraduate transcript.

## Grade Report

Students can access their grade report/unofficial transcript via the Rush University Portal. Grade reports are not mailed to students. Copies of a student's grade report are unofficial and intended for the student's personal use and should not be accepted by another college/university in lieu of an official transcript.

## Grading and Numbering System

| Grade | Points | Description |
|---|---|---|
| A | 4.0 | Excellent |
| B | 3.0 | Good |
| C | 2.0 | Satisfactory for undergraduates, but may not be acceptable at the graduate level. |
| D | 1.0 | Minimal pass for some undergraduate programs, usually not acceptable at the graduate level. |
| F | 0 | Failure |
| P | 0 | Passing |
| N | 0 | No Pass |
| HP | 0 | High Pass (initiated with the Class of 1998, and only used for select medical student coursework) |
| H | 0 | Honors (only used for select medical student coursework) |
| DE | 0 | Deferred designation for medical students who do not yet meet the knowledge and performance component standards after the first attempt. |
| W | 0 | Withdrawal in weeks two through 13 of a term; also used by Rush Medical College when circumstances beyond students' control prevents completion of course requirements regardless of withdrawal date during the term. |
| K | 0 | Credit earned through proficiency examination or achieved prior learning. |
| T | 0 | Credit accepted in transfer from another college or university. |
| CIP/IP | 0 | Course in progress or grade not yet reported. |
| I | 0 | Incomplete |
| CC | 0 | Course continues into the next term. Grade received at end of series is grade for entire course. |
| AU | 0 | Audit |
| XIP | 0 | Mandatory training course completion is in progress |
| XX | 0 | Participation in an ungraded course or residency |
| XC | 0 | Satisfactory completion of mandatory training course |
| XN | 0 | Administrative enrollment error. Student removed from mandatory training course. |
| XS | 0 | Student separated from the university prior to completing the mandatory training course. |

## Graduation and Commencement

Only Rush University students who are candidates for a degree may participate in the commencement ceremony. Certificate candidates are ineligible to participate in commencement. Although Rush University has established a degree conferral date for each term, the university has only one commencement ceremony. Commencement is the official ceremony honoring the graduates of the academic year. Graduation is the official date on which the student's degree is conferred.

All degree seeking students are invited to participate in the commencement ceremony if they graduated or will graduate in:

- The fall or spring term immediately preceding the current academic year's ceremony
- The summer term immediately following the current academic year's ceremony

PhD students completing a dissertation must provide the title of their work to the Office of the Registrar by the published deadline to have that title included in the commencement program.

Participation in commencement or publication of a student's name, academic credentials and dissertation/thesis title in the commencement program does not indicate that a degree has been officially conferred by Rush University.



Students must be registered for the term in which they graduate.

All students, including certificate seekers, who anticipate graduating **must submit the Intent to Graduate form to the Office of the Registrar, via the Rush University Portal, by the published deadline or risk delayed graduation**.

College program directors/coordinators are required to complete and submit the degree approval forms with all required signatures to the Office of the Registrar by the published deadline.

The student's submission of the Intent to Graduate form signals that the student is ready to graduate; allows, only for purposes of the ceremony, the release of directory information restrictions enacted by the student through their signature on the Directory Information (FERPA) Restrictions form; permits release of the student's name, physical address and email addresses to the external photography vendor with whom Rush contracts and to have the vendor place photographs of the student on its website; permits the University to publish the student's picture in a picture composite; for medical students, permits publication of the student's name, photograph, prior degrees and universities/colleges attended in the Rush Medical College yearbook; permits Rush University to print and/or announce the following:

- Student's name as indicated on the Intent to Graduate form (or the student's chosen name)
- Honors or awards received

The Degree Approval form must be submitted after all academic degree requirements are completed. These include the following:

- All program prerequisites, including general education requirements
- All courses required in the major program of study and completion of required cumulative credit hours
- Residency requirements
- Dissertation/thesis/project defense (if required)
- Submission of the dissertation/thesis to the Rush University Center for Academic Excellence (if applicable)
- Achievement of the minimum cumulative GPA of 2.0 for undergraduate and 3.0 for graduate students (not applicable to Rush Medical College)

### Awarding of Degrees

Rush University degrees are dated the last day of the term in which the degree requirements are completed. Degree requirements must be fully met before the next term officially begins; otherwise, the student will be required to register for the subsequent term and will graduate at the end of that term. The student's diploma and other notification of degree conferrals will be held until a student's financial obligation has been met. Outstanding financial obligations have no effect on the awarding of degrees.

### Latin Honors

Candidates for the Bachelor of Science degree who have demonstrated academic excellence are honored at commencement by the Rush University faculty. Those earning a 3.40 to 3.59 cumulative grade-point average at Rush are awarded the Bachelor of Science degree cum laude; 3.60 to 3.79, magna cum laude; 3.80 to 4.00, summa cum laude. Only Rush University courses are calculated into the GPA.

Latin honors appear on the student's transcript and diploma and are typically announced during graduation exercises, including the commencement ceremony and at college/departmental convocation/awards ceremonies. Latin honors also appear in the commencement ceremony program. Here, eligibility is as of the end of the fall term; prospective spring and summer graduates have their honors recalculated prior to their respective degree conferral dates.

## Thesis/Dissertation/Scholarly Project Requirements for Graduation

Doctor of Philosophy (PhD) candidates must complete a dissertation. The Doctor of Nursing Practice (DNP) program requires completion of a scholarly project. Some Master of Science (MS) programs, including Clinical Research and Integrated Biomedical Sciences, require a thesis to meet degree requirements. The thesis is optional for Clinical Nutrition and Speech-Language Pathology students.

Each thesis/dissertation/scholarly project must be original and cannot have been used to meet the requirement of any other degree, either at Rush University or any other university.

Each student will have a committee whose role is to ensure that the student's thesis, dissertation or scholarly project is of high quality and meets the standards of the program and the university for originality, contribution to the field and scholarly presentation.

Review of a thesis/dissertation/scholarly project will follow the sequence of steps as described by each college, including the prescribed preparation manual for each degree.

Students must give a public presentation of the knowledge developed through the thesis, dissertation or scholarly project process to the academic community. Public presentation must precede the final approval by the student's thesis, dissertation, or scholarly project's committee.

A copy of the thesis or dissertation must be approved by the Center for Academic Excellence for conformance to publishing requirements and copyright compliance. Scholarly projects are not reviewed by the library.

## Health and Immunization Requirements

All students present on the Rush University Medical Center campus at least once annually from Oct. 1 to Mar. 31 must be compliant with the influenza immunization program as defined by the Rush Infection Prevention and Control Department.

Program-specific health and immunization requirements are determined by each college and/or academic program:

- Students are notified at the time of admission by the college or program of the health and immunization requirements for matriculation into the university.
- Students must comply with annual health and immunization requirements.
- Students who do not submit the proper proof of fulfilled health and immunization requirements by the designated deadline will be prohibited from registering for the next term and may be disengaged from the program until these requirements are met. Late registration fees may apply.
- Students should be aware that clinical sites outside of Rush may have additional immunization requirements.

Students with medical and/or religious exemptions will be required to adhere to state and hospital policies concerning infection control.

### Rush University Influenza Vaccination Compliance

In following the Rush system Personnel Influenza Immunization Plan, OP-0358, all Rush University students are to be immunized against influenza annually as recommended by the Centers for Disease Control and Prevention/ Advisory Committee on Immunization Practices (CDC/ACIP) and approved by Rush Infection Prevention and Control unless an exemption has been granted.

Online-only students with no on-campus presence are generally exempt from this policy. However, students in online-only programs or any student who is approved for an exemption must follow the vaccination policy of any host site (including clinical or experiential rotations), which may require vaccination and proof thereof. Further, all students, including online learners, who anticipate a need to come to campus at any point must abide by the Influenza vaccination requirement set forth in this policy.

To keep the campus community safe and healthy, the university will continue to adhere to the public health guidelines that may include additional measures deemed appropriate. Students should regularly check their Rush emails and University policies for any updates or follow-up communications.

Rush University students who have been vaccinated are not required to wear the designated influenza vaccination identifier on their student ID badge during the defined influenza season. Rush University students who are also Rush system employees, need to follow the policy and procedures outlined by Rush to maintain compliance of their employee status. The designed influenza vaccination identifier requirement is subject to change for Rush University students if there is a surge of cases and/or becomes a requirement mandated by the Rush system.

- **Deadline:** Influenza season typically occurs between Oct. 1 and March 31. The deadline for receiving the vaccine will be determined on an annual basis by Rush Infection Prevention and Control and will be communicated to students.
- **Proof of vaccination:** Proof of vaccination should be submitted using the college-specific immunization process. Students are required to submit proof of vaccination only by using their Rush University email account. General questions are to be submitted to student_health@rush.edu.
- **Exemptions:** Request for an exemption from the influenza vaccine must be submitted annually.
  - **Medical Exemption:** Exemption from the influenza vaccination requirement for medical contraindications may be requested by providing signed and dated documentation from the student's health care provider indicating exemption from the influenza vaccine, the medical contraindication(s), and duration of the exemption. It is the student's responsibility to submit this request.
  - **Religious Exemption:** Exemption from the influenza vaccination based on a sincerely held religious belief may be requested by completing a written and signed application by the student detailing the student's objection to immunization. The objection must set forth the specific religious beliefs that conflict with immunization. The religious objection may be personal and need not be directed by the tenets of an established religious organization. It is the student's responsibility to submit this request.
  - For additional information about submitting a medical or religious exemption, contact student_health@rush.edu.
- **Noncompliance:** Rush students determined not in compliance with this policy will receive an email directly from Student Health, including their college representative(s), 24 hours or 1 business day after the compliance deadline. The student and college representative(s) will be notified that Student Health will be implementing the University's Influenza Noncompliance Consequence Structure. Student and college representative(s) are notified of a registration hold placed on the student's account, that will be removed upon compliance with the influenza vaccination requirement.

## Incomplete Grades

The grade of incomplete (I) is given only when circumstances beyond the student's control prevent completion of course requirements and the student has received permission to defer completion of these unmet course requirements from the course faculty.

A college or program may limit a student's ability to register for additional coursework if there are incomplete grades on the student's record. Students must be enrolled during the term in which course requirements are completed. Students enrolling only to complete requirements for a course in which a grade of incomplete was given must register for their program's Continuous Enrollment course. Upon completion of the course requirements, the incomplete grade will be replaced by the final grade earned in the course.

A student receiving an incomplete grade in a course may not begin another course for which the incomplete course is a prerequisite. A student who fails to remove the incomplete grade within the specified time will receive a final grade of F or N in the course. It is the student's responsibility to pursue the completion of an incomplete grade.

The timeframe for resolving the incomplete work is determined by the course faculty, not to exceed one year initially. Incomplete grade extensions may be granted if the original timeline to completing the work needs to be extended. This timeframe is in the discretion of the course faculty.

Additional college-specific policies may apply.

## Deferred Designation Procedures (only used for select medical student coursework)

A Deferred designation is a temporary designation that may be recorded when a student did not meet the minimum required M1 or M2 course or required core clerkship performance standard after the first attempt and a reassessment is pending. In the Pre-clerkship phase (M1 and M2 years) the Deferred designation will only be applied to the first two courses in which the student fails to achieve the passing standard on their first attempt.

After a student has received a second Deferred designation, a student will receive a Fail for any subsequent course in which they do not meet the passing standard on the first attempt. In the clerkship phase, the designation of Deferred will only be applied to the first Clerkship in which the student fails to achieve the passing standard on the NBME subject examination. After a student has received a first Deferred designation, a student will receive a Fail for any subsequent clerkship in which they do not meet the passing standard on the first attempt of the NBME subject exam.

A student who receives a Deferred designation must complete the reassessment by the end of the academic year, with the following exceptions: 1. students taking a leave of absence, and 2. students with a Deferred designation for a clerkship taken during the spring term of the M3 year. Students with a Deferred designation during the M3 spring term will have until the end of the M4 summer term to remediate the Deferred designation.

If the student meets the minimum performance standard on the reassessment, the Deferred designation will be changed to a final grade of Pass. If the student fails to meet the minimum performance standard on the reassessment, the Deferred designation will be changed to a final grade of Fail.

Students who take a leave of absence with an outstanding Deferred designation will have one term after returning from leave to remediate the Deferred status. If the Deferred designation is not resolved by the end of the designated term, the designation will automatically be converted to a final grade of Fail.

For students who take a leave of absence with an outstanding Deferred designation, and have a remediation plan that includes repeating coursework, the Deferred designation will be converted to an Incomplete grade until the remediation plan has been completed. At that time the Incomplete grade will be converted to a final grade of Pass or Fail.

## Pass/No Pass Grading Option

Designated letter grade courses may be taken as pass/no pass based on approval by the course or program director. The pass/no-pass option is college- and course-specific, as is the proportion of courses that can be taken as pass/no pass. The decision to take a course for a pass/no-pass grade cannot be changed after the first Friday of a term.

## Repeated Courses

Some courses, such as research and clinical, may be repeated. These are usually indicated in the course description. All grades and grade points are counted in the GPA for these courses. For all other courses that are repeated, only the most recent grade is counted in the GPA. Both the original course and the repeated course appear on the student's transcript. Rush Medical College offers remediation opportunities for some courses; these attempts are reflected on the student's transcript, along with the original course.

## Room Reservations

The Office of the Registrar is responsible for assigning academic space, including classrooms, collaborative learning spaces, small group/conference rooms, lecture halls, auditoriums, ballrooms, and testing labs, in the Armour Academic Center and Triangle Office Building. Space is limited and priority is given to course-related activities.

To obtain space, the date and times of student events must first be approved by the Office of Student Life and Engagement and be sponsored by the organization's faculty adviser or the Office of Student Life and Engagement.

## Students-at-Large

### Definitions

- Student-at-Large: Individuals who have not formally matriculated to a degree or certificate program, but who want to enroll in a course.
- Educational Assistance Benefits (EAB): Rush University System for Health offers tuition assistance to employees who want to take courses within Rush University. Eligibility is determined by Human Resources.

### Policy

- Individuals who have not formally matriculated to a degree or certificate program, but who wish to enroll in a course, must apply by completing the Student-at-Large (SAL) application.
  - A new application is required every term.
  - Completing the application does not guarantee admission as a student-at-large. Each college determines which student-at-large applications are accepted or denied.
  - Representatives from each college will contact their applicants directly to communicate a decision.
  - The Office of the Registrar will administratively register all SAL students approved by their respective colleges. SALs are prohibited from self-registering.
- Rush Medical College courses for medical students and clinical courses from all colleges are not available to SALs.
  - The Dean's Office may approve an individual student to take a clinical course in the case when a student is appealing their dismissal and needs to retake the clinical course to be readmitted to their program.
- A final, transcripted grade will be assigned to any course taken as a SAL. Prospective students are responsible for being academically prepared for requested courses.
- Current degree- and certificate-seeking students have enrollment priority over SALs. SALs may be removed from courses if degree- or certificate-seeking students need to enroll in them. Refunds will be issued if payment has already occurred.
- In general, a student may accumulate no more than 12 credit hours of academic credit as a SAL. These hours may be taken within one term or over a period of time.
  - In certain instances, the Dean's Office may approve a student to enroll beyond the 12-credit maximum, such as when health system employees require advanced training to support the work of the organization.
- Credit earned as a SAL will not necessarily apply toward a Rush degree or certificate program if the individual is subsequently admitted to a degree or certificate program. This is at the discretion of the admitting program.
- Any incomplete ("I") grade earned as a SAL will revert to a permanent failing grade ("F") unless completed by the end of the next academic term. It is the student's responsibility to pursue the completion of an incomplete grade.
- Each college determines the SAL application window for their courses being offered in a given term. Late applications will only be accepted if authorized by the Dean's Office.
- If admitted and enrolled as a SAL, payment is due to the Student Business Office by the first Friday of the term.
- Rush employees seeking to use Educational Assistance Benefits (EAB) should apply for tuition assistance by the Human Resources-designated deadline.
- Students cannot be admitted to a Rush University degree or certificate program if they have a current probationary event as a SAL. Students who have already been admitted when a probationary event occurs will have their admission rescinded or be dismissed from the program. To be considered for admission, an applicant must be considered in good academic standing.

## Transcripts from Previous Institutions

As a part of the admission application process, Rush University requires final and official transcripts from all accredited institutions of higher education that a student attended, whether or not a degree was earned.

Rush University requires an independent evaluation of foreign credentials and transcripts, such as by ECE and WES, when a student completed coursework or a degree outside of the United States or Canada. Non-medical school graduates and attendees from foreign institutions require course-by-course United States equivalency reports. Evaluations of other types will not be accepted. Applicants should not submit foreign transcripts in lieu of a foreign credential evaluation. International medical school graduates and attendees can provide proof of certification from the Educational Commission for Foreign Medical Graduates (ECFMG) in lieu of a course-by-course evaluation.

Individuals who apply using a Centralized Application Service, or CAS, should submit their final and official transcripts and/or foreign credential evaluations directly to the CAS.

Individuals who are taking prerequisite or other coursework not listed on their CAS application need to submit their final and official transcripts to the Rush University Office of the Registrar. NursingCAS applicants should submit all final transcripts directly to the CAS system.

Individuals who applied via CAS and did not have their degree conferred at the time of application must submit their final, official transcript, along with degree conferral information, to the Rush University Office of the Registrar. NursingCAS applicants should submit all final transcripts directly to the CAS system.

Non-CAS applicants must submit their official, final documents directly to the Rush University Office of the Registrar.

## Rush University Transcripts

Copies of academic transcripts can be obtained at no cost to students. The transcript is released only with written consent of the student or as consistent with legal requirements. Transcripts will not be released when students have specific holds on their record.

Students may complete a transcript request form, which is available on the Office of the Registrar's webpage or by writing to the Office of the Registrar, Rush University, 600 S. Paulina St., Suite 440, Chicago, IL 60612. Students can also fax requests to (312) 942-2310. The letter or fax must include the handwritten signature of the student.

Copies of transcripts issued to students will be stamped in red ink as "Issued to Student." All transcripts bear the signature of the Rush University Registrar. Unofficial transcripts are not produced by the Office of the Registrar.

Transcript requests made by Rush Medical College students to support residency applications should be made to the Office of Medical Student Programs rather than to the Office of the Registrar. A Medical Student Performance Evaluation (MSPE) letter is included with these requests.

## Transfer Credit

### Important Definitions

- **Transfer credit** is defined as academic credit obtained by the student at another institution of higher learning that is deemed equivalent through a review process to credit earned through coursework taken at Rush University.
- **Remedial credit** is developmental coursework to help a student prepare to study at the college level. These courses are typically offered by community colleges in subject areas such as reading, math, or science.
- **Corequisite remedial credit** are courses that give additional support to a student taking a college-level reading, math, or English course.
- **Continuing Education Units (CEUs)** signify completion of non-credit programs and courses.

### General Policies

Rush University will not accept:

- Transfer credit from non-accredited institutions
- Remedial credit from another institution
- CEUs for credit for a Rush program

Rush University may approve corequisite remedial credit for transfer toward undergraduate program elective prerequisites, but this credit is reviewed on a case-by-case basis. College-level credit is preferred.

Transfer credit is first reviewed by and subject to the approval of the student's program, division, or college based on an evaluation of quality and equivalence. The program, division or college may place limits on the age of the coursework the student is requesting be transferred.

The Office of the Registrar administers this policy and ensures any approved credit meets the requirements of this policy. Except as otherwise specified in this policy, all transfer credit consideration requires the student to request a transfer using the formal petition to transfer credit process. This includes:

- Submission of a transfer of credit form for each individual course.
- Submission of a course syllabus for each individual course. When a course syllabus is not available, the student can provide a course description. More information may be necessary and is requested at the discretion of the student's program, division, or college.
- Submission of an official academic transcript from the institution where the credit was earned. Transcripts provided as part of the student's application for admission cannot be used for the purpose of transfer credit. Transcripts from foreign institutions must comply with the "Transcripts from Previous Institutions" policy.

Other general policies include:

- Only letter-graded courses are eligible for evaluation as transfer credit; pass/no-pass courses will not be considered.
- Undergraduate-level courses cannot be transferred to meet the requirements of a course taught at the graduate level.
- Transfer credits can only be applied to satisfy the degree requirements of one program. Once applied, they cannot be used a second time for a new degree program.
- Previously earned program credits at Rush University may only be used to satisfy the requirements of another program if they are at the same level (e.g. graduate) and if they meet the current curricular standards.
- The number of credits granted for a given course cannot exceed the number awarded for the course on the transcript of the school where the course was taken or the number earned for the corresponding course at Rush University. Credits earned on the quarter system will be converted into semester credits where applicable. A quarter credit is roughly equal to two-thirds of a semester credit.
- Course information (including grades) from transferred courses is not recorded on the student's transcript; only the number of credits is recorded and added to the cumulative number of credits.

### Undergraduate-Level Policies

- Rush University may accept up to 60 semester hours or equivalent of credit toward lower-level prerequisite course requirements. These courses are considered requisite requirements, are subject to change, and are published on each programmatic admissions page.
- Rush University will consider College Board Advanced Placement examination scores of 3 or higher for related coursework to satisfy lower-level prerequisite course requirements. Rush University will only consider official score reports sent directly from the College Board.
- Rush University will consider official International Baccalaureate (IB) Diploma Program credits with a minimum score of 4 or better. Official transcripts for this credit must be sent to Rush University directly from the IB organization. Course credit for only one course can be granted per IB score, and the credit awarded must fall into the appropriate requisite category for the applicant's program of interest.
- At admission, the applicant's course history will be formally reviewed by admissions and the Office of the Registrar.
  - Any courses already completed with documented acceptable grades will be transferred to Rush University without the applicant needing to supply additional documentation. To be considered documented, the student must have provided Rush University with an official transcript from the institution where the course was completed.
  - If the admitted applicant is missing any requisite coursework to attend Rush University at the time of the initial transcript review, they will need to request a transfer of that coursework using the formal petition to transfer credit process.
- Undergraduate courses must be completed with a "C" or better to be awarded credit. For schools that use a +/- grading system, grades of C- or better count toward this policy.
- A minimum of 36 credit hours of coursework must be taken in residence at Rush University to graduate.

### Graduate-Level Policies

- For graduate-level programs, no more than one-third of the total number of required credits may be granted to a student in combined transfer credit and proficiency credit. See the policy on Credit by Proficiency or Achieved Prior Learning for more information about proficiency credit.
- All graduate-level transfer credit consideration requires the student to request a transfer using the formal petition to transfer the credit process.
- Graduate courses must be completed with a "B" or better to be awarded transfer credit. For schools that use a +/- grading system, grades of B- or better count toward this policy.

## Enrollment

### Enrollment Status Definitions

Students working toward a degree or certificate and who are enrolled at least half-time may be eligible for student financial assistance. These students may also be eligible to have their federal educational loans deferred. Students are considered full-time or half-time each term based on the below credit criteria. Rush University students must be registered for one of the enrollment statuses below during any academic term to maintain an active student status. Students who are enrolled in externships or clinical work for less than nine credit hours may be considered enrolled full-time for credit hour purposes regardless of the amount of clinical work that is expected per credit hour.

| | Full-time | Half-time |
|---|---|---|
| Medical Students | 12 credits | 6 credits |
| Graduate | 9 credits | 4.5 credits |
| Undergraduate | 12 credits | 6 credits |
| PhD Dissertation, Clinical Doctorate Externship, Audiology Investigative Project and Master's Thesis | 2 credits | 1 credit |
| Medical Students (enrolled in clinical bridge course) | 4 credits | 2 credits |

### Reduced Credit Hours Requirements for Select Student Populations

A graduate student enrolling in dissertation, externship, audiology investigative project or thesis work has a reduced credit hour requirement to be considered full-time or half-time:

- Students registering in at least two credits of dissertation, externship, audiology investigative project or thesis coursework are considered full-time.
- Students registering in one credit of dissertation, externship, audiology investigative project or thesis coursework are considered half-time.

A medical student enrolling in the clinical bridge course has a reduced credit hour requirement to be considered full-time or half-time:

- Students registering in at least four credits of clinical bridge are considered full-time.
- Students registering in at least two credits of clinical bridge are considered half-time.

Individual graduate programs may set guidelines on research enrollments, including which academic milestones should be passed before enrollment in dissertation or thesis hours are permitted. Once students successfully defend their dissertation or thesis, no further research enrollments are necessary. Continuous enrollment may be needed thereafter if the student still has not met graduation requirements for their program.

*Students with questions about their financial aid eligibility and enrollment status should contact the Office of Student Financial Aid.*

## Registration

### Definitions

- **Add Period:** The add period starts on the first day of the term and ends on Day 7 of the term.
- **Batch Registration:** Administrative registration at the request of the student's program, college or division
- **Continuing Students:** A Rush University degree- or certificate-seeking student not in their first term of study of their program.
- **Drop Period:** The drop period starts on the first day of the term and ends on the last day of week 13 of the term.
- **New Students:** A Rush University degree- or certificate-seeking student in their first term of study of their program.

- **Regular Registration Period:** The regular registration period starts on the day registration opens and ends on the day before the term begins.
- **Self-Registration:** Student-initiated registration, either online via self-service or by submission of an Add/Drop Request form.
- **Students-at-Large:** Individuals who have not formally matriculated to a degree or certificate program, but who wish to enroll in a course.

### Registration Policy

Students can only register for courses during the regular registration period or add period. Specific term regular registration periods and add period dates are published on the university academic calendar. Students will not be allowed to register for courses after the add period ends.

- New students are allowed to register during the regular registration period or add period without being assessed a late registration fee.
- Continuing students are expected to register during the regular registration period. Continuing students who register during the add period will be assessed a late registration fee.

Students who have registration holds will be prohibited from registering. Registration holds must be resolved prior to the end of the add period for the term in which a student needs to register. If a hold is not resolved by the end of the add period, a student will not be allowed to register for the term. Registration holds include:

- Financial holds (balance due after payment due date for a prior term or noncompliance with institutional loan-related requirements)
- Health & safety holds (missing/out-of-date immunizations and other health and safety-related requirements)
- Missing official transcripts from previous institutions attended
- Noncompliance with annual mandatory training modules
- Noncompliance with onboarding checklist requirements, including providing the university with an emergency contact

Registration is complete only when tuition and all other term charges are paid or when satisfactory payment arrangements have been made by the student. Tuition is always due in full by the first Friday of the term.

Classes are filled according to the following priority order:

- Continuing students
- New students
- Students-at-Large

Students can be registered by one of the following methods:

- Batch registration
- Self-registration

The Office of the Registrar will publish the typical registration method for each program on their public website.

Any student who wishes to be excluded from batch registration may opt out of batch registration on a per-term basis. Instructions for opting out will be provided by the Office of the Registrar when confirming a student's enrollment via email.

If a student drops a course during the first seven days of the term, the course will not appear on their transcript. If a student drops a course on day 8 through the last day of week 13, the course will appear on their transcript with a grade of Withdrew (W).

- Note: Students in the clerkship phase of the Rush Medical College MD program may drop an individual course before the course begins, and it will not appear on their transcript. If a student has started the course and then drops the course between Day 1 and the end of week 13 of the course, it will appear on their transcript with a grade of Withdrew (W).

If a student drops any course after the end of week 13 of a term, they will be issued a final grade based on the coursework they have completed to that point.

No courses may be dropped after the last day of classes, during the final examination period, or after a final evaluation of the student has been delivered.

All scheduled coursework, including exams and assignments, must be submitted within the start and end date of the term. Students with extenuating circumstances who cannot finish all coursework during the term should be awarded a temporary grade of Incomplete (I). All work to resolve a grade of incomplete must be done by the student during a period of attendance. Students may not be required to make up incomplete work during term breaks or while otherwise not enrolled.

Some courses require faculty consent for a student to enroll. These permissions are managed by the course faculty in self-service.

In general, students must meet course requisites before they can enroll. Faculty who approve a waiver of a course requisite must manage this permission in self-service.

- Students who are enrolled under a waiver of a course requisite enroll at their own risk. Requisites are established on courses with the understanding that needed content might be missing to be successful in a course. A student who chooses to enroll with a waived requisite will not receive special consideration if they are not successful in the course.

### Auditing a Course

A student wishing to attend a course without completing all the requirements for credit must register to audit the course with permission of the course and program directors. If space in class is limited, continuing and new students have priority.

Registration in a course cannot be changed from audit to credit or credit to audit after the first week of the term. A student who has audited a course may not apply for credit for that course later. Earning a grade and receiving credit for the course can only occur by enrolling in and paying for the course during the term it is offered.

Fees associated with auditing a course are listed in the Tuition and Fee Schedule.

Auditing of clinical courses is prohibited.

Auditing of courses with a laboratory component may be permitted with program director approval.

An auditing student:

- May participate in class discussion only at the invitation of the course director
- Is prohibited from taking examinations
- Is expected to attend class

An audited course will appear on the student's transcript with the designation of AU upon successful completion; credit hours are not assigned. If the student does not attend the class, a grade of W will be assigned.

Rush Medical College does not allow students to audit courses for medical students except with the permission of Committee on Student Evaluation and Promotion (COSEP).

### Independent Study

To register for an independent study course, the student's program coordinator, adviser or program director will approve the proposed course and its objectives. The request to create the independent study course should be sent to University Scheduling and include the instructor/course director, course title, course description, number of credit hours and grading system.

Once the course is created, the Office of the Registrar will contact the student's college to inform of the status of the course and the student's registration status.

Students complete an independent study contract form, which is available on the Office of the Registrar's webpage. The form is used to identify the objectives of the study and a plan to meet those objectives is described. This form should be completed and approved by the preceptor, department chair and the program director no later than the first day of the term in which the independent study is to be taken. The student's preceptor keeps the contract.

## Withdrawal and Leave of Absence

### Administrative Withdrawal

Administrative withdrawal refers to a student's permanent, university-initiated departure from the university without the expectation of the student's return.

Rush University requires continuous enrollment in most of its programs from the time a student matriculates through a student's graduation. Students are required to either be registered each term or on an approved leave of absence. If the student has decided to withdraw from Rush, voluntary withdrawal paperwork must be submitted to the Office of the Registrar before the voluntary withdrawal will become official.

A student who is not registered, on an approved leave of absence or who has not submitted paperwork to voluntarily withdraw will be administratively withdrawn from the university at the end of the term in which the student stopped attending. The administrative withdrawal is posted to the student's transcript. Students wishing to return to Rush in the future need to apply for readmission.

### Voluntary Withdrawal

Voluntary withdrawal refers to a student-initiated, permanent departure from the university without expectation of the student's return.

After matriculation to Rush University, a student may not arbitrarily cease registration. All students are required to

maintain continuous enrollment or risk administrative withdrawal due to unexplained nonregistration.

Any student withdrawing from the university must give formal notification by completing a petition for withdrawal or leave of absence form, which requires the student to obtain specific signatures. The Office of the Registrar is the designated office that a student must notify if withdrawing from the university. The petition for withdrawal or leave of absence form may be obtained from the Office of the Registrar or online. The date when the student begins the withdrawal process is the official date used in processing the form.

Withdrawal forms submitted during the current term for the next term or during a break period will use the day after the end of the current term as the official withdrawal date that will be used for processing the form.

A student may not withdraw from classes during the last three weeks of any term. A student who submits a voluntary withdrawal form during the last three weeks of the term will receive grades in the registered courses.

Official withdrawal from the university entitles a student to a tuition refund from the first through the fifth weeks of the term. No other fees are refundable. The lower refund percentage is valid beginning the next Monday at midnight.

### Leave of Absence

After matriculation to Rush University, a student may not arbitrarily cease registration without notice and must petition for a leave of absence if they cannot attend a term but wish to remain enrolled in their academic program. A leave of absence is a temporary suspension of studies granted to an eligible student for whom an approved time limit has been set and a specific date of return established. Each degree has a time limit for completion.

The decision to include the LOA in calculating the time limits for completion of the degree is within the discretion of each program. The Office of the Registrar is the designated office that a student must notify if they wish to request a leave of absence from the institution. Students admitted conditionally and who have not met the conditions for full admission, may not apply for a leave of absence.

Leaves of absence are approved and granted for the term which the LOA is desired or otherwise as approved by the program. It is the student's responsibility to communicate directly with their program regarding the disposition of the request for the LOA. Students who request a LOA may be displaced into a subsequent cohort, required to take a revised program of study upon return to the university or be delayed in their progression through the program based on availability of courses and/or clinical placements.

An approved Medical Leave of Absence may be generated by the student, or by the Dean's Office and must be accompanied by documentation from the student's health care provider and/or an independent evaluator must attest to the student's inability to participate in the curriculum due to a medical condition.

Students may be eligible for a LOA only after they have completed and submitted the Petition for Leave of Absence signed by each college or program to the Office of the Registrar. The student's failure to complete and submit the Petition for Leave of Absence form will make the student ineligible for any refunds and obligate him or her for the full term's insurance charges. The date that the student begins the process of applying for a Leave of Absence is the official date that will be used in processing the form.

The day after the end of the current term will be the official date used in processing a LOA form submitted during the current term for the next term or during a break period.

A student who initiates a Petition for Leave of Absence form after the first week of the term and before the course withdrawal deadline will receive a withdrawal ("W") grade on the transcript for any coursework.

No classes may be withdrawn during the last three weeks of any term. A student who initiates a Petition for Leave of Absence form on or after the Monday beginning the last three weeks of the term will receive grades in the courses for which he or she is registered and will be subject to an academic progression review based upon the assigned grades.

In general, the student is required to return by the approved date. If unable to return as agreed, the student is required to contact their adviser (College of Nursing students), program director (College of Health Sciences and Rush Medical College Translational Science students), or Office of Integrated Medical Education (Rush Medical College medical students) a minimum of two weeks prior to the beginning of the expected term of return (for medical students, a minimum of 90 days prior to the expected return date) and discuss the options open to them.

A request to extend a LOA is subject to the same review and approval process as the original. A new clearance form must be completed.



Students may take a voluntary leave of absence for up to three consecutive semesters (12 months) or three cumulative semesters if more than one leave is taken. In view of the nature and rigor of the academic program, it is the college's expectation that students will not exceed three cumulative semesters of leave over the course of their time as a program participant, unless otherwise provided for by this policy.

Students who have exceeded three consecutive or cumulative semesters of leave ordinarily will be administratively withdrawn effective at the end of the third semester. Petitions may be granted to extend a leave for up to an additional three semesters. Students seeking an exception to the three-semester maximum must petition the program director in their college no later than the end of the third semester of leave.

### Exceptions for the two-year LOA time limit

Students may request up to one additional year of LOA (third year) in specific approved situations. Examples of such circumstances include, but are not limited to:

- Pursuit of an additional degree, such as MBA, MPH, MPP, PhD, either at Rush University or another institution
- Research, including working with a research mentor at Rush University or another institution, or participating in a formal research program (such as the Medical Research Scholars Program at the NIH)
- Global Health Fellowships
- Medical Leave of Absence

### Returning from a Leave of Absence

Students intending to return from an approved Leave of Absence must complete and submit the required Return from Leave of Absence form to the Registrar.

If the student is in a program that is batch registered, the Office of the Registrar will administratively register them when their program makes the request. If the student is in a program that requires self-registration, the student will need to enroll before the term begins to prevent late registration fees. It is the student's responsibility to consult with their adviser/program director regarding required courses for the term of re-entry. Medical students in Rush Medical College should consult with the appropriate associate dean to determine required courses.

Students must satisfy the conditions of the LOA before re-entering and must comply with all policies, requirements and course sequences in effect at the time of re-entry.

Students returning from a LOA must register during the designated priority registration period. Registration outside of this period will result in a late registration fee.

Note that failure to follow the Leave of Absence guidelines and procedures outlined by University Registrar may result in the student's administrative withdrawal from their program.

Students who do not return as specified in their LOA agreement, and who did not receive an approved extension, will be administratively withdrawn after one term of unapproved leave. This administrative withdrawal is posted to the student's transcript. Re-admission after being administratively withdrawn requires a full re-application for admission including all fees and documents associated with application for admission.

### Additional Requirements for Returning from a Medical Leave of Absence

When students are ready to return from an approved Medical Leave of Absence, they must submit clearance to return from their health care provider and/or an independent evaluator attesting to their ability to resume their studies and participate fully in the curriculum. Students intending to return from an approved Medical Leave of Absence must complete and submit the required forms to the Registrar no later than three (3) months prior to their return to the program.

## Student Records

### Name, Address and Phone Number Changes

Rush University requires that student academic records exist under the student's legal name.

The Office of the Registrar maintains the current official listing of student names and addresses for Rush University. It is each student's responsibility to keep the Office of the Registrar informed of changes.

Name changes require, at the time of the request, official documentation verifying the new name. Examples of official documentation verifying a new name include the following: Social Security card, government-issued ID (passport, driver's license or state-issued photo ID) or court order.

## Privacy and Confidentiality of Student Records and FERPA

Rush University takes seriously its commitment to protect the privacy of its students and their education records. In addition to upholding the Family Educational Rights and Privacy Act of 1974, or FERPA, Rush University has taken further steps to protect privacy by extending similar benefits afforded to enrolled students under FERPA to individuals who are applying for admission. If a specific privacy or confidentiality question is not answered in this text, please contact the Office of the Registrar.

Nothing in this policy may be construed to prohibit the university from disclosing information provided to the institution under the Violent Crime Control and Law Enforcement Act concerning sex offenders who are required to register.

### Family Educational Rights and Privacy Act of 1974 (FERPA)

FERPA is a federal law designed to protect the privacy of students' educational records. Educational records are those that contain information or documentation directly related to a student that is recorded in any way, including records produced by handwriting, computer, email, audio, video, etc. Educational records contain information directly related to a student and are maintained by Rush University or any party acting on its behalf.

FERPA protects the privacy of students' educational records by setting strict instructions and limitations governing the release of information about students. Though FERPA contains exceptions for the release of directory information without a student's prior written consent, students have the right to request that even directory information be withheld from disclosure to third parties.

Given the restrictions of FERPA, faculty and staff should assume all students must provide written consent that follows the format specified in FERPA before any educational records may be released to anyone other than the student. Without written consent, information cannot be released to any third party, including students' parents, relatives and friends. Particularly sensitive information includes students' Social Security numbers, race or ethnicity, gender, nationality, academic performance, disciplinary records, financial aid information and grades.

### Privacy During the Admissions Process

Rush University has chosen to take additional steps to protect a person's privacy by extending to individuals who are applying for admission similar benefits afforded to enrolled students. This privacy protection covers all applicants and their application materials throughout the admissions process.

The application process exists between the applicant and a Rush University admissions office; therefore, any communication about candidates and their application status to parties beyond these entities is not acceptable unless school officials have a legitimate educational interest to know this information to fulfill their professional responsibilities. All those involved in the admissions process (e.g., admissions committee members, interviewers, admissions staff) must adhere to these guidelines.

### Directory Information

Rush University may establish categories of information known as directory information and release this information without student consent, upon request. Rush University designates the following personally identifiable information contained in a student's educational record as directory information:

- Student's full name
- Address (local and permanent)
- Telephone number (local and permanent)
- Rush pager number (relevant to third- and fourth-year Rush Medical College students only)
- Rush email address
- Major and minor field(s) of study, including the college, division, department and/or program in which the student is enrolled
- Student's classification (e.g., junior, senior) or by number referring to such
- Dates of attendance and graduation, and degrees received
- Date and place of birth
- Photograph or other electronic images*
- Honors and awards received
- Previous colleges/universities attended
- Degrees earned at previous colleges/universities
- Rush Medical College postgraduate appointment (program, institution and state)

Students may restrict the release of their directory information by completing and submitting the directory information restrictions form available on the Office of the Registrar's webpage.

The decision to restrict directory information will apply to all requests from third parties (other than those who already have legal access to these data elements), including prospective employers. A student must formally rescind a restriction of directory information by submitting a subsequent directory information restrictions form.

** Rush University records both visually and audibly many campus events and daily activities, such as classes, commencement, convocations, student events and other public occasions. These images, as well as other information about students, are published (e.g., print media; Rush website) regularly as part of the university's coverage of campus life and portrayal of the university to a variety of audiences. The university's policy is to restrict the use of any photograph/electronic image to the representation, marketing or promotion of Rush activities only.*

### Annual Notification of Student Rights Under FERPA

Rush University notifies students annually of their rights under FERPA with respect to their educational records. These rights include the following:

1. **The right to inspect and review the student's educational records within 45 days of the day the university receives a request for access. If an educational record contains information about other students as well, the requesting student may inspect and review only their specific information.**

   Students should submit written requests that identify the record(s) they wish to inspect to the university registrar, dean, head of the academic department or another appropriate official. The university official will make arrangements for access and notify the student of the time and place for record inspection. If the records are not maintained by the university official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

   The university may deny a request for copies of educational records when the requestor refuses to furnish proper identification and/or information required by the university.

2. **The right to request amendment to an educational record the student believes is inaccurate.**

   Students may ask the university to amend a record they believe is inaccurate. They should write the university official responsible for the record, clearly identify the part of the record they want changed, specify why it is inaccurate and provide the accurate information. If the university decides not to amend the record as requested by the student, the university will notify the student of the decision and advise the student of their right to a hearing regarding the amendment request. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. **The right to consent to disclosure of personally identifiable information contained in the education record, except to the extent that FERPA authorizes disclosure without consent.**

   One exception, which permits disclosure without consent, is disclosure to school officials with legitimate educational interests. A school official is a person employed by the university in an administrative, supervisory, academic, research or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the university has contracted (such as an attorney, auditor or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee (such as a disciplinary or grievance committee or assisting another school official in performing tasks). A school official has a legitimate educational interest if the official needs to review an education record to fulfill a professional responsibility

4. **The right to file a complaint with the U.S. Department of Education concerning alleged failures by Rush University to comply with the requirements of FERPA.**

   The following is the name and address of the office that administers FERPA:

   Family Policy Compliance Office
   U.S. Department of Education
   400 Maryland Ave. SW
   Washington, DC 20202

### Commencement/Graduation Activities

Completion of the Intent to Graduate form signals a student is ready to graduate. By completing the form, the student is giving permission to the university to print the following information in any Rush graduation program and/or announce this information at any Rush graduation ceremony: the student's name as indicated on the intent to graduate form, any honors or awards received, the Rush degree and major the student is earning, previous colleges/universities attended and degrees earned at those previous colleges/universities.

If a directory information restrictions form was previously submitted, the student's submission of the Intent to Graduate form temporarily releases — for graduation ceremony/program purposes only — the directory information restrictions enacted by the student so that the information

can be published in any Rush graduation program and/or announced at any Rush graduation ceremony.

In addition, the student's submission permits Rush University to release the student's name and address to the external photography vendor with whom Rush contracts and to have the vendor place graduation photographs of the student on its website. The student's submission also allows the university to publish the student's photo in a picture composite and the student's image in a commencement ceremony DVD that is created and distributed.

The recording of the graduation ceremony could also appear on the Rush University website and/or social media sites, including but not limited to YouTube and Facebook. Finally, if the student is a medical student, the student's signature permits publication of the student's name, photograph, previous degrees earned and other information in the Rush Medical College yearbook.

If there are questions about how the information will be used for graduation or commencement purposes, please speak with the Office of the Registrar before submitting the intent to graduate form.

### Educational Records

Rush University does not maintain educational records in one central office. Educational records are maintained in the Office of the Registrar and in the respective college and department offices. Other educational records are maintained in the Office of Student Financial Aid (financial aid information, student employment), Student Business Office (financial account payment information), Office of International Student Services and other offices. Questions regarding individual student records should be directed to the appropriate location.

Rush University will not issue copies of transcripts received from other institutions to anyone, including the student.

### Deceased Student Records

Rush University may, upon the death of a student, release the student's educational records to a third party. This is done at the sole discretion of Rush University.

### Mailing Lists

Rush University does not release student directory information in mailing lists, except to comply with the federal Solomon Amendment.

### Additional Questions

The Office of the Registrar is the compliance office for FERPA for Rush University. If there are additional questions, please contact the Office of the Registrar:

600 S. Paulina St., Suite 440
Chicago, IL 60612

(312) 942-5681
registrars_office@Rush.edu

## Institutional Policies

### Drug and Alcohol-Free Campus

Rush University and Rush University Medical Center (hereinafter, collectively referred to as Rush) comply with all state and federal regulations concerning drugs and alcohol.

Violations of the Drug and Alcohol-Free Campus policy include, but are not limited to the following: unauthorized use, possession or sale of drugs, alcohol or other controlled substances on Rush premises, including the smoking or vaping of cannabis. For additional information, please see Rush's Drug and Alcohol-Free Campus Policy HR-A 8.00.

### Tobacco-Free Campus

Rush seeks to promote the health, safety and quality of life of all members of the Rush community. To that end, Rush is a smoke and tobacco-free campus. For additional information, please see Rush's Tobacco-Free Work Environment Policy.

### Diversity, Equal Opportunity and Inclusion

For over three decades, the Rush approach to equal opportunity, diversity and inclusion has not wavered. Our approach is that these are essential components of the best employment, educational and health care practices and must be furthered. This is a continuation of a policy that emanated from the hospital charters of 1865 and 1883 and the documents governing the establishment of Rush University in 1972.

In certain instances, the implementation of this policy and our goals in this area require the use of affirmative initiatives. At Rush, these initiatives are focused on strong recruitment, development and retention efforts-not on quotas-and these recruitment and programming efforts will be continued, consistent with federal, state and municipal guidelines.

Rush is committed to attracting students who will enable the student body to achieve the educational benefits of diversity and to providing services to all students, faculty and employees on a nondiscriminatory, equitable basis.

Discrimination or harassment against any member of the Rush community because of race, color, religion, national origin, creed, age, ancestry or disability as defined by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act, gender, gender identity and/or expression, marital or parental status, national origin, pregnancy, sexual orientation, veteran status or any other category or categories protected by federal or state law or local ordinance that excludes an individual from participation, denies the individual the benefits of, treats the individual differently or otherwise adversely affects a term or condition of an individual's employment, education, living environment or participation in a Rush program or activity. This includes failing to provide reasonable accommodation consistent with state and federal law to persons with disabilities.

Inquiries regarding discrimination or harassment should be directed to the Office of Institutional Equity at (312) 942-2104.

Additional resources may be found within the following university offices:

Office of Student Diversity and Community Engagement
Armour Academic Center
600 S. Paulina St., Suite 984B
Chicago, IL 60612

(312) 942-0725

### Rush's Prohibition against Discrimination, Harassment and Sexual Misconduct

#### Introduction

Rush is committed to the principles of equal opportunity and promoting and maintaining an environment that emphasizes the dignity and worth of every member of its community. Rush strives to have an environment that is free from Sexual Harassment. Rush complies with Title IX of the Higher Education Amendments of 1972 and its implementing regulations, which prohibit Sexual Harassment that occurs within Rush's education programs or activities. Sexual Harassment includes Sex-Based Harassment, Sexual Assault, Domestic Violence, Dating Violence and Stalking.

Rush has a legal duty to prevent and redress discrimination and harassment, as well as a moral and ethical duty to do so. Discrimination and harassment are contrary to Rush's values, represent professionally and socially irresponsible behavior, and can damage the trust, influence and reputation of Rush as an academic medical center. Because Rush's primary mission of furthering the public good through health care relies on maintaining public trust and confidence, it is essential that every member of the Rush community share in the responsibility for meeting our community's conduct expectations. It is equally important that members of the Rush community appreciate the impact Prohibited Conduct can have on the academic medical center environment, and the need for serious consequences, such as termination of employment or expulsion from Rush, for substantiated violations of this policy.

#### Policy Statement

Rush strictly prohibits all forms of discrimination and harassment based on a protected personal characteristic against any member of the Rush community, including but not limited to students, non-employed or private providers, members of the faculty, all employees, applicants for admission or employment, patients, volunteers, guests and vendors (collectively "the Rush Community"). A protected personal characteristic includes an individual's: race, sex, gender, color, religion, national origin (including shared ancestry and ethnic characteristics), language , age, ancestry, disability, marital or familial status, pregnancy, sexual orientation (including gender-related identity), military status, order of protection status, citizenship status, work authorization status, arrest or conviction record status, or any other categories protected by federal or state law, or local ordinance.

#### Reporting and Response Procedures

This policy is administered by the Title IX Officers, who are members of Rush's Office of Institutional Equity (OIE). OIE has exclusive jurisdiction to review, inquire into, and investigate reported violations of this policy. This policy addresses Rush's obligations under relevant provisions of federal and state law, and local ordinance. Rush values the prompt and equitable inquiry into reports of Prohibited Conduct. Rush will not hesitate to take swift and strong action when an investigation concludes, by a preponderance of the evidence, that this policy was violated. Discrimination and harassment are not tolerated at Rush.

Every member of the Rush community is responsible for fostering an environment free from discrimination and harassment. All members of the Rush community are strongly encouraged to take reasonable actions to prevent or stop acts of Prohibited Conduct when possible. This may include directly intervening when safe to do so, enlisting the assistance of others, contacting law enforcement, or seeking assistance from a person in authority. Rush community

members who choose to exercise this positive responsibility will be supported by Rush and protected from retaliation.

The policy can be found at Prohibition against Discrimination, Harassment and Sexual Misconduct

### Resources

Reports about potential violations of this policy can be made through the Rush Hotline at (877) 787-4009 or via the Rush web reporting tool at Prohibition against Sexual Harassment in Rush Programs and Activities.

For more information on this policy, and/or Rush's response procedures, contact:

Catherine Howlett, Title IX Officer
catherine_c_howlett@rush.edu
(312) 563-1489

Sharday Shelby Jackson, Deputy Title IX Officer
sharday_shelbyjackson@rush.edu
(312) 942-2104

Kim Luong, Administrative Coordinator
Ngan_k_luong@rush.edu
(312) 563-4699

## Hazing Policy

Rush University is committed to providing a safe campus environment for our students, faculty and staff. Hazing is strictly prohibited under this policy in accordance with applicable federal, state and local law. This policy applies to all students, student groups and student organizations at Rush University. This policy covers conduct occurring off Rush premises, including the virtual environment and off-campus events.

### Definitions

- **Hazing:** Any intentional, knowing or reckless act committed by a person (whether individually or in concert with other persons) against another person or persons regardless of the willingness of such other person or persons to participate, that:
  - Is committed in the course of an initiation into, an affiliation with or the maintenance of membership in a student organization; and
  - Causes or creates a risk, above the reasonable risk encountered in the course of participation in the institution of higher education or the organization (such as the physical preparation necessary for participation in an athletic team), of physical or psychological injury including, but not limited to:
    - Whipping, beating, striking, electronic shocking, placing of a harmful substance on someone's body or similar activity
    - Causing, coercing or otherwise inducing sleep deprivation, exposure to the elements, confinement in a small space, extreme calisthenics or other similar activity
    - Causing, coercing or otherwise inducing another person to consume food, liquid, alcohol, drugs or other substances
    - Causing, coercing or otherwise inducing another person to perform sexual acts
    - any activity that places another person in reasonable fear of bodily harm through the use of threatening words or conduct
    - Any activity against another person that includes a criminal violation of local, state, tribal or federal law
    - Any activity that induces, causes or requires another person to perform a duty or task that involves a criminal violation of local, state, tribal or federal law
- **Student Organization:** An organization at an institution of higher education (such as a club, society, association or student government) in which two or more of the members are students enrolled at the institution of higher education, whether or not the organization is established or recognized by the institution.

### Policy Statement

Hazing activities and conduct may also violate the Illinois Hazing Act, which carries criminal penalties.

### Reporting an Issue

Any suspected violation of this policy should be reported via the Student Complaint Portal (secure.ethicspoint.com/domain/media/en/gui/56889/index.html), Rush's EthicsPoint Hotline (www.rush.ethicspoint.com), or one of the following contact numbers:

- Student Complaint Portal: (833) 625-3778
- Rush Hotline: (877) 787-4009

Reports can be made anonymously. Reports of violations of this policy will be reviewed by the Office of Institutional Equity (OIE) in collaboration with the university as appropriate pursuant to OIE's internal review process.



Violations of this policy may result in disciplinary action, including but not limited to suspension, expulsion, removal from a student organization and discipline up to and including termination of employment where applicable. Groups of students and student organizations, as well as their members and officers, may be held collectively and/or individually responsible for violations of this policy.

### Education and Prevention

Rush is committed to providing training and programs related to hazing awareness and prevention. These initiatives may provide information related to applicable hazing policies, how to report suspected hazing incidents, the process used to investigate such incidents, information on applicable local, State and Tribal laws on hazing, primary prevention strategies intended to stop hazing before hazing occurs, information about ethical leadership and the promotion of strategies for building group cohesion instead of hazing.

### Prohibition Against Retaliation

Rush strictly prohibits retaliation against any individual for reporting suspected or known violations of this policy. Any individuals who experience such retaliation should immediately report the conduct using the reporting mechanisms outlined in this policy.

## University Student Refund Policy

### Purpose/Introduction/Background

The Student Refund policy documents a student's financial responsibility when deciding not to complete some or all their enrolled courses for a term. Students are eligible for a full refund of tuition when withdrawing prior to the start of the term. Students deciding to withdraw after the official start date of the term will be refunded according to the schedule shown below. Students are responsible for any tuition or fee balances due until such time they are formally notified by Rush University in writing of their withdrawal status.

### Terms and Definitions

- **Dismissal:** A college-initiated permanent separation of the student from a program based on academic performance and/or violation of the code of conduct.
- **Expulsion:** The permanent separation of the student from the college, their academic program and all educational activities sanctioned by Rush University.
- **Extenuating Circumstance:** An event that is beyond the student's control where the student must withdraw from a course or program (i.e., medical withdrawal).
- **Leave of Absence (LOA):** A temporary departure from studies at Rush University with an approved time limit and return date.
  - **Approved Leave of Absence:** An LOA that is student-initiated and college-approved.
  - **Involuntary Leave of Absence:** An LOA that is college-initiated when a student presents as a substantial risk of self-harm or harm to others or impedes activities within the campus community or the education process.
- **Military Service:** Military service refers to any fulltime military training ordered by an official authority at the federal, state or local levels of the United States.
- **Withdrawal:** A permanent departure from studies at Rush University without the expectation of return. A student who is withdrawn from the university must formally reapply to be considered for readmission.
  - **Administrative Withdrawal:** A withdrawal that is university-initiated.
  - **Involuntary Withdrawal:** A withdrawal that is college-initiated when the student presents as a substantial risk of self-harm or harm to others or impedes activities within the campus community or the education process.
  - **Voluntary Withdrawal:** A withdrawal that is student-initiated.
- **Withdrawal from a Course (Course Drop):** A student self-drops a course or completes and submits the add/drop form to withdraw from their course during the approved drop period.
- **Suspension:** The separation of a student from the college for a specified time, after which the student is eligible to return.

### Policy Statement and Tuition Refund Schedule

*General Tuition Refund Guidelines:*

- Refunds are not granted for course(s) where the student has received a final grade.
- Refunds are not granted to students who are part of a current disciplinary hearing, have been suspended, dismissed, expelled or for other disciplinary reasons making them ineligible to further progress in their program of study.
- Refunds will not be granted where Rush University has

augmented the delivery of course or program modality to ensure the safety and health of students.

- Leave of absence, military service or withdrawal from the university or from select courses entitles a student to a refund of tuition according to the schedule below.
- Rush University does not differentiate tuition rates for online or remote courses compared to courses that are offered onsite.
- When Rush University courses or programs of study must be converted to a remote modality to protect the public health and/or the safety and security of students, if all quality and accreditation standards are met, no refunds will be issued in accordance with this student refund policy.

Refunds are automatically initiated when a student officially drops their course during a refund period. To officially drop their course, a student must complete all required paperwork. This includes an Add/Drop Form or self-drop using Self-Service for an individual course drop, or a Petition for Withdrawal or Leave of Absence for an Approved Leave of Absence or Voluntary Withdrawal. Students are administratively dropped from courses when they are placed on an LOA or are withdrawn – the date of initiation of the LOA or withdrawal is the date used to determine the applicable tuition refund.

Students who request a Leave of Absence and wish to remain enrolled in the student health insurance plan throughout their Leave of Absence, will have the charges posted on the student account for the effective terms. Please see Rush University Student Health Insurance Policy for further detail.

Most course drops use the Traditional Tuition Refund Schedule shown below. Exceptions to this schedule are listed in the Alternate Refund Schedule section of this policy.

| Timeframe | Percentage of the Refund |
|---|---|
| Withdrawal during the first week | 100% |
| Withdrawal during the second week | 80% |
| Withdrawal during the third week | 60% |
| Withdrawal during the fourth week | 40% |
| Withdrawal during the fifth week | 20% |
| After the fifth week | 0% |

**Weeks are based on calendar days*

### Alternate Refund/Grading

(Only used for medical student summer courses in the M1 and M2 years)

| Timeframe | Percentage of the Refund |
|---|---|
| Withdrawal during the first week | 100% |
| Withdrawal during the second week | 50% |
| After the second week | 0% |

**Weeks are based on calendar days*

### Student Refund Process

- A check or direct deposit for the refund amount, less any amount owed to the university for other charges, will be sent to the student.
- Refunds will be shown as credits on the student's account.
- Refund checks are typically processed within two weeks and mailed to the student's address listed in the official university student information system.

### Active Military Service

Students called to active military service are entitled to receive a full refund of tuition and any adjustments to financial aid. Students who are called to active duty should include their military leave papers (including dates of military service) to the Office of the Registrar when submitting their Petition for Withdrawal or Leave of Absence.

### Petition for Refund for Extenuating Circumstances

Students in good standing with the university and who wish to be considered for a higher tuition refund amount may file a Petition for Refund for Extenuating Circumstances to make the university aware of unique circumstances. All written refund appeals must be filed within 30 days of the course drop. Students who are part of an ongoing disciplinary hearing or who have been suspended, dismissed or expelled are ineligible to file a refund appeal.

Students requesting a refund for extenuating circumstances must provide documentation and submit the Petition for an Extenuating Circumstances Refund Form to the Office of the Registrar.

- Injury or illness that significantly impacted the student's ability to continue attending classes
- Death of an immediate family member (spouse/partner, parent, child, grandchild, sibling, or grandparent)

***Examples of Documentation of an Extenuating Circumstance***

- A signed statement from a licensed medical practitioner that documents the nature of the illness, including the beginning and ending period of the illness
- A copy of an official death certificate

All appeal decisions by the college are final.

### Cancellation of Classes

Students will receive a full refund for courses that are cancelled.

### Nonattendance in Courses

Students are required to officially withdraw from courses by completing the Add/Drop Request on the Office of the Registrar website or by self-dropping online within the designated refund period. Failure to officially withdraw from courses does not entitle a student to a refund.

### Non-Academic Fees

***Student Health Insurance Refunds***

Students enrolled in the university-sponsored student health insurance plan who voluntarily withdraw or are dismissed from course(s) or from the university are responsible for 100% of the insurance charge posted to their student account for that term unless they submit a waiver during the health insurance open enrollment and waiver period.

Rush Medical College's tuition and fees cover Student Health Insurance coverage during the period of active enrollment. Therefore, students are not eligible for any health insurance refunds nor are students required to pay any additional cost for insurance coverage. See Rush University Student Health Insurance Policy for further details.

## 2025-2026 Academic Calendar

**Term/Event**

| Fall 2025 | |
|---|---|
| Classes Begin for All Students | Tuesday, Sept. 2, 2025 |
| Last Day for Late Registration | Monday, Sept. 8, 2025 |
| *Thanksgiving Recess*<br>**(No classes on these days)** | Thursday and Friday<br>Nov. 27-28, 2025 |
| Classes Resume at 8 a.m. | Monday, Dec. 1, 2025 |
| Classes End **(CON, CHS, DTS)** | Saturday, Dec. 6, 2025 |
| Final Exams **(CON, CHS, DTS)** | Monday - Saturday<br>Dec. 8-13, 2025 |
| Classes End and Final Exams **(MED)** | Monday - Saturday<br>Dec. 15-20, 2025 |
| End of Term All Students/Conferral of Fall Degrees | Saturday, Dec. 20, 2025 |
| *Term Break*<br>**(No classes during this period)** | Sunday - Sunday<br>Dec. 21, 2025 to Jan. 4, 2026 |

| Spring 2026 | |
|---|---|
| Classes Begin for All Students | Monday, Jan. 5, 2026 |
| Last Day for Late Registration | Sunday, Jan. 11, 2026 |
| *Dr. Martin Luther King Jr., Holiday* | Monday, Jan. 19, 2026 |
| *Spring Break*<br>**(No classes in session this week)** | Monday - Friday<br>March 2-6, 2026 |
| Classes Resume at 8 a.m. | Monday, March 9, 2026 |
| Classes End **(CON, CHS, DTS)** | Saturday, April 18, 2026 |
| Final Exams **(CON, CHS, DTS)** | Monday-Saturday<br>April 20-25, 2026 |
| Classses End & Final Exams **(MED)** | Monday - Saturday<br>April 27 to May 2, 2026 |
| **Spring Commencement** | **Saturday, May 2, 2026** |
| End of Term for All Students/Degree Conferral | Saturday, May 2, 2026 |
| *Term Break*<br>**(No classes during this period)** | Sunday - Sunday<br>May 3-10, 2026 |



## 2025-2026 Academic Calendar

**Term/Event**

| Summer 2026 | |
|---|---|
| Classes Begin for All Students | Monday, May 11, 2026 |
| Last Day for Late Registration | Sunday, May 17, 2026 |
| *Memorial Day Holiday* **(No Classes)** | Monday, May 25, 2026 |
| *Independence Day Holiday* **(No Classes)** | Friday, July 3, 2026 |
| New 2026 M1 Cohort Begins/Rising M2 Year Begins **(MED)** | Monday, July 6, 2026 |
| Classes End **(CON, CHS, DTS)** | Saturday, Aug. 15, 2026 |
| Final Exam **(CON, CHS, DTS)** | Monday - Saturday<br>Aug. 17-22, 2026 |
| Classes End & Final Exam **(MED)** | Monday - Saturday<br>Aug. 24-29, 2026 |
| End of Term for All Students/Degree Conferral | Saturday, Aug. 29, 2026 |
| *Term Break*<br>**(No classes during this period)** | Sunday - Monday<br>Aug. 30 - Sept. 7, 2026 |

***Calendar dates are subject to change without notice.***


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## Student Business Office

### Financial Appeals

If a student has a financial account concern and wishes to appeal the financial decision, a written appeal must be filed with the Student Business Office within two academic terms from the term in question in order for the appeal to be considered. The Student Business Office will investigate the situation and will consult with other offices as needed, including the Office of the Registrar, the Office of Student Financial Aid and the student's program.

A decision will be rendered within one month from the time the appeal was received, and the student will be notified in writing. If the decision is not in the favor of the student, the student may file a written appeal with the vice provost of Student Affairs. The decision of the vice provost for Student Affairs is final.

### Payment of Tuition and Fees

The following is the payment policy for all Rush University students:

Charges should be viewed and payment for tuition and fees can be completed through the Rush University Portal, the university's online system. Online payments can be made by credit, debit card or e-check. Students can also mail checks, money orders or cashier's checks to the Student Business Office or submit credit, debit card or e-check payments by calling the Student Business Office. There is a 2.5% processing fee for any credit or debit card payment.

There are no additional fees for e-check payments. If full tuition payment cannot be made by the first Friday of the term, as listed in the academic calendar located in the Rush University Catalog, satisfactory arrangements for payment must be made with the Student Business Office.

Students have the responsibility to complete one or a combination of the following courses of action on or before the first Friday of classes each term:

1. Pay total tuition and fees for the term.
2. Complete a deferred payment plan contract. This plan requires the first payment and a $30 service charge to be paid on or before the first Friday of the term. Additional payments are due every four weeks (up to four payments total). Contact the Student Business Office via email to set up a payment plan prior to the first day of class.
3. Use the pending financial aid payment option. All students who have financial aid pending will be allowed to defer payment of the portion of tuition and fees that is covered by the anticipated aid. In order to use this option, students must have taken all steps required of them to apply for the aid (e.g., the FAFSA application must have been completed and submitted to the Office of Student Financial Aid, along with the Projected Enrollment Form (if applicable to the student's program), loan entrance counseling, promissory notes and origination forms). In order to avoid a late-fee charge, students must make arrangements for payments of that portion of tuition and fees not covered with pending aid by completing Steps 1 or 2 above.

Failure to follow one of the steps above will result in a $100 late fee. A $50 late payment fee will be assessed for each missed payment to students who choose the deferred payment plan contract and fail to make a payment on the specified due dates.

At the end of the academic term, students who still have outstanding Rush University balances that are not covered by pending financial aid will:

- Receive a hold on their student account.
- Not be allowed to register for the following term.

### Student Health Insurance

Rush University requires students to be covered by a health insurance plan in order to promote health and well-being while protecting the individual from undue financial hardship that a medical emergency could cause. All Rush University students enrolled in degree programs from College of Nursing, College of Health Sciences and the Division of Translational Science may opt out of the student health insurance by providing proof of existing coverage during their first term of enrollment (during the health insurance open enrollment and waiver period) and then every fall term thereafter.

Students are required to take action during the fall open enrollment and waiver period. All medical students must complete the student health insurance waiver or enrollment process during the fall term. All communication from the Student Business Office regarding student health insurance open enrollment and waiver periods is sent to Rush email addresses. Students are expected to check their Rush email account regularly and take action during those periods regarding submitting waivers or enrolling in the student health insurance.



Students who do not submit proof of alternate coverage will automatically be enrolled in the student health insurance plan and charged the premiums for the term. All students enrolled in degree programs are eligible for the student health insurance plan offered by Academic Health Plans and Blue Cross and Blue Shield of Illinois.

For the 2025-2026 school year, the cost of the student health insurance plan is approximately $6,467 per academic year for single coverage. Rush Medical College new students will require an additional month of insurance coverage. The annual insurance coverage for year one medical students is approximately $7,016. The total annual coverage amount is allocated and billed onto the student's account on a per-term basis.

Coverage is also available for dependents at the rate of approximately $6,467 or $7,016 (year one medical students) annually per dependent. The total annual coverage amount for dependents is also allocated and billed onto the student's account on a per-term basis. This plan allows students to choose a primary care physician from a large list of members of the preferred provider organization, or PPO, plan in the greater Chicago area.

Rush University offers a gold level insurance plan underwritten by Blue Cross Blue Shield of Illinois. When using an in-network provider, there is an annual deductible of $500 and coverage of 80% for most services, including hospitalization and surgery, as well as outpatient services such laboratory and X-rays. In network physician visits are paid at 100% after a $30 copayment.

Preventative care services are covered at 100%. When using a pharmacy in the Prime Therapeutics network, there is a $20 co-pay for each generic prescription, a $50 copay for each brand-name prescription and an $80 copay for each non-preferred brand-name prescription.

#### Student Plan Rates for the 2025-2026 Academic Year

| Medical Insurance | Approximate Yearly Rate |
|---|---|
| Student | $6,467/$7,016 |
| Each dependent | $6,467/$7016 |

*Student accounts will be billed on a per-term basis for a prorated amount of the annual health insurance premiums. For example, for CHS, CON, and DTS, the fall premiums will cover September through December and will be billed to your account at the beginning of the fall term. For RMC, students will be billed two times in the year. First-year medical students: Half of their annual insurance cost will be billed in their first summer term and the other half will be billed in the spring term. Second- through fourth-year medical students will be billed half of their annual insurance cost in the fall term, and the other half in the spring term.*

Plan details are available online at rush.myahpcare.com

### Rush Medical College Students

A small portion of fees for Rush Medical College students has been allocated to the Medical Student Health Service Program, which is supported by Lifetime Medical Associates. The Medical Student Health Service Program is designed to work seamlessly with Rush University Health Insurance to provide medical students with acute care. By using Rush University Health Insurance, medical students receive an enhanced level of service and minimal billing issues, with a $20 fee per office visit. This will provide the type of student health service familiar to most students.

Additionally, all Rush Medical College students are covered under a blood and bodily fluids exposure rider. This works as a supplemental policy to any health insurance and covers treatment or medications necessary as the result of a needle stick, splash or potentially contagious disease exposure. Together with the basic Rush University Health Insurance Policy, the rider will completely cover prophylactic medications or injections.

Rush Medical College students will be assessed a fee for vaccinations, immunizations and documentation. This fee covers any necessary blood tests, vaccinations or updates, as well as costs associated with maintaining the documentation of students' compliance and communicating that information to the Rush System hospitals and any non-Rush locations that may request certification of immunization and vaccination status.

### Tuition Refund Policy

The Student Refund Policy provides students an opportunity to formally withdraw prior to the start date of an academic term without being responsible for tuition. Students deciding to withdraw after the official start date of the term will be refunded according to the tuition schedule in the University Student Refund Policy located in the Academic and University Policies section in this catalog. Students are responsible for any tuition or fee balances due until they are formally notified by Rush University in writing of their withdrawal status.

### Tuition Waivers

#### Doctoral students in the Division of Translational Science

Select students will be offered competitive financial support, which may include a tuition scholarship, health insurance, and/or a monthly stipend. Details will be communicated in the offer of admission letter. Please note that non-U.S. residents are not eligible for the Division of Translational Science stipend support.

To receive financial support, you must maintain full-time status (at least nine credit hours per term). If you do not register for nine credit hours per term, the scholarship will be rescinded, and you will be billed for tuition.

#### Master of Science Students in the Division of Translational Science

Students enrolled in Master of Science programs in the basic sciences pay tuition and fees. For students enrolled in the Biotechnology or Integrated Biomedical Sciences degrees, there are a limited number of scholarships for the program. One qualification for these limited scholarships is that students must maintain full-time status-at least nine credit hours per term.

For students enrolled in the Clinical Research degree, Rush offers financial aid and scholarships to qualified applicants. John H. Stroger, Jr. Hospital of Cook County affiliates can qualify for a reduced tuition rate. Rush employees can qualify for tuition reimbursement through the Educational Assistance Benefits (Tuition) Programs. Contact your benefits specialist or department administrator for Educational Assistance Benefits (Tuition), program benefits and qualification information.

### Third-Party Billing

If the student will not be personally paying their account, it is the student's responsibility to forward any bills to the appropriate party as soon as possible.

## Tuition and Fee Schedule (2025-2026)

Tuition and fees for the 2025-2026 academic year are listed below. For estimates of other expenses, see the Office of Student Financial Aid webpage.

| College of Nursing | |
|---|---|
| **Graduate Programs** | **Per-Credit Rate** |
| Pre-licensure Direct Entry MSN program for non-nurses (all fees are included) | $1,131 |
| Post-licensure MSN, DNP, PhD programs (all fees are included) | $1,436 |
| DNP CRNA (enrolled beginning Fall 2025)** | $1,920 |

*All DNP students will be charged a clinical administrative fee of $644 per semester (fall and spring).*

** Students should expect an annual increase in these tuition rates.*

*** CRNA students in their first year, beginning in fall 2025, will be billed at this rate. Current year 2 and 3 CRNA students will pay the standard post-licensure rate listed.*

| The Division of Translational Science | |
|---|---|
| **Graduate Programs** | **Per-Credit Rate** |
| Clinical Research (MS) | $1,609 |
| **Graduate Programs** | **Per-Term Rate** |
| Biotechnology (MS) | $22,241 |
| Integrated Biomedical Sciences (MS) | $13,154 |
| Integrated Biomedical Sciences (PhD)* | $11,529 |

| College of Health Sciences | |
|---|---|
| **Undergraduate Programs** | **Per-Credit Rate** |
| Health Sciences (BS) | $880 |
| Imaging Sciences (BS) | $880 |
| Vascular Ultrasound (BS) | $880 |
| **Graduate Programs** | **Per-Credit Rate** |
| Audiology (AuD) | $1,080 |
| Cardiovascular Perfusion (MS) | $1,061 |
| Clinical Laboratory Management (MS) | $1031 |
| Clinical Nutrition (MS) | $1,016 |
| Health Sciences (PhD) | $1,080 |
| Health Systems Management (MS) | $1,283 |
| Medical Laboratory Science (MS) | $853 |
| Respiratory Care (MS) | $781 |
| Specialist in Blood Bank Technology (Certificate) | $1031 |
| Speech-Language Pathology (MS) | $1,239 |
| **Graduate Programs** | **Per-Term Rate** |
| Physician Assistant (MS) | $13,739/term |
| Occupational Therapy (OTD) | $15,479/term |

*Students-at-large pay the per credit rates listed above*

| Full-Time Tuition Charges: Rush Medical College | | | | | | |
|---|---|---|---|---|---|---|
| **Program Year** | **Summer 2025** | **Fall 2025** | **Spring 2026** | **Summer 2026** | | **Total** |
| M1 | $11,100 | $21,500 | $21,500 | $5,122 (M1 end) | $11,530 (M2 start) | $70,752 |
| M2 | | $28,383 | $28,383 | $18,922 (M3 start) | | $75,688 |
| M3 | | $18,922 | $,18,922 | $18,922 (M4 start) | | $56,766 |
| M4 | | $,18,922 | $18,922 | — | | $37,844 |

| Continuous Enrollment Fee: Rush Medical College | | | | | | |
|---|---|---|---|---|---|---|
| **Program Year** | **Summer 2025** | **Fall 2025** | **Spring 2026** | **Summer 2026** | | **Total** |
| M1 EF | $5,550 | $10,750 | $10,750 | $2,615 (M1 end) | $6,025 (M2 start) | $35,690 |
| M2 EF | | $14,833 | $14,833 | $9,888 (M3 start) | | $39,554 |
| M3 EF | | $9,888 | $9,888 | $9,888 (M4 start) | | $29,664 |
| M4 EF | | $9,888 | $9,888 | — | | $19,776 |

### Admissions Fee

A non-refundable application fee is required of all applicants to offset the expense of processing the application, evaluating credentials and maintaining a library of evaluation aids. This fee does not apply to any other charges such as tuition.

### Enrollment Deposit

The enrollment deposit fee holds a place for the student in the entering class. The deposit is non-refundable and is applied toward payment of the first term tuition with the exception of the College of Nursing. A $250 enrollment deposit is required for students in the College of Health Sciences. A $1,250 enrollment deposit is required for students in the Physician Assistant (MS) program.

Rush Medical College students are required to pay $100 prior to matriculation. College of Nursing students and affiliated students must deposit $350 prior to matriculation. A $750 enrollment deposit is required for students in the CRNA program. The enrollment deposit for PhD in nursing students is $350. The enrollment deposit for all basic sciences and biomedical research programs within the Division of Translational Science is $250.

### Late Registration Fee

Students must register during the official priority registration period. An additional $50 late registration fee will be applied to the student's financial account if the student has not registered by the end of the day, one day prior to the start of the term.

Students who feel there are mitigating circumstances as to why the late registration fee should not be applied must first appeal to their adviser. If the adviser deems the information warrants repealing the late registration fee, the adviser must speak with the program director. If the program director concurs with the adviser, the program adviser will notify the Office of the Registrar in writing. The late fee will then be removed from the student's financial account by the Student Business Office.

### Continuous Enrollment Fee

Students enrolled in a noncredit residency or academic enrichment program prior to receipt of their degree must be registered for Continuous Enrollment in order to retain their student status. Any degree or certificate student not taking courses but needing to replace an outstanding incomplete grade must register for Continuous Enrollment until the grade is satisfied. This fee also applies to graduate students who have completed all courses but have not had their dissertation accepted.

Hospitalization or physician fees are not covered in this fee. Students auditing a course may be required to register for the continuous enrollment course (see the Auditing a Course section below).

### Returned Checks

A $25 charge will be assessed each time a student gives the university a check that is returned by the bank marked "not sufficient funds," "payment stopped" or "account closed."

### Rush Medical College Students and Tuition Charges

Rush Medical College students are charged for a maximum of four years of full-time tuition. Medical students who need additional terms to complete degree requirements will be charged the continuous enrollment fee. Though it may be possible for a medical student to complete all degree requirements prior to the spring term of the fourth year, a full four years of tuition charges must be paid prior to graduation.

### Auditing a Course

Students who are registered in classes for credit and wish to audit a separate class or classes will not be charged for the audited course(s). If the student only wishes to audit one or more classes and will not be registered in any classes for credit for that term, the student must register in Continuous Enrollment and a charge of one credit hour will be assessed at the student's normal tuition rate. All requests related to auditing a course must be processed by the Office of the Registrar.

## Office of Student Financial Aid

### Financial Aid Process

Instructions for accessing financial aid information on the Rush University website are emailed to all newly accepted students upon completion of required financial aid paperwork. The Student Financial Aid webpage contains in-depth information on policies, procedures and financial aid awarding methodology.

Students are encouraged to submit financial aid application materials at least two months prior to their start date to allow sufficient time to receive their aid package. Students must be enrolled at least half-time (4.5 credit hours for graduate students and 6 credit hours for professional students (MD only) and 6 credit hours for undergraduate students) and must be in a degree or approved certificate program and meet all required eligibility requirements to receive federal financial aid. To receive assistance, all appropriate forms must be on file.

Students should expect to receive the majority of financial assistance in the form of loans. Additional information about federal student aid including grants and loans can be found online at studentaid.gov. Because of limited institutional funding, graduate and professional student financial aid packages will likely contain loans that accrue interest while the student is in school. For Rush Medical College (MD) students and College of Nursing students in the Generalist Entry Master's program, need-based grants may be available through the Office of Student Financial Aid.

Funds are limited, so students are encouraged to submit all required financial aid paperwork early. Students should contact the Office of Student Financial Aid to confirm application requirements annually. Visit the Office of Student Financial Aid webpage for more details: www.rushu.rush.edu/office-student-financial-aid.

Undergraduate students who have not earned a bachelor's degree may be eligible to receive grant assistance through federal and state need-based programs. Employment through the Federal Work-Study program may be available throughout Rush University Medical Center and its affiliates. Once eligibility has been determined and a campus job identified, Federal Work-Study is awarded as part of the financial aid package.

Students are encouraged to talk with a financial aid counselor prior to considering a work study job to fully understand the impact on other financial aid sources. It is the student's responsibility to secure employment. The Office of Student Financial Aid is available to assist students with locating jobs within the university if requested.

### Financial Aid Determination

Financial aid award offers at Rush University are provided to assist students to pay for the cost of education. Financial need is the basic criterion for the awarding of funds and the student must complete a Free Application for Federal Student Aid (FAFSA) at studentaid.gov each year to determine need and eligibility. Students and family members will be expected to contribute toward educational expenses. The level of the expected contribution is determined by using a standard set of criteria to determine eligibility from information provided on the FAFSA at studentaid.gov.

Students may need to complete additional forms and applications on an annual basis to continue receiving various sources of aid. Annual forms may include the Graduate PLUS loan application and/or a Projected Enrollment Form.

Student financial aid counselors are available to consult and assist students and parents (with the student's approved FERPA authorization) with questions about financial aid packages and awards and services for a Rush University education. Students and authorized parents are encouraged to make use of these services.

### Financial Aid Awards

After evaluating student and family resources in addition to assistance from outside the university, the Office of Student Financial Aid will award students the federal, state and institutional funds they qualify for each academic year. Funds are offered and awarded in alignment with federal, state, and institutional criteria. Other forms of scholarships including merit, graduate assistantships, etc. are generally awarded either through the students' respective college or program. Inquiries about scholarship funding outside of need-based aid can be directed to the college. Institutional aid including need-based grants may be adjusted annually based on funding availability each year and changes in student eligibility requirements.

### Veterans Benefits

Rush University participates in federal veteran's education benefits.

#### Post-9/11 GI Bill®

The Post-9/11 GI Bill® provides tuition, fees, books/supplies and housing assistance to eligible veterans. Tuition and fees are paid directly to Rush by the United States Department of Veterans Affairs (VA). Tuition and fees assistance is capped at the national maximum of $28,937.09 per academic year (Aug. 1, 2024 - July 31, 2025). Benefit rates vary based on the veteran's circumstances. Some veterans may be able to transfer their benefits to a dependent.

#### Yellow Ribbon Program

Starting in the 2012-13 academic year, certain colleges at Rush University participate in the Yellow Ribbon Program. Veterans entitled to the maximum benefit rate are eligible to apply for additional tuition and fee amounts if their costs exceed the $28,937.09 cap. The amount of additional assistance available and the number of students able to be supported is limited and varies by college.

Funds are awarded on a first-come, first-served basis. Students who have received Yellow Ribbon assistance will have preference for these funds in future academic years. Details are available on the VA's Yellow Ribbon Program information webpage.

**Montgomery GI Bill®-Active Duty (MGIB-AD Chapter 30)**

**Montgomery GI Bill®-Selected Reserve (MGIB-SR Chapter 1606)**

**Veteran Readiness and Employment (VR&E – Chapter 31)**

**Veterans Educational Assistance Program (VEAP Chapter 32)**

**Survivors and Dependents Assistance (DEA Chapter 35)**

If a student qualifies for participation in more than one veteran's education benefits program, the VA website provides a comparison tool to help determine which benefits might be appropriate.

Veterans interested in using their benefits at Rush for the first time should conduct the following:

1. Apply for benefits through the VA: If the veteran has never used their veterans benefits at an institution before, this step must be completed.
2. Submit form 22-1995 or form 22-5495 (as appropriate) online. If the veteran has used veteran's education benefits before but is a first-time benefits user at Rush University, the appropriate form must be submitted.
3. Provide a copy of their eligibility letter from the VA (as well as any change of program forms from step two above) to the Office of Student Financial Aid before benefits can be certified with the VA.

All documents can be mailed, faxed or scanned and emailed to the Office of Student Financial Aid. Please be sure to indicate name and student ID number (or Social Security number) on all documents.

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at www.benefits.va.gov/gibill.

### VA Pending Payment

As of Aug. 1, 2019, Rush University will not take any of the four following actions toward any student using VA Post 9/11 G.I. Bill® (Ch. 33) or Vocational Rehabilitation and Employment (Ch. 31) benefits, while their payment from the VA is pending to the educational institution:

- Prevent their enrollment.
- Assess a late penalty fee to.
- Require they secure alternative or additional funding.
- Deny their access to any resources (access to classes, libraries or other institutional facilities) available to other students who have satisfied their tuition and fee bills to the institution.

However, to qualify for this provision, such students may be required to produce the following:

- The VA's certificate of eligibility by the first day of class.
- Written request to be certified.
- Additional information needed to properly certify the enrollment as described in other institutional policies (see our VA school certifying official for all requirements).

## Satisfactory Academic Progress

The Higher Education Act of 1965, as amended by Congress, mandates institutions of higher education to establish minimum standards of satisfactory progress for students receiving federal financial aid. These standards apply to all federal Title IV aid programs, including the Federal Pell Grant, Federal Supplemental Educational Opportunity Grant, Federal Perkins Loan, Federal Stafford Loan, Federal PLUS Loan and Federal College Work-Study programs.

Accordingly, the Department of Education regulations require that Rush University's Office of Student Financial Aid monitors the academic progress of all financial aid recipients toward the completion of their degree. This process is called Satisfactory Academic Progress, or SAP.

This SAP policy is enforced in conjunction with all other institutional policies and procedures, including the academic progressions policies of Rush University's colleges and academic programs. For undergraduate and graduate students, the criteria below are checked at the end of each term. For medical students, the below criteria are checked annually at the end of Summer term.

The Office of Student Financial Aid will factor in rounding up to two digits (66.67%) when calculating a student's eligibility for meeting the minimum pace of completion requirements.



### Enforcement

The Office of Student Financial Aid has the primary responsibility in enforcing the SAP policy. The Office of the Registrar and other Rush University offices that maintain student information relevant to the SAP policy shall provide such information, as requested by the Office of Student Financial Aid.

### SAP Requirements

SAP requirements vary by academic level (undergraduate, graduate and medical students). Please refer to the appropriate section to find the requirements that fit your academic program.

*UNDERGRADUATE STUDENTS*

SAP for undergraduate students is monitored using three factors: maximum time frame measurement, pace of completion and cumulative grade-point average, or GPA. SAP is measured at the end of each academic term once final grades are submitted.

#### Maximum Time Frame Measurement

Students may attempt up to 150% of the credits it normally takes to complete the program. The total allowable attempted hours are calculated by multiplying the hours required to complete the degree at Rush (including the general education courses required prior to entry in the program) by 1.5 and rounding down to the nearest whole number. For example, for a program that requires 107 credit hours to receive a degree at Rush (including the general education courses required prior to entry in the program), a student may attempt up to 160 hours.

#### Pace of Completion (POC)

Students must successfully complete at least 66.667% of the courses they attempt. The OSFA will factor in rounding up to two digits (66.67%) for the purpose of this calculation. This will be measured cumulatively over the course of the student's program.

For the purpose of this measurement, all of the following are applicable:

- Successful completion is defined as a grade of A, B or C for a letter grade course or a grade of P for a course that is pass/fail or pass/no pass. These courses are counted in both the attempted and completed hours totals.
- All other grades, including incomplete grades, are counted in the attempted hours total but not in the completed hours total. If an incomplete grade is later converted to a grade that is considered to be a successfully completed grade, the pace of completion percentage can be recalculated. It is the student's responsibility to notify the Office of Student Financial Aid when an incomplete grade has been converted.
- Students who drop courses prior to the close of the published add/drop period each term will not have those dropped courses counted in the total attempted hours. Dropped courses after the close of the published add/drop period will be counted in the total attempted hours.
- Repeated courses are counted as attempted hours during all attempts.
- Transfer credits (including the general education courses required prior to entry in the program) that count toward the student's current academic program count as both attempted and completed hours. Students who change majors at the same degree level will only have hours that were previously attempted counted in their cumulative totals if they are applicable to the new academic program.

#### Cumulative Grade-Point Average

Undergraduate students must maintain a minimum cumulative GPA of 2.0. Students who have a term GPA of less than 1.0 after their first term at Rush will be immediately placed on financial aid suspension.

*GRADUATE STUDENTS*

SAP for graduate students (including students in the Division of Translational Science) is monitored using three requirements: maximum time frame measurement, pace of completion and cumulative GPA. SAP is measured at the end of each academic term once final grades are submitted.

#### Maximum Time Frame Measurement

Students may attempt up to 150% of the credits it normally takes to complete their program. The total allowable attempted hours are calculated by multiplying the hours required to complete the degree at Rush by 1.5 and rounding down to the nearest whole number. For example, a student may attempt up to 169 hours for a program that requires 113 credit hours to receive a degree at Rush.

Please note: Non-degree certificate programs are approved by the U.S. Department of Education for financial assistance at a specific number of credit hours. Regardless of a student's actual plan of study, maximum time frame is calculated using the number of hours for which the program was approved with the U.S. Department of Education.

#### Pace of Completion (POC)

Students must successfully complete at least 66.667% of the courses they attempt. The OSFA will factor in rounding

up to two digits (66.67%) for the purpose of this calculation. This will be measured cumulatively over the course of the student's program. For the purpose of this measurement, all of the following are applicable:

- Successful completion is defined as a grade of A or B for a letter grade course or a grade of P for a course that is pass/fail or pass/no pass. These courses are counted in both the attempted and completed hours totals.
- All other grades, including incomplete grades, are counted in the attempted hours total, but not in the completed hours total. If an incomplete grade is later converted to a grade that is considered to be a successfully completed grade, the pace of completion percentage can be recalculated. It is the student's responsibility to notify the Office of Student Financial Aid when an incomplete grade has been converted.
- Students who drop courses prior to the close of the published add/drop period each term will not have those dropped courses counted in the total attempted hours. Dropped courses after the close of the published add/drop period will be counted in the total attempted hours.
- Repeated courses are counted as attempted hours during all attempts.
- Transfer credits that count toward the student's current academic program count as both attempted and completed hours.
- Students who change majors at the same degree level will only have hours that were previously attempted counted in their cumulative totals if they are applicable to the new academic program.

### Cumulative Grade-Point Average

Graduate students must maintain a minimum cumulative GPA of 3.0. Students who have a GPA of less than 2.0 after their first term at Rush will be immediately placed on financial aid suspension.

*RUSH MEDICAL COLLEGE STUDENTS (MD ONLY)*

SAP for professional students enrolled in the medical doctor program within RUSH Medical College is monitored using three requirements: maximum time frame measurement, pace of completion and grade requirements. SAP is measured annually at the end of the summer semester once final grades are submitted.

### Maximum Time Frame Measurement

*M1 STUDENTS EFFECTIVE FALL 2024:*

Students may attempt up to 150% of the credits it normally takes to complete their program. The total allowable attempted hours are calculated by multiplying the hours required to complete the degree at RUSH by 1.5 and rounding down to the nearest whole number. For example, a student may attempt up to 169 hours for a program that requires 113 credit hours to receive a degree at RUSH.

*M2, M3, AND M4 STUDENTS EFFECTIVE FALL 2024:*

Maximum time frame will be measured based on an academic year for M2s, M3s, and M4s effective for fall 2024. Terms prior to fall 2024 will be included in the calculation. Students who were M2, M3, or M4 effective fall 2024 may attempt up to six years (11 semesters) to complete their academic program.

### Pace of Completion (POC)

The Office of Student Financial Aid (OSFA) will calculate student pace of completion (POC) annually at the end of each summer semester. Students must successfully complete at least 66.667% of the courses they attempt. The OSFA will factor in rounding up to two digits (66.67%) for the purpose of this calculation. This will be measured cumulatively over the course of the student's program. Coursework prior to fall 2024 will not be included in this calculation for any student.

For the purpose of this measurement, all of the following are applicable:

- Successful completion is defined as a passing grade (i.e., Pass, High Pass, or Honors) These courses are counted in both the attempted and completed hours totals.
- All other grades, including deferred, grades assigned a "W", and incomplete grades, are counted in the attempted hours totals, but not in the completed hours total.
- If a missing, deferred, or incomplete grade is later converted to a passing grade that is considered to be a successfully completed grade, the pace of completion percentage can be recalculated. It is the student's responsibility to notify the Office of Student Financial Aid when a missing grade, deferred, or incomplete grade has been converted.
- Students who drop courses prior to the close of the published add/drop period each term will not have those dropped courses counted in the total attempted hours. Dropped courses after the close of the published add/drop period will be counted in the total attempted hours.
- Repeated courses are counted as attempted hours during all attempts.
- If accepted by the academic program, all transfer credits that count toward the student's current academic program count as both attempted and completed hours.
- Students who change majors at the same degree level will only have hours that were previously attempted counted in their cumulative totals if they are applicable to the new academic program.

### Cumulative Grade-Point Average

The Office of Student Financial Aid (OSFA) will calculate student grade point average for the purpose of monitoring SAP annually at the end of each summer semester. Medical students must maintain a minimum cumulative GPA of 3.0. Medical students who earn passing grades (i.e., Pass, High Pass, Honor) will be awarded 4.0 quality points in the calculation.

Students who earn non-passing grades, missing, deferred, or incomplete grades (i.e. DE, W, F) will be awarded no quality points. This calculation will not be published on the academic transcript but calculated by the OSFA for purposes of reviewing aid eligibility. Coursework prior to fall 2024 will not be included in this calculation for students.

Professional students enrolled at Rush Medical College are not allowed a financial aid warning period. Please see the suspension of financial aid eligibility section for additional information if a student does not meet any of the above-mentioned requirements.

## Financial Aid Warning

Undergraduate and graduate students are allowed a financial aid warning period. Professional students enrolled at Rush Medical College are not allowed a financial aid warning period.

Undergraduate or graduate students (not including professional MD students) who fail to meet the requirements of this satisfactory academic progress policy will be placed on financial aid warning for one term, with the exception of undergraduate students who have a first-term GPA of less than 1.0 and graduate students who have a first-term GPA of less than 2.0. In this case, that student would immediately be placed on financial aid suspension.

Under financial aid warning, students will be allowed to continue on financial assistance during the warning period. Students placed on financial aid warning will receive a notification through their Rush email account. The notification will include SAP requirements, steps necessary to meet SAP in the upcoming term, and the consequences for failing to meet SAP requirements by the end of the warning period.

Students will be placed on financial aid suspension if they fail to meet the standards of this SAP policy after the one-term financial aid warning period.

## Suspension of Financial Aid Eligibility

- Professional students enrolled at Rush Medical College who fail to meet the requirements of this SAP policy will be placed on financial aid suspension.
- Undergraduate students who have a first-term GPA of less than 1.0 and graduate students who have a first-term GPA of less than 2.0 will be placed on financial aid suspension.
- Students who still fail to meet the requirements of this policy after their single term on financial aid warning will be placed on financial aid suspension.

Students who are suspended from financial aid eligibility will be notified through their Rush email account.

## Appealing Suspension of Financial Aid Eligibility

Under extenuating circumstances, a student may appeal the suspension of their financial aid eligibility. Appeals from other parties on behalf of the student will not be accepted. All appeals should be submitted to the Office of Student Financial Aid in writing or by email to financial_aid@Rush.edu. Each appeal should include the following items:

- Signed letter from the student indicating the reasons why the standards of this policy were not met and what has changed in the student's situation that will allow satisfactory progress during the next evaluation period.
- An academic plan for the remainder of the student's studies or appropriate remediation plan as provided by the academic program.
- Any supporting documentation the student feels would support the appeal (as appropriate).

The Office of Student Financial Aid will review the appeal and notify the student of the appeal review results. Students whose appeals are approved will be placed on a financial aid probationary period for one term or for an appropriate duration depending on the academic plan provided.

If applicable, the probationary period will be defined to include checkpoints that must be achieved in order for the student to remain eligible for financial assistance. Students failing to abide by the terms of their probationary period will be suspended from financial aid after the one-term probationary period or in the case of a multi-term probationary period upon failure to maintain the minimum requirements of the probationary period requirements.

The decision of the Office of Student Financial Aid is final, binding and not subject to further appeal.

### Reinstatement of Financial Aid Eligibility

A student's eligibility for financial aid will be reinstated when the standards of the SAP policy as outlined above have been successfully met.

## Educational Assistance Benefits (Tuition)

As part of our commitment to employee development and education, Rush offers the following:

### Employee Enhancement Program

- Reimburses full-time employees up to $1,000 and part-time employees up to $500 for costs of professional development seminars, conferences, courses, professional memberships, etc.
- Participants must be employed by Rush at least three months.
- Reimbursement is at 90% of the total cost not including fees and taxes.
- Submit application in Tuition.IO: rush.tuition.io/login.

### Internal Degree Program

- Prepays the tuition for up to nine credit hours per term for full-time Rush employees enrolled in a Rush University professional program (excluding medical school) and six credit hours for part-time employees.
- Participants must be employed by Rush for six months for undergraduate coursework and one year for graduate-level coursework.
- Participants must remain employed by Rush for at least one year after obtaining an undergraduate degree and at least six months after obtaining a graduate degree (excluding the College of Nursing and Clinical Research Program).
- Internal and tax forms can be found at rushprod.service-now.com/nav_to.do?uri=esc%3Fid%3Dkb_article_view%26sysparm_article%3DKB0012269.

### External Degree Reimbursement Program

- Reimburses employees 100% of out of pocket tuition costs.
- Full-time employees may submit up to $5,000 in tuition per year.
- Part-time employees may submit up to $2,500 in tuition per year.
- Participants must be employed by Rush six months for undergraduate coursework and one year for graduate coursework.
- Participants must remain employed by Rush for one year after obtaining an undergraduate degree and six months after obtaining a graduate degree.
- Submit application in Tuition.IO: rush.tuition.io/login.

### Internal Degree Program - Dependents

- Prepays the tuition for up to nine credit hours per term of Rush employees' spouses or dependents enrolled in a Rush University professional program (excluding medical school).
- Employees must be employed by Rush for six months for undergraduate coursework and one year for graduate course work.
- Employees must remain employed by Rush for at least one year after a dependent has obtained an undergraduate degree and for at least six months after a dependent has obtained a graduate degree (excluding the College of Nursing).
- Internal and tax forms can be found at rushprod.service-now.com/nav_to.do?uri=esc%3Fid%3Dkb_article_view%26sysparm_article%3DKB0012269.

For more details about the programs and policies changes, call the Employee Service Center at (312) 942-3456 or visit the employee portal.





### Rush University

## Rush Medical College

### Undergraduate Medical Education

Doctor of Medicine

### Division of Translational Science

Biotechnology (MS)

Clinical Research (MS)

Integrated Biomedical Sciences (MS)

Integrated Biomedical Sciences (PhD)

## Welcome to Rush Medical College

As a student at Rush, you have joined a historic institution that has contributed greatly to the development of medicine and health care. Rush is a caring institution that serves the needs of patients, students, faculty, staff and our community. Rush is committed to excellence in all that it does.

Chartered in 1837, Rush Medical College has been a part of the Chicago landscape longer than any other health care institution. Times have changed since then, and medicine and health care have evolved. However, Rush's best traditions continue: hands-on learning, an unparalleled commitment to community service and experiences supported by outstanding role models. Rush Medical College is a family of more than 2,600 faculty and staff, over 600 students, and almost 800 residents and fellows.

Rush has produced skilled leaders in medicine and science, including thousands of excellent physicians. Explore the Rush University and Rush University Medical Center websites to discover the myriad of opportunities that Rush Medical College offers in medical education, clinical care and biomedical research. Please let us know if we can help you in any way.



## Undergraduate Medical Education Mission & Vision

**Mission:** Through a supportive and dynamic learning community, Rush Medical College nurtures the development of empathetic, proficient physicians dedicated to continuous learning, innovation and excellence in clinical practice, education, research and service.

**Vision:** Rush Medical College will be the global leader in student-centered, future-oriented medical education.

## Admissions Requirements

Information on the admissions process can be found on the Rush Medical College admissions webpage.

Applicants must meet and/or submit the following requirements to be considered:

- Identify as a U.S. citizen, permanent resident of the United States or be of asylee, refugee or Deferred Action for Childhood Arrival (DACA) status.
- Completion of a bachelor's degree from a four-year college or university accredited in the United States or a Canadian-based institution.
- As applicable, for post-baccalaureate coursework: Submission of grades through AMCAS for at least 24 hours of post-baccalaureate coursework achieving a strong academic foundation in the basic sciences.
- Submission of the Medical College Admissions Test (MCAT).
- Submission of a Casper score.
- Submission of a Rush secondary application.
- Submission of three letters of recommendation.
- Meet the Rush technical standards for admission and promotion.

## Required Coursework

Rush Medical College requires the following coursework:

- Biology: One academic year, including at least one course focused on cell biology, specifically the structure and function of the cell. It is recommended that Biology coursework be completed within five years prior to applying.
- Biochemistry: One course, which should focus on the application of chemistry to the study of biological processes at the cellular and molecular level.
- Chemistry: One course, organic chemistry is recommended.
- Biology and/or chemistry lab: One academic year of biology and/or chemistry lab, which can be either a full year of subject or one lab course from each.
- Physics: One course (AP credit can be used to fulfill the requirement).
- Math: One course must be algebra or higher-level math. Statistics will not fulfill this course requirement. (AP credit can be used to fulfill the requirement).
- Reading Comprehension: One academic year, courses can cover any subject, as long as they focus on reading comprehension and are writing intensive.

Rush Medical College also *recommends* coursework in anatomy, physiology and subjects that provide exposure to the social determinants of health and disparities in health care outcomes. Examples include, but are not limited to, sociology, public health, political science, global health, bioethics, urban studies, history and economics.

## Criminal Background Check and Drug Screening

### During Admission & Matriculation

We enforce the Medical School Matriculant Criminal History Records Check Act, which states: "a medical school located in Illinois must require that each matriculant submit to a criminal history records check for violent felony convictions and any adjudication of the matriculant as a sex offender conducted by the Department of State Police and the Federal Bureau of Investigation as part of the medical school admissions process."

This criminal background check occurs through AMCAS once an applicant is accepted. We also require a drug screening, which is administered the first day of orientation.

All positive results on the criminal background check, the sex offender assessment and/or the drug screen are reviewed by the Office of Integrated Medical Education (OIME) in consultation with the Office of Legal Affairs.

### Current Students

- Current students may be required to submit to either a criminal background check and/or drug screening for a clinical experience which requires such verification.
- Enrolled students must inform OIME of any criminal convictions (other than a minor traffic offense) while enrolled at Rush Medical College.
- Students returning from a leave of absence must inform OIME of any criminal convictions (other than a minor traffic offense) while on leave of absence.

Positive drug screens and/or reports of criminal behavior that come to light at any point after matriculation will result in a student's file being presented to the Committee on Student Evaluation & Promotion (COSEP) for review.

## Immunization Requirements

All students must be compliant with the Rush University Student Health Requirements (see university policy).

## Additional RMC Immunization Requirements

To prepare for work in clinical settings, Rush Medical College students must meet special compliance requirements. Immunization requirements follow national and regional recommendations for health care workers. The requirements include a documentation of positive serum titers to measles, mumps, rubella, Hepatitis B and varicella. Students also must have regular TB screening (Quantiferon Gold or PPD) and documentation of tetanus (Tdap) vaccination within the past 10 years.

### Documenting Immunization Compliance

The Medical Student Health Program (MSHP) at Lifetime Medical Associates is responsible for all compliance testing, vaccinations and management of exposures.

Student vaccination records will be kept through Lifetime Medical Associates and entered directly into Epic. Student questions are to be directed to Lifetime Medical Associates at (312) 942-8000 or email mary_nicholas@Rush.edu.

## Program Objectives

By graduation, a Rush Medical College student will achieve the RMC Program Objectives, which are key tasks essential to success as a physician. Our curriculum is designed to support these Program Objectives. The program objectives are key tasks that students will achieve by the time of graduation. They represent RMC's commitment to our students and are written as task statements deemed critical to becoming a successful physician. The program objectives inform curriculum development, as all session objectives are mapped to a course objective which is mapped to a program objective.

The RMC Program Objectives are organized around six roles that a physician plays and the foundational role of medical knowledge that supports them:

### Advocate

Identify and address social, political and cultural factors that affect the health of patients and populations to improve health equity.

### Communicator

Establish strong therapeutic relationships with patients and their families to cooperatively provide care that reflects their needs, values and preferences.

### Leader

Contribute to the improvement of health care quality by participating in a culture of safety and coordinating care between the various elements of the health care system.

### Practitioner

Collect, interpret and document information to make clinical decisions and carry out diagnostic and therapeutic interventions to provide high-quality patient care.

### Professional

Demonstrate a commitment to carrying out professional responsibilities and upholding the legal and ethical principles that support medical practice.

### Scholar

Use evidence-based principles to continually enhance one's own practice, inform care of your patients and develop the skills to contribute to the scientific knowledge of the field.

### Medical Knowledge

Demonstrate knowledge of established and evolving biomedical, clinical and social-behavioral sciences, and the application of this knowledge to patient care.



## Graduation Requirements

The following are requisites to the granting of the Doctor of Medicine, or MD, degree by Rush University for students matriculating in Summer 2026 with an expected graduation year of 2030:

- The student must have successfully completed the medical college curriculum or its equivalent, in accordance with the requirements of the medical college and Committee on Student Evaluation and Promotion (COSEP).
- The student must pass USMLE Step 1 and USMLE Step 2 Clinical Knowledge (CK) by the deadlines set by OIME.
- The student must complete the requirements for graduation within a maximum of 58 months of active enrollment (excluding leave of absence) beginning from the time of matriculation.
- Successful completion of all COSEP-required remediation plans, if applicable.
- By deadlines set by OIME, students must: (a) have passed all required M3 core clerkships and (b) be scheduled for all elective clerkship requirements to meet the required 24 weeks of electives.
- Approval for graduation by a vote from COSEP.

Please see the University Catalog published for academic year 2024-25 for requisites to the granting of the Doctor of Medicine, or MD, degree by Rush University for students who matriculated in Summer 2025 with an expected graduation year of 2029.

### Notification of Failure to Meet Graduation Requirements

If the student is reasonably expected not to be able to fulfill the graduation requirements, the OIME will notify COSEP. OIME will notify the National Resident Matching Program (NRMP) according to their requirements for residency program notification.

## Remediation Plans and Dismissal Procedures

On a case-by-case basis, the Committee on Student Evaluation and Promotion (COSEP) may establish requirements for a remediation plan for students with academic, professionalism or fitness to practice deficiencies/concerns. COSEP will endeavor to develop a program, which, if completed, will strengthen the student's prospects for successfully completing the remainder of their medical college program. The student is responsible for complying with all the requirements of a given plan as specified. See the COSEP Policies and Procedures for information on remediation plans.

In discussions of student dismissal, COSEP is empowered to make recommendations only; final decisions regarding dismissal are made by the dean of Rush Medical College. Grounds for dismissal from RMC and procedures for COSEP recommendation of dismissal, student request for reconsideration of dismissal recommendation, and appeals to the dean are detailed in the COSEP Policies and Procedures.

## College Policies

Medical students are also responsible for adhering to university policies, as well as college policies, which can be found in the Rush Medical College portal.

## Division of Translational Science: Mission, Vision and Philosophy

### Mission

The mission of the Division of Translational Science (DTS) within Rush Medical College (RMC) at Rush University is to advance the frontiers of biomedical science through innovative education, cutting-edge research and interdisciplinary collaboration. By offering a PhD program in Integrated Biomedical Sciences, a master's program in Integrated Biomedical Sciences, a master's program in Biotechnology and a master's program in Clinical Research, we strive to cultivate a dynamic and inclusive environment that nurtures scientific discovery, critical thinking and professional development. Our goals are to: 1) Provide rigorous and comprehensive graduate education that equips students with deep expertise in biomedical sciences, biotechnology and clinical research. 2) Foster creativity and collaboration across disciplinary boundaries to solve complex biomedical challenges. 3) Promote strategic and impactful research that addresses critical health issues and advances medical science. 4) Ensure a sense of belonging and inclusivity within our academic community to enrich the educational experience and enhance scientific innovation. 5) Prepare graduates for

successful careers in academia, industry and health care by offering contemporary professional development and career planning resources. By fulfilling this mission, the Division of Translational Science aims to develop leaders who will drive scientific progress and improve human health globally.

### Vision

The Division of Translational Science at Rush University envisions becoming a global leader in biomedical education and research, recognized for our commitment to scientific excellence, interdisciplinary innovation and transformative impact on human health. We aspire to create an environment where diverse perspectives and collaborative efforts converge to drive breakthroughs in biomedical sciences, biotechnology and clinical research. Our graduates will emerge as pioneering leaders equipped to address the most pressing health challenges, advance medical knowledge and improve the quality of life for communities worldwide. Through our dedication to fostering critical thinking, creativity and professional growth, we aim to shape the future of health care and scientific discovery.

### Philosophy

At the Division of Translational Science at Rush University, we believe that our students are the cornerstone of our mission and vision. We are committed to nurturing a student-centered environment that prioritizes intellectual growth, interdisciplinary collaboration and professional excellence. Our educational philosophy is grounded in student empowerment, interdisciplinary learning, research excellence, community and belonging, professional development and collaborative spirit. Through this student-focused philosophy, we aim to inspire our students to become transformative leaders who will make significant contributions to biomedical science and improve human health on a global scale.

## Division of Translational Science: Program Organization

### Integrated Biomedical Sciences Doctor of Philosophy Program

The PhD in Integrated Biomedical Sciences (IBS) at Rush University is a student-focused program meticulously crafted to prepare aspiring science professionals for leadership roles in research and academia, while also providing them with the necessary career path education tailored to their specialized fields. At the heart of our doctoral program lies a deep recognition of the collaborative nature of biomedical research, where interdisciplinary teams of scientists come together to tackle complex challenges. With this understanding, our program places a strong emphasis on fostering an integrated interdisciplinary approach to biomedical research, ensuring that our graduates are well-equipped to thrive in varied professional environments.

Throughout the program, students will engage closely with faculty, working collaboratively to generate new knowledge in various scientific fields using sophisticated research methods and techniques. Our student-centered approach prioritizes individualized mentorship and hands-on learning experiences, allowing students to develop their skills and expertise under the guidance of experienced researchers.

As part of their doctoral journey, students will undertake a rigorous curriculum that includes core and concentration-specific courses designed to provide them with a solid foundation in their chosen areas of study. Additionally, students will be required to pass comprehensive preliminary and candidacy examinations, where they will demonstrate their mastery of the subject matter and their readiness to advance to the next stage of their research.

A cornerstone of the PhD program is the opportunity for students to design and conduct original research projects that culminate in a dissertation. This immersive research experience enables students to make meaningful contributions to their fields of study while honing their critical thinking, problem-solving and analytical skills. Throughout this process, students will receive ongoing support and guidance from their faculty mentors, ensuring that they have the resources and mentorship needed to succeed.

Upon completion of the program, our graduates will be poised to embark on successful careers in academia, industry, government agencies and nonprofit organizations. Armed with a deep understanding of interdisciplinary biomedical research and a wealth of hands-on research experience, our students will be prepared to tackle the most pressing challenges facing the field of biomedicine and make impactful contributions to scientific knowledge.

### Integrated Biomedical Sciences Master of Science Program

The Master of Science in Integrated Biomedical Sciences (IBS) at Rush University is a thesis-based, two-year master's program designed to immerse students in the scientific method and provide them with the opportunity to pursue a directed research project. This program is specifically structured to prepare graduates for advanced biomedical research roles in a variety of settings, including colleges and universities, government agencies, hospitals, nonprofit organizations and industry. By emphasizing an interdisciplinary approach to biomedical education and research, the IBS program ensures that students gain a comprehensive understanding of the complex and interconnected nature of modern biomedical science.

Students in the IBS program will have the unique opportunity to work alongside top-tier researchers and faculty members at Rush University Medical Center, engaging in cutting-edge research that generates new knowledge in the field of biomedicine. Through hands-on experience with sophisticated research methods and approaches, students will develop the critical and analytical skills necessary to excel in their future careers. The program is designed to be highly student-focused, allowing individuals to tailor their research experiences to their specific interests and career goals.

Participants can choose from a wide array of research projects and select advisers from the many qualified faculty members across Rush Medical College academic departments. This flexibility enables students to build a personalized educational experience that aligns with their professional aspirations, whether they aim to pursue further academic study or enter the biomedical industry.

The IBS program aspires to cultivate the next generation of leaders in biomedical research by providing a rigorous and supportive learning environment. By fostering a collaborative and interdisciplinary culture, the program encourages students to think creatively, work collaboratively and approach biomedical problems with innovative solutions. Graduates of the MS in Integrated Biomedical Sciences program will be well-equipped to make significant contributions to the advancement of biomedical science and the improvement of human health.

### Biotechnology Master of Science Program

The Master of Science in Biotechnology (BTN) at Rush University is a non-thesis research and laboratory training program meticulously designed to equip students with the knowledge and skills necessary for careers in research-related fields and to enter further graduate or professional studies. This program is specifically tailored for students who have earned bachelor's degrees and are eager to advance their scientific education and professional development.

The BTN program offers a customized curriculum that allows students to align their educational experience with their individual career aspirations. The program ensures that students can pursue a path that suits their professional goals, whether they aim to enter the biotechnology industry, engage in academic research or continue their education in medical or doctoral programs.

One of the key features of the BTN program is its emphasis on practical, hands-on laboratory training. Students will engage in courses that cover the most common and essential techniques and methods used in modern biomedical research. These laboratory courses are designed to provide students with direct experience in the application of advanced biotechnological methods, ensuring they are well-prepared for the demands of contemporary scientific work.

By offering a comprehensive curriculum, hands-on laboratory training and a capstone research experience under expert faculty guidance, the BTN program at Rush University provides students with a robust foundation in biotechnology, preparing them to become leaders and innovators in their respective fields. Graduates of the BTN program will be prepared for immediate entry into professional roles within the biotechnology and biomedical industries, careers in industrial research settings such as pharmaceutical companies, biotech firms and research institutions, or positions in teaching or academic administration.

### Clinical Research Master of Science Program

The Master of Science in Clinical Research program at Rush University offers a comprehensive pathway for both full-time and part-time students seeking to deepen their understanding and expertise in the field of clinical research. With options for completion in either five semesters full-time or eight semesters part-time, the program is designed to accommodate the diverse needs and schedules of its student body. While the program is particularly well-suited for medical doctors looking to enhance their research skills, it also attracts individuals from various backgrounds who share a keen interest in clinical research and its implications for advancing health care practices and patient outcomes.

In this dynamic and interdisciplinary program, students delve into the intricacies of clinical research methodologies, ethical considerations, regulatory requirements and data analysis techniques under the guidance of experienced faculty members. Through a combination of rigorous coursework, hands-on research experiences and practical training, students gain the necessary skills and competencies to design, conduct and analyze clinical research studies effectively.

One of the program's distinguishing features is its emphasis on thesis work, where students collaborate with faculty members to generate novel knowledge relevant to clinical research. Through this hands-on research experience, students have the opportunity to apply theoretical knowledge to real-world research settings, working closely with faculty on innovative projects that contribute to the advancement of clinical science. Whether partnering with health care institutions, analyzing data or conducting clinical trials, students gain invaluable practical experience and develop professional networks that are integral to their academic and professional growth.

Throughout the program, faculty members provide mentorship and guidance to students, offering support and expertise to help them navigate the complexities of clinical research. Whether assisting with research project development, providing career advice or facilitating networking opportunities, faculty play a pivotal role in supporting students' academic and professional growth.

Upon completion of the program, graduates are equipped with the skills, knowledge and practical experience needed to excel in various roles within the clinical research field. Whether pursuing careers as clinical investigators, research coordinators, data analysts or regulatory affairs specialists, graduates of the Master of Science in Clinical Research program are well-prepared to contribute to the advancement of medical science and improve patient care outcomes.

## Division of Translational Science: Admission Requirements

The Division of Translational Science offers programs leading to Master of Science and Doctor of Philosophy degrees, preparing students for impactful careers in biomedical research and academia. A strong undergraduate academic record is considered essential for success in the Division of Translational Science, reflecting the rigorous nature of our programs. In the application review process, we actively seek evidence of creativity and scholarly potential, recognizing the importance of fostering a community of innovative thinkers and problem solvers.

Moreover, the division places a high value on diversity of thought, ability, expertise and background, as we believe that diverse perspectives enhance our ability to tackle complex challenges in human health. With these principles in mind, we utilize the following guidelines to evaluate candidates for admission, ensuring that we admit individuals who demonstrate not only academic excellence but also the potential to make meaningful contributions to biomedical research and beyond.

### Application Deadlines

#### Doctor of Philosophy Program

- Integrated Biomedical Sciences (Nov. 1 priority deadline; Jan. 4 late consideration)

#### Master of Science Programs

- Biotechnology (May 1 priority deadline; July 30 late consideration)
- Clinical Research (June 26 International Applicants; July 30 U.S. citizens and permanent residents)
- Integrated Biomedical Sciences (May 1 priority deadline; July 30 late consideration)

#### Application Package:

International students have earlier deadlines. Please check with the Division of Translational Science Admissions Office early in the application process.

1. **Application form** - The application must be submitted by the deadline.
2. **Statement of purpose** - Describes the past and current research interests as they pertain to graduate school in the biomedical sciences. Your statement of purpose should be limited to one page.
3. **Curriculum vitae** - Includes academic honors, awards received in college and/or graduate school, employment history, internships, summer research programs, education history, etc.
4. **Three letters of recommendation** - Recommendation letters should come from professional and academic sources. Letters must be on official letterhead, signed and uploaded by the online application by recommenders.
5. **Standardized test scores** - Standardized test scores are optional. However, applicants applying to the Doctor of Philosophy and Master of Science programs in Integrated Biomedical Sciences can submit GRE scores. MCAT, DAT, PCAT or USMLE scores can be used in lieu of GRE for Biotechnology and Clinical Research master's programs. Applicants with an international medical degree must submit USMLE Step 1 and Step 2 scores.
6. **Official transcript(s)** - Applicants must hold a bachelor's degree from an accredited U.S. institution. Students with an international degree must submit an official course-by-course evaluation from Educational Credential Evaluators (ECE) or World Education Services (WES), no other transcript evaluation organizations will be accepted. The Division of Translational Science requires transcripts from all schools attended.
7. **TOEFL scores** - TOEFL or IELTS scores must be submitted for international applicants who have received a diploma from a university at which English is not the language of instruction. TOEFL/IELTS scores will be waived for non-native English speakers who have completed a bachelor's degree or higher from a U.S. accredited institution and have demonstrated language proficiency supported by the interview. TOEFL and IELTS are the only two testing organizations accepted by the Division of Translational Science.
8. **An interview** with the Division of Translational Science faculty is required for Integrated Biomedical Sciences Doctor of Philosophy candidates.
9. **Applicant fee** - An $88 application fee is required to submit the application.
10. **Non-degree Students:** Non-degree students may take selected courses as student-at-large but are not candidates for advanced degrees. Upon approval by a course director, any individual may audit an approved course.

## Division of Translational Science: Technical Standards

Rush University is committed to attracting and educating students who will make the population of the scientist representative of the national population.

Our core values — I CARE — innovation, collaboration, accountability, respect and excellence translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and creates a respectful, accountable culture through our confidential and specialized disability support. Rush is committed to excellence in accessibility; we encourage students with disabilities to disclose and seek accommodations.

### Observation

Students must be able to acquire information from lectures, demonstrations and experiments, written documents and computer systems (e.g., literature research and data retrieval). Students must be able to observe accurately at a distance and up close, skills that require the use of vision, hearing and touch, or the functional equivalent.

### Communication

Students should be able to speak and receive information in both oral and written formats. Students must be able to communicate via English effectively and efficiently in oral and written form with others and with all members of a research team, the scientific community and general audiences.

### Motor

Students must possess both fine and gross motor skills necessary to perform procedures required to conduct experiments and/or research within their chosen program discipline.

### Intellectual-Conceptual, Integrative and Quantitative Abilities

Students must be able to measure, calculate, reason, analyze, synthesize and problem-solve. Students must possess the intellectual, integrative and quantitative abilities to independently carry out these responsibilities.

### Behavioral

Students must possess the emotional health required for full use of their intellectual abilities, the exercise of good judgment, the prompt completion of all responsibilities, and the development of mature, sensitive and effective relationships in the training environment. Students must be able to tolerate physically taxing workloads and to function effectively under stress. They must be able to adapt to changing environments, to display flexibility and to learn to function in the face of uncertainties and ambiguities.

### Ethics and Professionalism

Students must understand the ethical aspects of their field and function within ethical standards of the profession and within the law. Compassion, integrity, concern for others, interpersonal skills, professionalism, interest and motivation are all personal qualities that are expected during the education processes.

The technical standards delineated above must be met with or without accommodation. Students who determine that they require reasonable accommodations to fully engage in the program should contact the Office of Student Accessibility Services to confidentially discuss their accommodations needs.

Given the nature of our programs, time may be needed to create and implement the accommodations. Accommodation is never retroactive; therefore, timely requests are essential

and encouraged. To learn more about accommodation at Rush University please contact:

Marie Lusk, MBA, MSW, LSW
Director, Student Accessibility Services
Office of Student Affairs
600 S. Paulina Street, AAC 901
Chicago, IL 60612
Phone: 312.942.5237
marie_lusk@Rush.edu

## Division of Translational Science: Shared Curricula

Some Division of Translational Science courses are shared by more than one program. The curriculum is designed to provide fundamental knowledge deemed necessary to become successful in science. The Division of Translational Science shared curricula elements provide introductory training in molecular biology and cell biology. Students will learn basic theories underlying modern scientific techniques. Courses in ethics, scientific writing and basic statistics are key components of the curriculum and can be selected from the list below.

The following courses comprise the Division of Translational Science shared curriculum:

- DTS - 502 Advanced Cell Biology
- DTS - 503 Advanced Molecular Biology and Gene Regulation
- DTS - 506 Biomedical Ethics
- DTS - 525 Biomedical Informatics: Genomics and Microbiome
- DTS - 546 Principles of Biostatistics I: Descriptive Methods and Introduction to Statistical Inference
- DTS - 547 Principles of Biostatistics II: Multivariable Regression and Prediction Methods for Diverse Outcomes
- DTS - 548 Biomedical Informatics I: Public Health and Clinical Research Informatics
- DTS - 549 Biomedical Informatics II: Clinical Data Analytics and the Electronic Health Record
- DTS - 594 Fundamentals of Grant Writing for Scientific Research
- DTS - 595 Fundamentals of Scientific Manuscript Writing

## Division of Translational Science: Master of Science and Doctor of Philosophy Degrees

### Doctor of Philosophy

The Doctor of Philosophy (PhD) is the highest degree conferred by Rush University. The Doctor of Philosophy is awarded in recognition of high achievement in a particular field of scientific research as evidenced by submission of a dissertation that demonstrates independent investigation and contributes new information to the body of existing knowledge. The PhD program is integrated and bench research-oriented; it should culminate in a work of literary and scholarly merit, which is indicative of the candidate's ability to conduct original research in a recognized specialty.

Specifically, the program is composed of formal courses, guided individual study in a chosen field or discipline, cognate subjects recommended by the candidate's advisory committee, original research that serves as the basis of scientific publication and a scholarly dissertation. A submission of the first-authored scientific manuscript of the student's original research is a degree requirement.

#### Admission to Candidacy

Admission to candidacy is evidence that the doctoral student has successfully completed all preliminary coursework and is prepared to move into the intensive research experience. Depending upon the requirements of the program, these exams will test accumulated knowledge, scientific reasoning and the ability to critically and analytically think.

Admission to candidacy is a demonstration of confidence that the student will successfully accomplish the remaining requirements of the program. Students failing to achieve admission to candidacy may apply for the coursework and completed research toward a related Master of Science degree upon recommendation by the dissertation advisory committee.

#### Dissertation

A doctoral student must complete a dissertation. This document is developed through faculty-guided independent research projects. The dissertation must be original and cannot have been used to meet the requirement of any other degree, either at Rush University or any other university.

Each student will have a dissertation advisory committee whose role is to assure that the student's dissertation is of high quality and meets the standards of the program and the Division of Translational Science for originality, contribution to the field and scholarly presentation.

The committee is also to assure that the student is making satisfactory progress toward completion of the degree. The committee is chosen by the student in conjunction with the student's primary adviser and should consist of at least five RMC faculty members, of which one is the primary adviser.

The composition of this committee should be approved by the program director and should comply with any specific requirements of the Division of Translational Science. Advisory committee members must be members of the Rush Medical College. One member of the committee with an expertise in the student's research area may be external to Rush University or Rush Medical College. Once the committee convenes, it will choose a chairperson who cannot be the student's primary adviser.

### Master of Science

The Master of Science degree is designed to enhance the scientific and professional preparation of students aspiring for a career in the health professions or in a related field requiring graduate level biomedical sciences. Students will bolster their preparation for further study or entry into the biomedical workforce by completing a rigorous combination of multidisciplinary graduate level coursework, research immersion, advising and professional development.

The College offers two types of Master of Science degrees: thesis and non-thesis. The Master of Science programs in Integrated Biomedical Sciences and Clinical Research are thesis-requiring and traditionally take five terms to complete. The Master of Science in Biotechnology degree program is a two-term, non-thesis accelerated program designed to provide laboratory and research skills at the graduate level.

#### Thesis

The thesis is a record of the research experience of the student and must be original work with the potential to be published in a peer-reviewed journal. The student will identify an area of interest and submit the name of a potential adviser to the program director for approval.

After the student selects a research adviser and begins to collect preliminary data, the student and adviser will select a thesis advisory committee. This committee will advise the students and evaluate their proposal and thesis documents. The committee will consist of the adviser and two additional Rush Medical College faculty members. Committee members should be familiar with either the research area or crucial technical aspects of the student's project.

Committee members are a resource for the student and their adviser to enhance didactic and technical knowledge toward the completion of the student's project.

#### Public Defense

Students in the PhD program and the thesis masters are expected to present their work via public defense. The defense is a one-hour live presentation by the students on the main aspects of the research and will be attended by the advisory committee and faculty and students at the university. Upon completion of the presentation, the advisory committee then meets in closed session to examine the candidate and approve the thesis/dissertation. In the case of a PhD student, the committee strives for a consensus, but the dissertation can be approved by a majority vote. All voting members of the master's advisory committee must approve the thesis document and certify that the student has completed all requirements for the Master of Science degree.

## Division of Translational Science: Academic Policies

The Division of Translational Science follows university-wide policies and procedures and reviews program-specific regulations. However, the Division of Translational Science reserves the right to make substantive changes in its programs after a student has matriculated. Students will be informed in writing if any requirements are changed. Students re-entering the college after an absence will be guided by policies and procedures in effect at the time of re-entry.

### Examination Policy

The Division of Translational Science maintains rigorous standards for course and examination policies to ensure academic integrity and consistency across all programs. These policies are essential to uphold the quality and fairness of the educational experience for all students. Specifically, the course director is responsible for distributing a course syllabus to all enrolled students at the beginning of each course.

The syllabus must adhere to the format specified by the University Curriculum Committee and include detailed information on course objectives, content, schedule, assignments, grading criteria and examination policies. All course and examination policies outlined in the syllabus must align with DTS guidelines. Course directors must ensure that their

policies are consistent with the division's standards and provide a clear and comprehensive guide for students.

All exams must be proctored to prevent academic dishonesty and ensure a fair testing environment. The course director must specify the procedures for proctored exams in the course syllabus, including the format, timing and any special instructions. Proctors must be present during all exams to supervise students and enforce exam rules. The course director is responsible for arranging proctors and ensuring they are adequately trained to monitor exams effectively.

Any breaches of examination policies or incidents of academic dishonesty must be reported immediately to the course director and handled according to DTS and university procedures. Students are expected to adhere to these policies, and any violations will be addressed according to the established disciplinary procedures.

## Pass/No Pass Grades

Each program identifies all courses required of its students. Required courses are usually taken for letter grades (grades are A, B, C or F), although some may be offered as pass/no pass (P/N) option with approval from program directors. Research hours are graded using the P/N option.

## Good Academic Standing

To remain in good academic standing, students must earn a B (3.0) or better in core courses, meet the requirements of their program and maintain a cumulative 3.0 GPA. Students should refer to their program academic policies for additional guidance on academic standing. IBS PhD students must be in good academic standing to be admitted to candidacy and to graduate. Students who fail to remediate their deficiencies within one academic term or are placed on probationary status a third time are subject to dismissal by the Division of Translational Science.

## Academic Difficulty

To remain in good academic standing, students must maintain a cumulative grade point average (GPA) of at least 3.0 and meet the requirements of their program. A student must be in good academic standing to be admitted to candidacy (in the PhD program) and to graduate. Article VII, Section 6 of the University Rules for Governance defines good academic standing conditions.

## Academic Probation

Probationary conditions are defined in Article VII, Section 6 of the University Rules for Governance and the program's Student Handbook.

1. The Registrar's Office will notify the program director when a student's cumulative GPA falls below 3.0. The program director will then email the student with a confirmation receipt to inform them of their change in academic standing to probation, followed by an in-person meeting.
2. If a student fails to meet other program requirements, the program director will notify the division head. The division head will inform the students by email with confirmation of receipt of their change in academic standing. This correspondence will be included in the student's permanent file.

## Dismissal

Students can be dismissed if they fail to meet program requirements or go on academic probation for a second time. As the Program Student Handbook and the Rush University Catalog outline, students may be dismissed for academic misconduct or non-academic reasons. Procedures follow Article VII, Sections 6 and 7 of the University Rules for Governance as applies to the DTS. Letters of Dismissal or Administrative Withdrawal come from the division head. These decisions are made in consultation with the program director and the Division of Translational Science Advisory Committee, and the student must receive adequate notice of such an impending decision. The Division of Translational Science Advisory Committee will recommend the division head for final action.

## Full-time Enrollment

All DTS students must be enrolled full-time, except those Master of Science in Clinical Research students who request part-time enrollment. Full-time students must register for at least nine credits each term or at least 2 credits when enrolled in thesis and dissertation research courses. Details concerning program-specific enrollment requirements can be found in each program's Student Handbook. At the time of graduation, the student must be enrolled in the college.

## Residency

All four programs are residential. The Integrated Biomedical Sciences and Biotechnology programs are full-time. The Master of Science in Clinical Research program may be part-time or full-time. Master of Science in Biotechnology students graduate after two semesters, while the full-time Master of Science in Clinical Research and Master of Science in Integrated Biomedical Sciences students graduate within five semesters. Part-time Master of Science in Clinical Research students graduate within eight semesters.

PhD students in the Integrated Biomedical Science program must fulfill all requirements for graduation within five full-time enrolled academic years. If a student surpasses these time constraints, they must formally request an extension for graduation. This request must identify the reasons for the extension and provide a written plan with reasonable deadlines for completion. This document will be co-signed by the student's adviser and program director and submitted to the DTS Advisory Committee. The DTS Advisory Committee will then vote on whether to accept the extension or not (passed by a simple majority).

If the request is rejected, the student can submit an appeal as outlined below. Following the approval of the extension, the student is expected to fulfill all remaining requirements within the time limit defined in the extension permission. A subsequent extension request may be submitted by the student if necessary—the financial ramifications of the extension need to be determined before the request is approved.

## Students-at-Large

Individuals with an accredited bachelor's degree or its equivalent have the option of taking select Division of Translational Science courses as a non-degree student, prior to application to a degree program. The policy regarding the transfer of student-at-large credits can be found in the Academic Resources and Policies section of this catalog.

## Readmission

Any student who has voluntarily withdrawn from the university may apply for readmission by applying to the DTS. The student will pay tuition and fees at the rates in effect at the time of re-enrollment.

## Academic Progression

The requirements for academic progression are outlined in each program's student handbook. Students are responsible for understanding the requirements for academic progression and adhering to the criteria at the time of their enrollment in their program.

## Student Academic Appeals Policy

Any student of the DTS may appeal a final course grade, failure on a comprehensive or candidacy examination, or failure of the thesis/dissertation defense. A student may also appeal an unreasonable delay in their graduation from the university. A student may appeal a Dismissal or Administrative Withdrawal as stated in Article VII, Sections 6 and 7 of the Rush University Rules for Governance. Course grades can be appealed directly through the course director. Comprehensive or candidacy exam failures, failure of a thesis/dissertation, and dismissal for other reasons can be appealed through the Division of Translational Science Advisory Committee following the steps below:

1. The student must initiate the appeal process within fourteen (14) calendar days of the event that precipitated the appeal. The student will submit a written statement to the Division of Translational Science Advisory Committee requesting consideration of their case. The student must provide the following in the written statement:
   - Cause for probation or dismissal, e.g., failure of thesis/dissertation.
   - Action being requested.
   - Justification for the request.
   - An outline of the efforts and actions already taken to obtain consideration of the request.
   - Copies of this written statement must be sent to the program director and the thesis/dissertation committee chairperson as appropriate.
2. The Head of the Division of Translational Science will instruct the Advisory Committee to convene an appeals committee comprised of non-conflicted voting members of the Advisory Committee. The appeals committee will include a student representative from a program different from the appealing student. Suppose a member of the Advisory Committee is conflicted, in that case, that member may be replaced with a non-conflicted faculty who is not a member of the Advisory Committee. Faculty considered conflicted include the student's program director and those evaluating the student's academic status. Faculty with a conflict will not be on the appeals committee but can be invited to present to the committee. The appeals committee will meet within fourteen (14) days of receiving the student's written request to appeal. The appeals committee will submit a report with a recommendation to the division head within five working days of the committee's meeting.

3. Within fourteen (14) days of receiving the appeals committee's recommendation, and upon discussion with the student and others as appropriate, the division head shall reach a final decision and notify each party. The conclusion reached by the division head is final. A designated appeals committee member will document the discussions and outcomes of all meetings in this appeal process. At any step in the process, the student may withdraw the appeal by written notification to the DTS Advisory Committee with a copy to the division head. In the event of a dismissal decision, a student may continue to enroll until the appeal process is completed or the student withdraws the appeal.

### Academic Honesty and Student Conduct

The Division of Translational Science and its programs follow the university policies on academic honesty and the university statement on student conduct. Each student is expected to always conduct themselves in a professional manner — a manner that conforms to the ethics of the profession and which instills confidence in one's abilities as a working scientist.

Irresponsible, unprofessional or unethical behavior, as determined by Rush University honor code may result in dismissal from the program. The college and its programs will not condone cheating in any form. Allegations of cheating will be reviewed by the program director following internal DTS policies. If merited, the report will be forwarded to the dean of Rush Medical College.

### Use of Social Media and Artificial Intelligence

Students are expected to adhere to Policy Numbers OP-0362 and UAC-0039 requirements regarding the use of social media and artificial intelligence, respectively, in a way that is consistent with the parameters of responsible use as specified in the Policy.

### Rush University Academic Policies

The Academic Resources and Policies section of this catalog contains additional Rush University academic policies.

## Undergraduate Medical Education: Doctor of Medicine

The course of study below is applicable to students who matriculate in summer 2026 with an expected graduation in 2030. For students who matriculate in summer 2025, please see the University Catalog published for academic year 2024-25.

### Preclerkship Phase

The first and second years include a series of required courses as well as required curricular experiences including the Experiential Learning Opportunities for Preclerkship Students (EXPLORE) program and Bedside Clinical Skills. Students also have the opportunity to take electives during their first year.

| First Year Required Courses | Credits |
|---|---|
| RMD-560 The Foundation of Medical Practice | 2 |
| RMD-561 Host Defense and Response | 6 |
| RMD-574 Vital Fluids | 9 |
| RMD-575 Vital Gases | 5 |
| RMD-563 Food to Fuel | 6 |
| RMD-564 Movement and Mechanics | 6 |
| RMD-565A Brain, Behavior and Cognition A | 4 |
| RMD-565B Brain, Behavior and Cognition B | 4 |
| IPE-502 Interprofessional Person Centered Teams<br>*IPE-502 is taken twice over fall and spring terms.* | 0 |
| **Subtotal** | **42** |

| Professional Development Courses | Credits |
|---|---|
| *Choose one course below for 2 credits.* | |
| RMD-590A Professional Development: Academic Enrichment | 2-4 |
| RMD-590B Professional Development: Clinical Experience | 2-4 |
| RMD-590C Professional Development: Community Service | 2-4 |
| RMD-590D Professional Development: Research | 2-4 |
| **Subtotal** | **2** |



| Second Year Required Courses | Credits |
|---|---|
| RMD-566 Reproduction and Sexuality | 5 |
| RMD-567 Health Across the Life Span | 5 |
| RMD-576 Introduction to Hematology and Oncology | 8 |
| RMD-569 Complex Cases and Transition to Clerkship | 12 |
| **Subtotal** | **30** |

| Professional Development Courses | Credits |
|---|---|
| *Students will select three professional development courses during their second year for a varying number of credits at specific points in the curriculum.* | |
| RMD-590A Professional Development: Academic Enrichment | 2-4 |
| RMD-590B Professional Development: Clinical Experience | 2-4 |
| RMD-590C Professional Development: Community Service | 2-4 |
| RMD-590D Professional Development: Research | 2-4 |
| **Subtotal** | **10** |

### Optional First Year Electives

Elective courses may be taken in parallel with the required first-year curriculum. These courses do not count as elective weeks required for graduation.

- RMD - 538A Basic Spanish for Medical Professionals I Credit(s): 1
- RMD - 538B Basic Spanish for Medical Professionals II Credit(s): 1
- RMD - 538C Basic Spanish for Medical Professionals III Credit(s): 1
- RMD - 539A Intermediate Spanish for Medical Professionals I Credit(s): 1
- RMD - 539B Intermediate Spanish for Medical Professionals II Credit(s): 1
- RMD - 539C Intermediate Spanish for Medical Professionals III Credit(s): 1
- RMD - 540A Humanities in Medicine I Credit(s): 1
- RMD - 540B Humanities in Medicine II Credit(s): 1
- RMD - 540C Humanities in Medicine III Credit(s): 1
- RMD - 780A Basic Biomedical Research I Credit(s): 1
- RMD - 780B Basic Biomedical Research II Credit(s): 1
- RMD - 780C Basic Biomedical Research III Credit(s): 1
- RMC - 5EI Basic Biomedical Research Credit(s): 1
  *Taken in Summer term by those students who receive a Summer Research Fellowship.*

### Third Year

The third year begins with the orientation called Clinical Resources and Skills for the Hospital (CRASH) followed by a year-long course series (RMD 749) and 42 clinical weeks in the required core clerkships: internal medicine, neurology, obstetrics and gynecology, pediatrics, psychiatry, primary care and surgery. If eligible, the student may be able to take six weeks of elective courses during the third year. These electives do not count as elective weeks required for graduation.

**Note:** Students **must take the USMLE Step 1** as a prerequisite for enrollment in the core clerkships. **Students must pass USMLE Step 1 as a graduation requirement.** See the COSEP Policies and Procedures for more information.

| Third Year | Credits |
|---|---|
| RMD-749 Rush Integrated Clinical Experiences *Taken three times.* | 1 |
| MED-703 Core Clerkship: Internal Medicine | 8 |
| NEU-701 Core Clerkship: Neurology | 4 |
| OBG-703 Core Clerkship: Obstetrics-Gynecology | 6 |
| PED-701 Core Clerkship: Pediatrics | 8 |
| PSY-701 Core Clerkship: Psychiatry | 4 |
| RMD-701 Core Clerkship: Primary Care | 4 |
| SUR-701 Core Clerkship: Surgery | 8 |
| **Subtotal** | **45** |

### Fourth Year

The fourth year involves a year-long course series (RMD 750), a required four-week emergency medicine clerkship, a required four-week senior subinternship, a four-week clinical bridge course (RMD 722) and a series of elective clerkships that ultimately include a minimum of 48 total weeks.

**Note on Electives:** Students are required to complete a minimum of 24 weeks of elective clerkships. Only electives taken during the student's fourth year fulfill this requirement; electives taken in other years do not fulfill this requirement. The choice of electives is guided by student interest and the goal of creating an educationally balanced undergraduate experience. A maximum of 16 weeks of elective clerkships may be taken in a single subspecialty. Up to 12 weeks of elective clerkship may take place at another Liaison Committee on Medical Education (LCME)-or Accreditation Council for Graduate Medical Education (ACGME)-accredited institution.

All students **must take and pass the USMLE Step 2 Clinical Knowledge (CK)** as a graduation requirement. See the COSEP Policies and Procedures for more information.

| Fourth Year | Credits |
|---|---|
| RMD-750 Transition to Residency<br>*Taken three times.* | 4 |
| EMD-703 Core Clerkship: Emergency Medicine | 4 |
| RMD-722 Clinical Bridge | 4 |
| **Elective Clerkships Credits** | **24** |
| *Choose one of the following subinternship courses:* | |
| FAM-710 Subinternship: Family Medicine | 4 |
| MED-710 Subinternship: Internal Medicine | 4 |
| OBG-711 Subinternship: Obstetrics and Gynecology | 4 |
| PED-710 Subinternship: Pediatrics | 4 |
| SUR-710 Subinternship: General Surgery | 4 |
| **Subtotal** | **48** |

### Specialty Curriculum Programs

#### Family Medicine Leadership Program (FMLP)

The Family Medicine Leadership Program, or FMLP, gives students the opportunity to engage in enhanced primary care clinical training and experiences. Students in the FMLP will participate in a curriculum specifically geared toward the tenets of a career in family medicine, emphasizing the impacts of family and community on health, the role of interdisciplinary care, and the development of skills in leadership and scholarly pursuit.

Students register for FAM 705 for every term in which they are enrolled in the FMLP.

- FAM-705 Family Medicine Leadership Program (FMLP) Credit(s): 1

#### Health Equity & Social Justice Leadership Program

The Health Equity & Social Justice Leadership Program gives students the opportunity to engage in enhanced clinical training and experiences focused on themes of global and local health equity/social justice. Students in the program will participate in a curriculum specifically geared toward a career focused on vulnerable populations, health equity and global health.

Students register for RMD 705 for every term in which they are enrolled in the Health Equity program.

- RMD-705 Health Equity Program: Global and Local Perspective Credit(s): 1

## Division of Translational Science

## Biotechnology (MS)

## Biotechnology (MS): Program Overview

Description of this program is located earlier in this catalog.

## Biotechnology (MS): Academic Policies

### Academic Standing

To maintain good academic standing all Biotechnology students must have a cumulative 3.0 grade-point average at the time of program completion. Any student who falls below this academic standard will be in academic difficulty. A student in academic difficulty is not eligible for graduation. Students that receive an N or F in a required course must petition to remain in the program and retake the course.

### Division of Translational Science/Rush University Academic Policies

Academic policies specific to the Division of Translational Science are located earlier in this catalog. In addition, the Academic Resources and Policies section of this catalog contains Rush University Academic Policies.

## Biotechnology (MS): Curriculum

| Core Courses | Credits |
|---|---|
| BTN-525 Experimental Design and Disease Modeling | 2 |
| BTN-531 Advanced Cell Biology Technologies | 2 |
| BTN-532 Advanced Molecular Biology Techniques and Applications | 2 |
| BTN-533 Advanced Histology and Immunofluorescence Techniques | 2 |
| BTN-538 Advanced Experimental Techniques in Biomedical Research | 2 |
| BTN-540 Experiential Learning: Proficiency in Targeted Science Techniques | 2 |
| BTN-541 Pre-Professional Preparation for Career Advancement | 3 |
| DTS-502 Advanced Cell Biology | 2 |

*continued >*



| Core Courses | Credits |
|---|---|
| DTS-503 Advanced Molecular Biology and Gene Regulation | 2 |
| DTS-506 Biomedical Ethics | 1 |
| DTS-546 Principles of Biostatistics I: Descriptive Methods and Introduction to Statistical Inference | 1 |
| *Choose one:* | |
| DTS-548 Biomedical Informatics I: Public Health and Clinical Research Informatics<br>OR | 1 |
| DTS-525BBiomedical Informatics: Genomics and Microbiome | 1 |
| **Subtotal** | **23** |

| Research Area-Specific Courses | Credits |
|---|---|
| *Select one course from below.* | |
| DTS-500 Musculoskeletal Biology | 3 |
| DTS-507 Advanced Immunology and Immune System Dynamics | 3 |
| DTS-519 Advanced Neurobiology | 3 |
| DTS-507 611 Advanced Cancer Biology and Therapeutic Mechanisms | 3 |
| **Subtotal** | **3** |

### Research Courses

Students are required to complete a capstone project that provides a culminating experience and applies the principles and methods learned in the coursework to an independent research project. Students generally identify their mentor and develop their research proposal during the first semester. The research project must involve the analysis and interpretation of data. Students are encouraged to conduct primary data collection. Students will present their capstone projects in class.

| Research Courses | Credits |
|---|---|
| BTN-537 Biotechnology Research Capstone | 4 |
| **Subtotal** | **8** |

## Clinical Research (MS)

## Clinical Research (MS): Program Overview

Description of this program is located earlier in this catalog.

### Educational Assistance Benefits (EAB) Funding

(EAB) program. Contact your department administrator for EAB benefit and qualification information.

## Clinical Research (MS): Academic Policies

### Academic Standing

Students must maintain a cumulative 3.0 grade-point average, earn a pass in courses with a pass/no pass option and meet the requirements of their program at the end of each term to remain in good academic standing. Any student who falls below this academic standard is academically deficient and not eligible for graduation. Failure to remediate deficiencies within one academic semester can result in dismissal by the Division of Translational Science. Students who earn a C or below in a core course must retake the course.

### Program Time Limitations

Students in the Clinical Research Program are expected to meet all requirements for graduation within five semesters (if enrolled full-time) but must graduate within eight semesters (if enrolled part-time) in the Division of Translational Science. This period begins with the term in which the student formally matriculates into the program.

Exceptions to the time limitation must be submitted to the DTS Advisory Committee in writing. The request must identify the reasons for the extension and provide a written plan with reasonable deadlines for completion. This document will be co-signed by the student's research adviser and program director. The head of the Division of Translational Science will make the final decision. If the extension is approved, the student is expected to complete all milestones and program requirements.

A second request may be made by the student's adviser and program director but may or may not be granted by the head of the Division of Translational Science by the recommendation of the divisional Advisory Committee. Following the second approved extension, the student must complete all requirements for the Master of Science degree or face dismissal.

### Leave of Absence

The maximum length of accumulated leave of absence is 12 The maximum length of accumulated Leave of Absence is 12 months. Requests for leave beyond the 12-month time limit must be submitted to the head of the Division through the Advisory Committee, in writing. The request must identify the reasons for the extent of leave and provide a written plan for return and revised deadlines for completion. This document will be co-signed by the student's research adviser and program director. If approved, the student must return at the time indicated on the initial request.

A second request may be made by the student's adviser and program director, but it may or may not be approved by the head of the Division of Translational Science. Students must complete the university process to formally request a leave of absence. Please refer to the leave of absence policy under the Academic Resources and Policies section of this catalog for additional information.

## Division of Translational Science/ Rush University Academic Policies

Academic policies specific to the Division of Translational Science are located earlier in this catalog. In addition, the Academic Resources and Policies section of this catalog contains Rush University Academic Policies.

## Clinical Research (MS): Curriculum

### Degree Requirements

The program consists of three components:

- Minimum of 32 graduate credits.
- Clinical research thesis project culminating in a written thesis.
- A public presentation and a private defense of the thesis.

### Master of Science in Clinical Research curriculum:

Transfer credits from other Rush University Colleges or other institutions may be accepted dependent upon approval of the program director. Only coursework taken within the five years previous to program matriculation will be reviewed, but it is not guaranteed to be approved.

| Core Courses | Credits |
|---|---|
| CRE-500 Clinical Research in Practice | 3 |
| CRE-551 Human Subject Research and the Institutional Review Board (IRB) | 1 |
| CRE-556 Clinical Research Design | 3 |
| CRE-561 Principles of Epidemiology | 2 |
| CRE-562 Epidemiologic Study Design and Analysis | 2 |
| DTS-506 Biomedical Ethics | 1 |
| DTS-546 Principles of Biostatistics I: Descriptive Methods and Introduction to Statistical Inference | 2 |
| DTS-547 Principles of Biostatistics II: Multivariable Regression and Prediction Methods for Diverse Outcomes | 2 |
| DTS-548 Biomedical Informatics I: Public Health and Clinical Research Informatics | 1 |
| DTS-549 Biomedical Informatics II: Clinical Data Analytics and the Electronic Health Record | 1 |
| DTS-594 Fundamentals of Grant Writing for Scientific Research | 1 |
| DTS-595 Fundamentals of Scientific Manuscript Writing | 1 |
| **Subtotal** | **20** |

| Research Courses | Credits |
|---|---|
| CRE-597 Thesis Research | 1-9 |
| **Subtotal** | **12** |

### Thesis Research

Students complete a minimum of 12 credits of research, as outlined above. Students must enroll in CRE-597 from the spring term of the first year until graduation for two to nine credits per term, depending on their plan of study. While enrolled, students must complete thesis-related milestones and requirements that ensure the successful completion of the research project.

Students are required to complete and defend a data-driven thesis that provides a culminating experience and applies the principles and methods learned in the coursework to a real-life research project. The goal of the thesis is to demonstrate the student's understanding of the clinical research process from both a theoretical and a practical point of view.

With the support of the program director, each student must identify a research mentor and form a thesis committee of three Rush Medical College faculty members, including the mentor. The students work closely with their mentor to develop their research proposal while they are completing their coursework in the first year. The research project must involve the analysis and interpretation of data. Students are encouraged but are not required to conduct primary data collection.

The primary thesis adviser in conjunction with the thesis committee will be responsible for guiding the student on the research idea, its practicality, feasibility, application and timeline for completion. Students must meet with their mentor and full thesis committee, including the program director, at least once every six months to provide a progress update and receive recommendations for moving forward to completion. The mentor and thesis committee are also responsible for reviewing and approving the thesis. Once approved, the student defends the thesis.

All students will be required to submit the thesis to ProQuest to be eligible for graduation. Specific formatting guidelines are required, as set forth by the Center for Academic Excellence. All students are encouraged to formulate their original research into a scientific journal article and submit the manuscript as a publication in a peer-reviewed journal.

### Course of Study

The Master of Science in Clinical Research program can be completed either part-time or full-time depending on the goals of the student. Courses will take place in person in the late afternoons or early evenings, supplemented with some asynchronous online components. The program is designed so that a full-time student may complete their coursework in one academic year.

Thesis research components of the program should begin as soon as mentors have been identified during the first spring semester in the program. All students must at a minimum be enrolled part-time (five credits) during the first year of the program to maintain active status in the Division of Translational Science. After completion of didactic courses, students in Thesis Research must enroll in a minimum of two credits to maintain active status.

## Integrated Biomedical Sciences (MS)

Description of this program is located earlier in this catalog.

## Integrated Biomedical Sciences: MS Curriculum

Students must complete the following coursework to graduate: core courses, laboratory rotation and research area-specific courses. Students then transition to thesis research. Details of registration for the following courses is determined by the program director.

### Core Courses

Most core courses are typically taken in the first year of the program.

| Core Courses | Credits |
|---|---|
| BTN-525 Experimental Design and Disease Modeling | 2 |
| DTS-502 Advanced Cell Biology | 2 |
| DTS-503 Advanced Molecular Biology and Gene Regulation | 2 |
| DTS-506 Biomedical Ethics | 1 |
| DTS-520 Biomedical Science Journal Club: Critical Analyses and Discussions (1 credit) *Taken in fall and spring terms of the second year for a minimum of 2 credits.* | 2 |
| DTS-525 Biomedical Informatics: Genomics and Microbiome | 1 |
| DTS-546 Principles of Biostatistics I: Descriptive Methods and Introduction to Statistical Inference | 2 |
| **Subtotal** | **12** |

### Research Area-Specific Courses

For graduation, students will need to select one of the following courses.

| Research Area-Specific Courses | Credits |
|---|---|
| DTS-500 Advanced Musculoskeletal Biology | 3 |
| DTS-507 Advanced Immunology and Immune System Dynamics | 3 |
| DTS-519 Advanced Neurobiology | 3 |
| DTS-611 Advanced Cancer Biology and Therapeutic Mechanisms | 3 |
| **Subtotal** | **3** |

### Research Courses

Students may register for Pre-Thesis Research repeatedly across different laboratories in Year 1 of their studies and prior to passing the proposal for their thesis research. Thereafter, students register for Thesis Research.

| Research Courses | Credits |
|---|---|
| DTS-598 Pre-Thesis Research | 1-9 |
| DTS-599 Thesis Research | 1-9 |
| **Subtotal** | **22** |

## Integrated Biomedical Sciences: MS Program Progression

### Year 1: Classes

The goal of coursework in the first year is to expose students to the biomedical sciences in a logical progression and to provide the students with tools for approaching their future research experience. This broad-based approach to disease is the core of the Integrated Biomedical Sciences program.

### Year 1: Adviser and Research Area Selection

During the first year, students will typically have one lab rotation. The laboratory rotation will expose students to a diverse research environment and allow them to assess how they fit into a particular laboratory or mentor situation. The rotation should be undertaken with a mentor who holds a faculty appointment in Rush Medical College. Students are expected to think critically, learn techniques and be fully engaged in the mentor's lab.

Based on this rotation, students will submit the name of a potential adviser to the program director for approval. Specific research projects will be determined by the thesis adviser after adviser-student discussions. If a student cannot choose a thesis adviser based on the first laboratory rotation, a second rotation must be approved by the program director and may be taken in the spring.

### Year 2: Research Experience

Year two will be determined by the research. The student's assessment at this time is related to the following learning outcomes:

- Acquisition of research skills, collection of data and data analysis, as well as interpretation of results related to research addressing original research question.
- Capable of independent critical thinking and writing, as well as proposing, performing and effectively presenting their research.
- Working collaboratively with other scientists, physicians and health care professionals, to provide and obtain feedback concerning the approach to research problems, data analysis and implications of research.

The student is encouraged to create an individual development plan (IDP) to better define their areas of interests, skills and values and discuss this plan with the program director, adviser and thesis committee members.

### Minimal Credit Hours Required for the Integrated Biomedical Sciences MS Degree

The program is designed to be completed in five consecutive terms and requires completion of at least 37 credits. These include 12 credits of core courses, a research area-specific course for 3 credits and 22 credits of pre-thesis and thesis research.

The core curriculum focuses on developing knowledge and skills in research theories and methodology, data analysis and statistics, laboratory applications and skills, and the molecular and cellular sciences basic to health and disease. Students will each have a research project, write a thesis and give a thesis presentation at project completion.

The core curriculum, which is common to all students, builds knowledge and skills in research theories and methodology, data analysis and statistics, laboratory applications and skills, and the molecular and cellular sciences basic to health and disease. These courses will provide systematic exposure to the contemporary process of scientific discovery and will serve as the basis for the remainder of the curriculum.

### Research Adviser Selection

During the first year, the student will select and complete one laboratory rotation. Based on this rotation, the student will identify an area of interest and submit the name of a potential adviser to the program director for approval.

### Master's Thesis Research Committee

After the student selects a research adviser and begins to collect preliminary data, the student and adviser will select a thesis committee. The research adviser and committee members must hold a faculty appointment in Rush Medical College. This committee will advise the students and evaluate their proposal and thesis documents.



The committee will consist of the adviser and two additional Rush Medical College faculty members. Committee members should be familiar with either the research area or crucial technical aspects of the student's project. Committee members are a resource for the student and their adviser to enhance didactic and technical knowledge toward the completion of the student's project.

The thesis committee will strive for consensus in all its actions; however, a majority vote of the committee's membership is sufficient for all activities except the final approval of the thesis, in which case all voting members must agree with the final decision. The first committee meeting should take place within six months of its selection and approval.

The students are expected to write a thesis (format approved by the Center for Academic Excellence). They present the work in a public forum attended by the thesis committee, university faculty and students. The thesis defense includes a deliberation to assess student knowledge in area. The chair of the thesis committee shall act as the moderator of the final examination, where each committee member is afforded the opportunity to ask questions of the students. After the examination is completed, the committee will then meet with the students in a closed session to address any additional questions and to deliberate approval of the thesis.

All students will be required to submit the thesis to ProQuest to be eligible for graduation. Specific formatting guidelines are required, as set forth by the Center for Academic Excellence. All students are encouraged to formulate their original research into a scientific journal article and submit the manuscript as a publication in a peer-reviewed journal.

## Integrated Biomedical Sciences (PhD)

## Integrated Biomedical Sciences (PhD): Philosophy

Description of this program is located earlier in this catalog.

## Integrated Biomedical Sciences (PhD): Curriculum

Students must complete the following coursework to graduate: Core Courses, Pre-Dissertation Research and Research area-specific courses. Students then transition to dissertation research in the upper years of study. Details of registration for the following courses is determined by the program director.

### Core Courses

Most core courses are taken in the first year of the program.

| Core Courses | Credits |
|---|---|
| BTN-525 Experimental Design and Disease Modeling | 2 |
| DTS-502 Advanced Cell Biology | 2 |
| DTS-503 Advanced Molecular Biology and Gene Regulation | 2 |
| DTS-506 Biomedical Ethics | 1 |
| DTS-548 Bioinformatics | 1 |
| DTS-520 Biomedical Science Journal Club: Critical Analyses and Discussions (1 credit)<br>*This course is repeated in fall and spring terms for a minimum of 8 credits.* | 8 |
| DTS-525 Biomedical Informatics: Genomics and Microbiome | 1 |
| DTS-546 Principles of Biostatistics I: Descriptive Methods and Introduction to Statistical Inference | 2 |
| DTS-594 Fundamentals of Grant Writing for Scientific Research | 1 |
| DTS-595 Fundamentals of Scientific Manuscript Writing | 1 |
| **Subtotal** | **20** |

### Research Area-Specific Courses

For graduation, students will need to select two courses from this list.

| Research Area-Specific Courses | Credits |
|---|---|
| DTS-500 Advanced Musculoskeletal Biology | 3 |
| DTS-507 Advanced Immunology and Immune System Dynamics | 3 |
| DTS-519 Advanced Neurobiology | 3 |
| DTS-611 Advanced Cancer Biology and Therapeutic Mechanisms | 3 |
| DTS-620 Microbial Pathogenesis | 3 |
| **Subtotal** | **6** |

### Research Courses

| Research Courses | Credits |
|---|---|
| *Students may take Pre-Dissertation Research in three different laboratories in year 1 of their studies by registering for:* | |
| DTS-698 Pre-Dissertation Research | 1-9 |
| *After successfully passing the Qualifying Examination and entering Candidacy, students will register for Dissertation Research:* | |
| DTS-699 Dissertation Research | 1-9 |
| **Subtotal** | **54** |

## Integrated Biomedical Sciences (PhD): Dissertation Program Progression

### Year 1 Coursework, Research Experience and Comprehensive Examination

The goal of the course work in the first year is to expose the student to the biomedical sciences to enable them to design and approach a research problem from molecular, cellular and organ system perspectives. This broad-based approach to disease is the core of the Integrated Biomedical Sciences program. Students will need to complete a minimum of 9 credits of course work each semester. The courses will be a combination of core courses, pre-dissertation research and research area-specific courses.

#### Comprehensive Examination

At the end of the first year, students will sit for a comprehensive examination to test their mastery in the content of the first-year experiences. Students will also select their area of research and their research adviser.

### Year 2 Coursework, Research Experience and Candidacy Examination

Students will need to register for 9 credits each semester. The remaining coursework will be a combination of core courses and research-specific courses. Students will also start their dissertation research.

#### Candidacy Examination

The selection of a research adviser will significantly influence the student's selection of a research area of interest. The goals of the second year are to learn the relevant laboratory techniques and to develop a research proposal in conjunction with their research adviser. The research project will advance knowledge in a specific discipline and yield first-author scientific publications for the student.

The student's research proposal should include one specific aims page and six pages of research strategy following an NIH F31 grant proposal format (without the non-science proposal pages). While highly encouraged, submission of the research proposal to NIH is not required.

The student must select a five-member dissertation committee and defend the proposal in front of the committee by the end of the second year. The written proposal and its defense in front of the committee constitutes the candidacy examination. Passing the candidacy examination in front of the dissertation committee means the student is a candidate for the PhD.

If the student does not complete the candidacy examination by the end of the summer of their second year, they will be placed on probation during the fall of their third year. If the student has not taken the examination by the end of the term of probation the student will potentially face dismissal. Since the adviser shares in the responsibility to ensure student academic progress, including completion of program milestones in a timely manner, advisers of students who do not take the candidacy examination by the end of fall term of their third year will not be allowed to take a new student into their laboratory for the subsequent two years.

### Year 3-5 Research Progress, Publications and Dissertation

In the remaining time in the PhD program, students will concentrate on their research project and steadily progress toward the completion of their dissertation. For evaluation in years three through five, the student will submit written reports documenting their progress.

The research adviser and program director will also submit their assessment of student progress for each year. A meeting with the student, research adviser and program director will take place at the end of each year to discuss the student's progress.

The research adviser monitors the day-to-day progress of the student. The dissertation committee will meet at least every six months to monitor progress and to approve any changes to the proposed research project. They may meet more frequently, especially after the approval of the student's research proposal. The dissertation committee will continue to assess student progress on the aims and determine when the student has completed their dissertation. (See Dissertation Document, Presentation and Approval section below).



The advisory committee meetings will consist of an oral presentation of research progress by the doctoral student to the committee. This oral presentation will be followed by a discussion of progress. The chair of the committee shall summarize the minutes of the meeting focused on actionable items to be used as a guide for the next meeting. The document is shared with the program director, the student and members of the committee.

### Scientific Communication

The student is encouraged to attend national meetings, make presentations, posters etc. and become a part of the scientific community. Likewise, the student should be submitting research articles. The Integrated Biomedical Science PhD program requires that the research project yields at least one first-authored research manuscript submitted for publication in a scientific peer-reviewed journal. The submission for publication requirement is necessary for graduation, and in unusual circumstances submission requirement may be waived.

### Student Assessment Related to the Student Learning Outcomes

The student's assessment continues on the outcomes listed below with emphasis on the growth of research and communication skills. Likewise, it is expected that the communication outcomes will also become more centered on written communication in the form of abstracts, peer-reviewed journal articles and the dissertation as the student begins to complete the following outcome:

The graduate will be able to acquire research skills, collect and analyze data and interpret results in order to address an original research question.

A graduating student will be capable of independent critical thinking and writing as well as proposing, performing and effectively presenting their research.

### Individualized Development Plan (IDP)

The student will be able to work collaboratively with other scientists, physicians and health care professionals to give and obtain feedback concerning the approach to research problems, data analysis and implications of research.

The work environment in basic and clinical science is evolving. Students should be aware of the many different types of opportunities available in the workplace and need to prepare themselves for the opportunities and challenges that they will encounter when they graduate. In addition to the research and the coursework, the students are encouraged to create an individualized development plan (IDP) each year to define their areas of interest, skills and values.

Students will review their IDP yearly with their research mentor, program director or Division of Translational Science designee to refine their career interests and define their gaps in knowledge or skills that can be pursued in the following year. By the time of graduation, students should have used the IDP, along with mentorship and experiential or other training opportunities to refine their career path.

### Dissertation Document, Presentation and Approval

The student is expected to write a dissertation (format approved by the Center for Academic Excellence) and present the work in a public forum attended by the dissertation committee (all members are required to be in attendance), and university faculty and students are invited to attend. Immediately following the public presentation, the committee and student shall enter in a closed form to test the student knowledge and serve as the final examination for approval of dissertation and degree conferral.

The chair of the dissertation committee shall act as the moderator of the discussion, with each member given an opportunity to ask questions, except for the adviser, who shall remain as an observer in this examination. The student may be asked to make revisions before final approval of the dissertation by the committee. The student must notify the Registrar's Office of impending completion of the degree by the submission of an Intent to Graduate Form at the beginning of the final term. Prior to completion, the student should consult with the Center for Academic Excellence to ensure that the dissertation is formatted correctly.

All students will be required to submit the dissertation to ProQuest to be eligible for graduation. Specific formatting guidelines are required as set forth by the Center for Academic Excellence.

### Experiential Learning Opportunities (ELOs)

Experiential Learning Opportunities (ELOs) are part of the foundation upon which students develop knowledge and skills from direct or hands-on experiences outside of their own laboratory and didactic training.

Once a student has successfully completed their candidacy exam, they are highly encouraged to engage in ELOs, which can be in the form of teaching opportunities within the division or elsewhere within Rush, attendance of scientific conferences or network conferences.

### Minimal Credit Hours Required for the Integrated Biomedical Sciences (PhD) Degree

The PhD in Integrated Biomedical Sciences should be completed in five years and requires completion of a minimum of 80 credits distributed as follows: core courses (minimum of 20), research area-specific courses (minimum of 6) and pre-dissertation and dissertation research (minimum of 54). Students must also pass the comprehensive examination (at the end of Year 1), a qualifying (candidacy) examination (at the end of Year 2) and submit a first-authored, scientific, peer-reviewed manuscript on their research project.

The core curriculum, which is common to all students, builds knowledge and skills in research theories and methodology, data analysis and statistics, laboratory applications and skills, and the molecular and cellular sciences basic to health and disease. These courses provide systematic exposure to the contemporary process of scientific discovery and will serve as the basis for the remainder of the curriculum.

Advanced students entering with a Master of Science (MS) degree in biomedical science or a Doctor of Medicine (MD or DO) degree may have satisfied the requirement for some of the core classes based on their prior records. Therefore, some core course requirements may be waived. The requirement of core course hours can be compensated by taking extra hours of laboratory rotations or dissertation research. These students may be able to complete the degree in a shorter time period providing that they progress through the other program requirements. IBS MS students who enter the IBS PhD program will be on a separate plan of study, which requires fewer core and cognate credits based on the number required for the IBS MS program.

All students will be required to complete a minimum of 54 credits of pre-dissertation and dissertation research. Dissertation credits in the Division of Translational Science involve laboratory-based research required for completion of the dissertation and include training in various types of skills, including: developing a research proposal, learning and applying advanced methodologies and statistical data analyses, developing skills to write and submit a predoctoral training grant application, practicing presentation skills to disseminate one's own research findings in national conferences, writing a research publication, and developing and defending a dissertation project.

## Integrated Biomedical Sciences (PhD): Academic Policies

### Research Adviser Selection

During the first year, the student will select up to three laboratories (one by semester) for pre-dissertation research. Based on these experiences, the student will identify their laboratory of interest and submit the name of the adviser to the program director. The program director, in consultation with the potential adviser(s), will approve the adviser-student matches and send the information to the head of the Division of Translational Science for final approval.

Students who enter the program are committed to a particular laboratory (and funded by the research adviser's grants) can do all three lab rotations in that laboratory. Likewise, students who enter the program with a designated interest in a particular adviser, can conduct a lab rotation in that lab and if they select to match with this adviser and the selection is approved,  they can continue  the remaining of the lab rotations in that laboratory. All advisers must meet the criterion established by the Division of Translational Science policy and procedures.

## Integrated Biomedical Sciences (PhD): Research Opportunities

The research areas of interest for the Integrated Biomedical Sciences PhD program are translational cancer research; cardiovascular and respiratory biology; immunity, inflammation and infection; functions and disorders of the musculoskeletal system; and functions and disorders of the nervous system. These include qualified faculty from Rush University Medical Center who have an interest in research in these areas. They come from academic departments as well as clinical departments, which enables students to select a variety of individuals with basic and clinical expertise to serve on their advisory committees and guide them through their projects.

### Advisory Committee

By the end of the summer term of the first year the student should have selected a research adviser and begun to collect preliminary data. The research adviser is required to hold a faculty appointment at Rush Medical College, and one member should be from outside of Rush. Once a research adviser has been selected, a dissertation committee must be selected by the end of the following term. This committee advises the students and serves as the candidacy examination committee and the dissertation advisory committee.

The Division of Translational Science requires that the committee is comprised of five members. One member will be the student's research adviser. A majority of the committee (at least three members) must be faculty at Rush Medical College. The chair of this committee, who cannot be the student's research adviser, will be chosen at the first committee meeting and will preside over all subsequent meetings and arrange for the timely completion of the dissertation work.

The dissertation committee strives for consensus in all its actions. A majority vote of the committee's membership, however, is sufficient for all activities, including the final approval of the dissertation. The first committee meeting should take place within six months of its selection and approval.

### Data Defense and Dissertation

In the candidate's final year, a dissertation data defense will be presented to their dissertation committee demonstrating that satisfactory progress has been made on the project to justify development of a plan to complete all experiments and to start writing their dissertation. The data defense should be considered the final committee meeting before the Dissertation Defense.

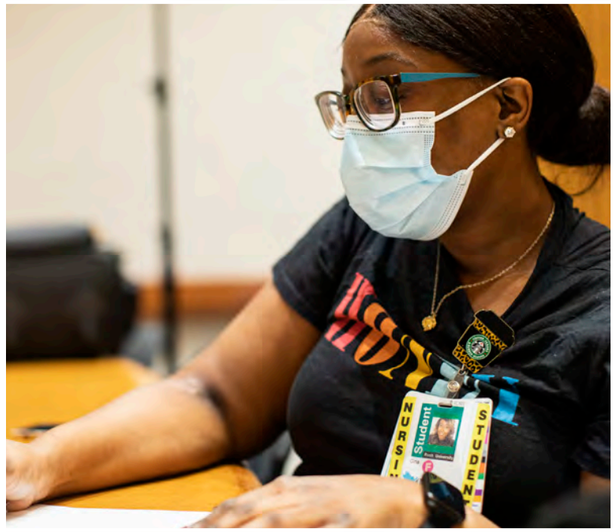
Upon completion of the data defense and writing of the dissertation, the student will provide the dissertation to their committee at least two weeks prior to their public dissertation defense. The public defense will be comprised of a public one-hour lecture attended by the dissertation committee and faculty and students at the university.

The dissertation committee then meets in closed session to examine the candidate and approve the dissertation. Typically, the meeting immediately follows the public lecture. The committee strives for a consensus, but the dissertation can be approved with a majority vote. The awarding of the PhD degree requires the demonstration of a capability for independent research and a contribution to scientific knowledge. Similar to the candidacy examination, all members of the committee must be present at the dissertation defense either in person or virtually.

Since the submission of a first-authored research manuscript to a peer-reviewed journal is required for the degree, the degree is not awarded until this requirement is met. Exception to this rule may be given in unusual circumstances.

## Integrated Biomedical Sciences (PhD): Tuition Scholarship and Stipend

Accepted doctoral students may receive a competitive university supported stipend and tuition scholarship, or could be supported by a faculty member, supported by NIH federal grants or other external sources. The stipend and tuition scholarship are renewed each year providing the student is making satisfactory progress toward the degree. Employment is not acceptable without prior Division of Translational Science approval as it interferes with the time and effort necessary to complete the program.



**Rush University**

## College of Nursing

## Welcome to the College of Nursing

We are living in unprecedented times, but nursing remains the most trusted profession in America. There has never been a better time to become a nurse or to advance your nursing career. Health care is facing significant challenges, but Rush nurses are innovating and shaping the future.

Rush faculty and alumni are pushing boundaries in practice, education, research, health policy and advocacy — and leading in all domains. Explore our website to learn about Rush's 135-year history and unique contributions to the nursing profession.

What you will find at Rush University College of Nursing is a healthy work environment, dedicated professional staff, leading-edge faculty, top-ranked graduate programs and community-engaged academic practice partnerships. Our unified approach to education, research and practice is inspired by the legendary work of our first dean, Luther Christman — an innovator and maverick in higher education. Our faculty have active clinical practices and programs of research, and students are invited to learn alongside them in the classroom, lab, clinic or on the research team.

We are a school without walls, where learning is valued and transmitted in many different modalities and venues, including residential classes, hybrid and distance-learning options. You will find us in the halls of Rush University Medical Center, at the bedside, in the boardroom, on the streets of Chicago, in communities around the state, and even in the Statehouse.

We value diversity, inclusion and the tenets of social justice in achieving equity in health care. What you will experience at Rush is a sense of belonging. Your mindset will be challenged, but you will also be supported so you can further develop your competency.

We have many highly ranked programs, but we measure our success by your impact.

Christine M. Kennedy, PhD, RN, FAAN
John L. and Helen Kellogg Dean, College of Nursing
Associate Chief Nursing Officer, Rush University Medical Center



## College of Nursing Description

Rush University College of Nursing is a private, not-for-profit graduate college of nursing. It is currently comprised of three degree programs — Master of Science in Nursing (MSN), Doctor of Nursing Practice (DNP) and Doctor of Philosophy in Nursing Science (PhD) — as well as a post-graduate certificate program. The College of Nursing faculty thoroughly prepare students to advance the quality of patient care and nursing practice in a multitude of health care environments and to be leaders focused on improving health outcomes, whether at the bedside, in a research setting or directing an organization.

The education and preparation of students to meet the health needs of a culturally diverse society is facilitated at Rush by the integration of academic, research and clinical practice components. Rush students have the advantage of attending a private university that is a vital part of a nationally recognized academic medical center. This unique integration stimulates excellence in education, practice, scholarly activities and professional leadership by the faculty and the graduates of the College of Nursing.

The master's degree program in nursing, Doctor of Nursing Practice program and post-graduate APRN certificate program at Rush University is accredited by the Commission on Collegiate Nursing Education, 655 K St. NW, Suite 750, Washington, D.C., 20001, (202) 887-6791.

### College of Nursing Mission

The mission of Rush University College of Nursing is to integrate nursing practice, scholarship and education throughout the communities we serve and to boldly lead health care transformation to ensure health equity across the continuum of care.

### College of Nursing Vision

Our vision is to lead nursing practice scholarship while driving health equity.

## College of Nursing Diversity Statement

**The best future for nursing depends on our ability to prepare a broadly diverse student body to become nurse clinicians, researchers and leaders who will improve health care outcomes for all populations.**

The preparation of a diverse nursing workforce is paramount to the delivery of effective, culturally congruent and accessible health care in an increasingly diverse nation. A broadly diverse student body promotes an enriched environment and deeper learning for all students and a more capable health care workforce. Diversity is defined broadly and includes but is not limited to race, ethnicity, gender, sexual orientation, disability, age, religion and veteran status.

Rush University College of Nursing uses a holistic admissions process where a student's experiences, attributes and academic performance all have merit in making an admissions decision. Each candidate brings a unique set of personal attributes, characteristics, culture and experiences, but all students can contribute to the creation of a diverse and inclusive learning environment. These important elements are considered in combination with how the individual will contribute value as a health professions student and future nurse.

The Rush community strives to be an intentionally inclusive setting where students will thrive in learning, cocurricular and community experiences. An inclusive environment empowers all participants to reach their highest potential, learn from one another and develop a thoughtfulness that values diverse perspectives.

## Programs

The College of Nursing offers graduate nursing education that allows the student to exit with one of the following degrees:

- Master of Science in Nursing (MSN)
- Doctor of Nursing Practice (DNP)
- Doctor of Philosophy in Nursing Science (PhD)

Postgraduate certificate programs also exist in a few advanced practice specialties. A post-Baccalaureate Nurse Educator Certificate program prepares nurses to function in a variety of teaching roles.

A set of core courses (or their equivalent) is required for every student. Advanced clinical specialty courses are required as determined by an area of advanced practice concentration. Cognate courses representing coursework from the biological, behavioral and organizational sciences may also be required by each degree.

### Admission Entry Points

Several entry points are available depending on the educational goals and academic background of the applicant:

1. Students with a baccalaureate degree in another field may apply for the Master's Entry in Nursing (MSN) Clinical Nurse Leader for Non-Nurses program: Generalist Entry Master's (GEM).
2. RNs with a baccalaureate degree and an upper-division major in nursing may apply directly for the MSN Nursing Leadership: Clinical Nurse Leader, advanced practice DNP or PhD degree options.
3. RNs with a master's degree in nursing may apply for DNP or PhD degree options.
4. RNs who already have an advanced practice graduate degree in nursing (MSN or DNP) who wish to specialize in a different clinical area may apply for a non-degree postgraduate certificate in selected specialty areas.
5. RNs with a baccalaureate or higher degree in nursing who wish to prepare for a variety of teaching roles may apply for a non-degree post-Baccalaureate certificate in nursing education.
6. Non-nurses who hold a graduate degree in a health-related field will be considered for admission to the PhD program.

### Master's Entry in Nursing (MSN) Clinical Nurse Leader for Non-Nurses: Generalist Entry Master's (GEM)

The GEM program is a full-time, on-campus, 24-month program. Applicants must have earned a bachelor's degree in another field prior to matriculation. All prerequisite coursework must be completed prior to the application deadline. Students graduate with a Master of Science in Nursing (MSN) and are prepared to take the certification examination as a Clinical Nurse Leader.

#### Direct Entry

The Direct Entry pathway creates a seamless route for Generalist Entry Masters (GEM) students to transition into a Doctor of Nursing Practice program. Interested applicants may consider the Adult Health and Gerontology Primary Care Nurse Practitioner (NP), Advanced Public Health, Family NP, Primary Care Pediatric NP or the Psychiatric-Mental Health NP program. To participate in the Direct Entry program, applicants will submit their standard GEM materials and an additional short-form application to the DNP track of their choice. The short-form application is part of the Program Materials section of the NursingCAS application.

### Master of Science in Nursing (MSN) Leadership: Clinical Nurse Leader for RNs

The MSN Clinical Nurse Leader program for RNs is a part-time, online, two-year program. The program is available to bachelor's-prepared RNs who wish to obtain a master's degree in nursing (MSN). Graduates are prepared to sit for certification as a Clinical Nurse Leader.

### Doctor of Nursing Practice (DNP)

There are currently 14 DNP tracks offered in BSN-DNP and MSN-DNP options. Some tracks are offered completely online -—some in hybrid format with a portion of coursework offered only on campus (see the College of Nursing webpage for details). The Nurse Anesthesia track is only offered on campus. Depending upon the area of specialization, most BSN-DNP options range between 64 and 89 credit hours. MSN-DNP options require a minimum of 30 credit hours of coursework.

All clinical specialty areas provide the requisite didactic and clinical coursework to sit for certification. Course requirements vary in each program track.

Some areas of focus have RN practice requirements that must be met prior to enrollment in the program. These program-specific requirements are delineated below under Program Specific Requirements.

Students are considered for admission to the DNP program in one of the following areas of focus:

#### Doctor of Nursing Practice in a Clinical Specialty

BSN or MSN-prepared students select a specific clinical specialty track upon application to the DNP program. Students may choose an area of specialization in one of the following roles and populations:

- **Nurse Practitioner:**
  - Adult-Gerontology Acute Care (AGACNP)
  - Adult-Gerontology Primary Care (AGPCNP)
  - Family (FNP)
  - Neonatal (NNP)
  - Pediatric Primary Care (PC PNP)
  - Pediatric Acute Care (ACPNP)
  - Psychiatric-Mental Health (PMHNP)
- **Clinical Nurse Specialist:**
  - Neonatal (NCNS)
  - Pediatric (PCNS)
- **Advanced Public Health Nursing (APHN)**
- **Nurse Anesthesia (CRNA)**



#### Doctor of Nursing Practice in Leadership

MSN-prepared students select a specific leadership track based on their desire to improve health outcomes in systems or populations.

- Transformative Leadership: Systems
- Transformative Leadership: Population Health

### Doctor of Philosophy in Nursing Science (PhD)

The Doctor of Philosophy in Nursing Science (PhD) program requires a minimum of 67 credit hours and can be taken as a four-year, full-time or five-year, part-time curriculum.

The PhD in Nursing Science is available to both bachelor's and master's-prepared nurses wishing to attain a PhD degree. Non-nurses who hold a graduate degree in a health-related field may also apply. We do not require specific work experience for admission to the program.

This program is online, but it also includes periodic visits to the Rush campus. The initial visit is in the first fall term, with subsequent visits for intensive learning sessions occurring every summer for the next three years.

## College Admission Requirements

All applicants applying to Rush University College of Nursing do so through a centralized application system, NursingCAS. Application materials (essay, references, transcripts, etc.) must be submitted directly to NursingCAS prior to the application deadline. Applicants will be invited to submit a supplemental application directly to the College of Nursing upon receipt of their NursingCAS application.

### Admission/Application Guidelines

All applicants will be evaluated on the following:

- A minimum of a bachelor's degree from an accredited institution.
- All calculated GPAs of 3.0 or higher (on a 4.0 scale).*
- A completed application submitted to NursingCAS.
- A brief Rush supplemental application.
- Official transcripts from all accredited institutions of higher education attended, regardless of whether a degree was earned.
- A current resume or CV.
- Substantive personal essay statement.
- RN licensure in the United States (for post-licensure MSN, DNP and certification programs).
- Three professional letters of recommendation from faculty and/or work managers.
  - MSN and DNP post-licensure applicant: A letter from your current manager, who is responsible for your evaluation, is strongly preferred. All letters should come from individuals in leadership positions who can speak to your clinical abilities (i.e., an APRN, CNS, nurse educator, medical director).
  - PhD in Nursing Science applicants: One letter must come from a PhD-prepared individual (does not have to be an RN) and all letters must speak to your scholarly and research abilities and potential.
- Please refer to the College of Nursing webpage admission guidelines for your specific program for more detailed recommender information.
- Graduate Record Examination (GRE) scores are not required
  - GRE scores are not required for the Master of Science in Nursing (MSN), Doctor of Nursing Practice (DNP), Doctor of Philosophy (PhD) and Postgraduate non-degree programs.
- TOEFL (Test of English as a Foreign Language) scores, if required.
  - TOEFL is required for applicants who are non-native speakers of English. This requirement may be waived if the applicant has completed a minimum of three years of higher education and received their baccalaureate degree in the United States.
- All foreign institutions attended require course-by-course ECE, WES or CGFNS transcript evaluation.

After an initial review of completed files, a subset of applicants is invited to interview with faculty. An interview is not required for the Nursing Education Certification.

**Cumulative GPA calculated for all applicants, prerequisite science GPA for GEM applicants only and prelicensure nursing GPA for all graduate programs except GEM.*

### Program-Specific Requirements

**Generalist Entry Master's (GEM) applicants** must have all prerequisite courses completed by the application deadline.

**Advanced Practice applicants** must have the following experience by the application deadline:

- Adult-Gerontology Acute Care: Minimum of six months of recent adult critical care or adult acute care nursing experience by the application deadline

- Adult-Gerontology Primary Care: Preference is given to applicants with recent RN experience or who will begin working as a RN at the start of the program
- Family: Preference is given to applicants with RN experience in either an inpatient or outpatient setting. There is no specific length of experience required, but it will be considered as part of the holistic admission process.
- Neonatal: Minimum of six months of recent NICU experience (level 3 or higher) by the application deadline.
- Nurse Anesthesia: A minimum of one year of recent full-time experience as a registered nurse in an intensive care unit (ICU) by the application deadline. We strongly prefer two years of recent full-time ICU experience.
- Pediatric Acute Care: A minimum of six months of recent acute care pediatric nursing experience by the application deadline.
- Pediatric Primary Care: Preference is given to applicants with RN experience in a pediatric setting or will begin working as a pediatric RN at the start of the program.
- Psychiatric-Mental Health: Preference is given to applicants working in a clinical psychiatric setting or will begin working in one at the start of the program.

All application materials are taken into consideration when evaluating an applicant.

Applicants must have earned a baccalaureate degree with a recognized upper-division major upon enrollment. The majority of credit toward the degree should be earned through university-level coursework. Students taking courses under Rush student-at-large status will neither be admitted nor allowed to matriculate as an enrolled student if their Rush GPA is below 3.0. A grade of B or better must be earned in any course taken at another institution or as a Rush student-at-large for it to be considered for transfer.

## Deadlines for Application

Current application deadlines for nursing programs may be obtained on the College of Nursing Program and Admission webpage. All application materials must be received by the indicated deadline. Applicants are encouraged to apply early in to avoid missing deadlines due to a lack of required documentation.

## Technical Standards

Rush University is committed to diversity and to attracting and educating students who will serve diverse communities locally and nationally.

Our core values — I CARE (innovation, collaboration, accountability, respect and excellence) — translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and create a respectful, accountable culture through our confidential and specialized disability support. Rush is committed to excellence in accessibility; we encourage students with disabilities to disclose and seek accommodations.

If you had sufficient education, would you be able to perform the following technical standards:

### Acquire information

- Acquire information from demonstrations and experiences in nursing courses, such as lecture, group and physical demonstrations.
- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval).
- Identify information presented in accessible images from paper, slides, videos with audio description and transparencies.
- Identify information presented in images from paper, slides, videos and transparencies.
- Recognize and assess patient changes in mood, activity and cognition, and verbal and non-verbal communication.

### Use and interpret

- Use and interpret information from assessment techniques/maneuvers, such as those involved in assessing respiratory and cardiac function, blood pressure, blood sugar, neurological status, etc.
- Use and interpret information related to physiologic phenomena generated from diagnostic tools (i.e., sphygmomanometer, otoscope, ophthalmoscope) during a comprehensive examination of a client or patient.

### Motor

- Possess psychomotor skills necessary to provide holistic nursing care and perform or assist with procedures, treatments and medication administration.
- Practice in a safe manner and appropriately provide care in emergencies and life support procedures and perform universal precautions against contamination.

### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors and all members of the health care team during practicum and other learning experiences.
- Accurately elicit information, including a medical history and other information to adequately and effectively evaluate a client or patient's condition.

### Intellectual ability

- Measure, calculate, reason, analyze and synthesize data related to patient diagnosis and treatment of patients.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the advanced generalist-nursing role.
- Synthesize information, problem-solve and think critically to judge the most appropriate theory or assessment strategy.
- Ask for help when needed and make proper judgments of when a nursing task can or cannot be carried out alone.

### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to changing environments inherent to the classroom and practice settings.

### Character

- Demonstrate concern for others, integrity, accountability, interest and motivations are necessary personal qualities.
- Demonstrate intent and desire to follow the ANA Standards of Care and Nursing Code of Ethics.

The technical standards delineated above must be met with or without accommodation. Students who, after review of the technical standards, determine that they require reasonable accommodation to fully engage in the program, should contact the Office of Student Accessibility Services to confidentially discuss their accommodations needs.

Given the clinical nature of our programs, time may be needed to create and implement the accommodations. Accommodations are never retroactive; therefore, timely requests are essential and encouraged.

To learn more about accommodations at Rush University please contact the Office of Student Accessibility Services:

Marie Lusk, MBA, MSW, LSW
Director, Office of Student Accessibility Services
Rush University
600 S. Paulina St., Suite 901
Chicago, IL 60612
(312) 942-5237
marie_lusk@rush.edu

## International Students

Students from other countries are welcome to apply. Limited financial aid is available. TOEFL is required for applicants who are non-native speakers of English. This requirement may be waived if the applicant has completed a minimum of three years of higher education and received their baccalaureate degree in the United States.

## Clinical Placement Disclaimer

The College of Nursing is dedicated to securing clinical placements that support the educational and professional development of our students. We work in collaboration with students and our clinical partners to arrange meaningful and compliant clinical experiences.

Please be advised that clinical placements are subject to change due to unforeseen circumstances, including but not limited to changes in facility availability, staffing limitations or public health concerns. In some circumstances, students may be required to travel up to 100 miles locally for their placement. Occasionally, traveling a farther distance may be required. Students are responsible for their own transportation to and from clinical placements.

These changes may occur with little notice. Students are expected to remain flexible and adaptable throughout their clinical education. The College of Nursing will make every reasonable effort to communicate changes promptly and to minimize disruption to students' learning experiences.

We appreciate your understanding and cooperation as we strive to provide high-quality clinical education in a dynamic health care environment.

# Student Progression in the College of Nursing

Student progress in the College of Nursing is reviewed and evaluated in several ways. The progressions policies established by the faculty are interpreted and applied by the student's academic adviser, the Office of the Dean and the College of Nursing Progressions Committee.

The College of Nursing reserves the right to request a leave of absence or the withdrawal of any student whose conduct, physical or mental health or performance demonstrates lack of fitness for continuance in a health profession. Should a student's behavior come into question, policies and procedures to determine the student's continuing status in the college are delineated in the College of Nursing Student Guidebook.

Since much of the work in nursing assumes that students will achieve a progressively higher level of understanding and skill, high academic performance is expected. The individual student is responsible for acquiring knowledge inside and outside of formal classroom and clinical settings.

### Academic Progressions Policy

A student must achieve an A or B grade in all required clinical nursing courses. If a student receives a C grade in a single clinical didactic course or a single clinical practicum, the student must repeat the course prior to graduation. A student may repeat only one clinical didactic or clinical practicum in a program of study. An F or N grade in any required course places the student on academic probation and may result in dismissal from the program.

A grade of F, N or a second C in a required clinical didactic or clinical practicum may result in dismissal from the program. Permission may be given to retake a course at the discretion of the Progressions Committee. If permitted, a student has only one opportunity to achieve a passing grade. An F or N grade in the repeated courses may result in dismissal.

Students in all graduate programs must maintain a cumulative 3.0 average in graduate coursework to remain in good academic standing. If a student's cumulative GPA drops below 3.0, they will be placed on academic probation. A student may enroll for no more than two consecutive terms as a probationary student. Students may be dismissed from the College of Nursing upon failing to achieve satisfactory academic standing in the required period or if the student incurs a second probationary event.

To be awarded a degree or certificate, a student must be in good academic standing at the completion of the program.

Please refer to the College of Nursing Student Guidebook for a complete review of the college academic progression policy.

## College of Nursing Committees

### Faculty Council

The Faculty Council is the senior representative and governing body for the College of Nursing faculty and operates as the Committee on Committees. The council has eight elected members: six faculty members and two student representatives. Members of this body serve three-year terms.

### Standing Committees

The Standing Committees of the College of Nursing assist with the work of the college. The faculty elect members of the committees annually to serve three-year terms. Students are also elected to represent the student body on various committees. The committees include the following:

#### Admissions and Progressions

The Admissions and Progressions Committee is responsible for the review of all applicants to the College of Nursing and maintaining the admission standards and policies for all nursing programs. This joint committee is also charged with oversight of the progression standards and policies for all nursing programs and for the progress and performance review of all students.

#### Curriculum

There is a curriculum committee for each of the College of Nursing programs: MSN, DNP and PhD. These committees are charged with overseeing the quality and integrity of their respective curricula. The committees review all new courses and/or major changes in the curriculum, establish and monitor methodology for curriculum evaluation and provide overall consistency for curriculum development.

#### Diversity and Inclusion

The mission of the Diversity and Inclusion committee is to safeguard the well-being of those within and connected to the College of Nursing by promoting, monitoring and evaluating diversity and inclusion initiatives. The Diversity and Inclusion committee endeavors to engage students, faculty and staff in a welcoming and supportive environment whereby mutual respect and cultural competence are paramount. The committee works to ensure diversity and inclusion goals of other standing committees are supported, and strategies are coordinated and aligned to meet the university and College of Nursing strategic plan's diversity and inclusion goals.

#### Evaluation

This committee evaluates the integrity and quality of the academic enterprise in the College of Nursing using the CON Systematic Evaluation Plan, ensures the College of Nursing programs are future-oriented and innovative in their approach and align with College of Nursing and university strategic plans and promotes communication across the three curriculum committees by meeting at least once per term with the three committee chairs to discuss curriculum quality issues and processes.

#### Faculty Appointments and Promotions

This committee acts upon the appointments and promotions of faculty in accordance with the Rules for Governance.

#### Faculty Development

The Faculty Development Committee performs a periodic needs assessment and establishes, implements and evaluates faculty orientation, mentoring and development programs in collaboration with the College of Nursing and university.



CERTIFICATE

# Post-Baccalaureate Non-Degree Certificate

## Nurse Educator Certificate Program

The Nurse Educator Certificate program at Rush University College of Nursing prepares nurses to function in a variety of teaching roles, either in academic or health care settings, by providing a rigorous and relevant curriculum grounded in culturally responsive pedagogy and emphasizes the importance of social determinates of health, social justice and health and education equity. These concepts will be threaded throughout the courses to heighten the students' awareness of these issues in the education of nurses.

Upon completion of this program, graduates will have the necessary theoretical background to sit for the Certified Nurse Educator (CNE) examination.*

*Note: though the program admits nurses with a BSN, only those with a graduate degree are allowed to take the Certified Nurse Educator (CNE) examination.

### Program Student Learning Outcomes

Upon completion of this certificate program, the learner will be able to:

- Apply philosophical and theoretical frameworks to design, implement and evaluate nursing curricula.
- Use best educational practices to develop evidence-based and culturally responsive pedagogies in academic or health care settings.
- Demonstrate professional and scholarly growth in the nurse educator role.

### Graduation Requirements

To earn the certificate, students must complete all five courses (12-credit hours total), including the practicum, with a cumulative GPA of 3.0 or better. Students will also complete an experiential and scholarly paper requirement (Nursing Educator Praxis) in partial fulfillment of the requirements for the certificate.

| Curriculum | | Credit Hours |
|---|---|---|
| NSG-580 | Paradigms for Teaching and Learning | 3 |
| NSG-581 | Student Learning and Evaluation | 3 |
| NSG-582 | Curriculum Design and | 3 |
| NSG-583 | Growing in the Nurse Educator Role | 2 |
| NSG-584 | Nurse Educator Role Praxis | 1 |
| | | **Total: 12** |

## Postgraduate and Postdoctoral Non-Degree Certificate

The Postgraduate Non-Degree certificate is intended for nurses who already have an advanced practice graduate degree in nursing (MSN or DNP) who wish to specialize in a different clinical area. The Postdoctoral Non-Degree Certificate is intended for nurses who already have an advanced practice Doctor of Nursing Practice (DNP) degree who wish to specialize in a different clinical area.

Students are expected to take the courses outlined in the program(s) of study provided below. In addition, it is expected that the student already has the equivalent to the Rush graduate core courses as part of their previous graduate program, as well as the specified additional courses listed for each certificate program.

If these courses or their equivalent have not been completed prior to admission, then they may be taken as part of the program of study. Review of these courses for equivalence and transfer credit will be done upon admission into the program.

### Postgraduate Advanced-Practice Certificate Options

- Acute Care Pediatric Nurse Practitioner (AC PNP)
- Neonatal Nurse Practitioner (NNP)

### Postdoctoral Advanced-Practice Certificate Option

- Adult-Gerontology Acute Care Nurse Practitioner (AGACNP)



## Post-Graduate Advanced-Practice Certificate Options

### Area of Focus: Acute Care Pediatric Nurse Practitioner (AC PNP)

### Program Student Learning Outcomes

- Function as an advanced practice nurse in a specialty area of practice.
- Analyze and monitor the quality and cost-effectiveness of clinical decisions.
- Provide culturally competent care within multidisciplinary health care systems.
- Apply ethical and legal principles to complex health care environments.
- Utilize research to provide quality health care to initiate change and improve nursing practice.
- Assume the role of advocate, educator and change agent for consumers within health care systems.
- Function as an advanced practice nurse in a specialty area of practice.

### Graduation Requirements

The following are prerequisite graduate level coursework (or equivalent) to be completed prior to, or as part of, the PGC program of study. These courses may be from an APRN graduate program from another institution or completed at Rush University. A gap analysis and individualized program of study will be completed for each matriculating student.

- Advanced pathophysiology
- Advanced pharmacology/applied pharmacology
- Advanced physiology
- Advanced health assessment/diagnostics
- Palliative care Training: ELNEC pediatric, palliative care certification or palliative care coursework to be completed prior to 557A
- Advanced primary care of the child (didactic)
- Transition to the APRN role

| Specialty Curriculum Content | | Credit Hours |
|---|---|---|
| NSG-557A | Pediatric Acute Care I | 3 |
| NSG-557B | Pediatric Acute Care II | 3 |
| | | Subtotal: 6 |
| **Specialty Practica** | | **Credit Hours** |
| NRS-541P | Specialty Practicum | 1-12<br>3 (252 Clock Hours) |
| NRS-600P | Specialty Residency | 1-7<br>3 (252 Clock Hours) |
| | | Subtotal: 6 |
| | | **Total: 12** |

### Area of Focus: Neonatal Nurse Practitioner (NNP)

#### Program Student Learning Outcomes

- Function as an advanced practice nurse in a specialty area of practice.
- Analyze and monitor the quality and cost-effectiveness of clinical decisions.
- Provide culturally competent care within multidisciplinary health care systems.
- Apply ethical and legal principles to complex health care environments.
- Utilize research to provide quality health care to initiate change and improve nursing practice.
- Assume the role of advocate, educator and change agent for consumers within health care systems.
- Function as an advanced practice nurse in a specialty area of practice.

#### Graduation Requirements

The following are prerequisite graduate-level coursework (or equivalent) to be completed prior to, or as part of, the NNP PGC program of study. These courses may be from an APRN graduate program from another institution or completed at Rush University. A gap analysis and individualized program of study will be completed for each matriculating student.

- Advanced pharmacology
- Advanced physiology
- Transition to the APRN role

| Advanced-Practice Core | | Credit Hours |
|---|---|---|
| NSG-547 | Neonatal Pathophysiology | 3 |
| NSG-548 | Advanced Neonatal Physical Assessment | 3 |
| | | Subtotal: 6 |
| **Specialty Curriculum Content** | | **Credit Hours** |
| NSG-546 | Developmental Physiology of the Fetus/Neonate | 3 |
| NSG-549 | Neonatal Pharmacotherapeutics | 3 |
| NSG-550A | Neonatal Management I | 3 |
| NSG-550B | Neonatal Management II | 3 |
| NSG-550C | Neonatal Management III | 3 |
| | | Subtotal: 15 |
| **Specialty Practica** | | **Credit Hours** |
| NRS-541P | Specialty Practicum | 1-12<br>4 (336 Clock Hours) |
| NRS-600P | Specialty Residency | 1-7<br>3 (252 Clock Hours) |
| | | Subtotal: 7 |
| | | **Total: 28** |



## Postdoctoral Advanced-Practice Certificate Option

### Area of Focus: Adult-Gerontology Acute Nurse Practitioner (AGACNP)

#### Program Student Learning Outcomes

- Function as an advanced practice nurse in a specialty area of practice.
- Analyze and monitor the quality and cost-effectiveness of clinical decisions.
- Provide culturally competent care within multidisciplinary health care systems.
- Apply ethical and legal principles to complex health care environments.
- Utilize research to provide quality health care to initiate change and improve nursing practice.
- Assume the role of advocate, educator and change agent for consumers within health care systems
- Function as an advanced practice nurse in a specialty area of practice.

#### Graduation Requirements

All plans of study are individualized to the student. Additional courses may be required based on the student's previous graduate coursework.

The following are prerequisite graduate-level coursework (or equivalent) to be completed prior to, or as part of, the PDC program of study. These courses may be from an APRN graduate program from another institution or completed at Rush University. A gap analysis and individualized program of study will be completed for each matriculating student.

- Advanced pathophysiology
- Advanced pharmacology/applied pharmacology
- Advanced health assessment across the life span
- Diagnostics for the APRN
- Transition to the APRN role
- Health promotion

| Specialty Curriculum Content | | Credit Hours |
|---|---|---|
| NSG-570A | Pharmacotherapeutics Acute Care | 3 |
| NSG-571A | Management: Adult/Gerontology I | 3 |
| NSG-571C | Management: Adult/Gerontology Acute and Critical Illness I | 4 |
| NSG-571D | Management: Adult/Gerontology: Acute and Critical Illness II | 2 |
| NSG-572 | Quality and Safety for the Aging Adult | 3 |
| | | Subtotal: 15 |
| **Specialty Practica** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>1 (84 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>5 (420 Clock Hours) |
| | | Subtotal: 6 |
| *Note: Additional practicum hours may be required by the area of concentration and/or individual student needs.* | | **Total: 21** |

DOCTOR OF NURSING PRACTICE

# Doctor of Nursing Practice (BSN to DNP)

## Area of Focus: Advanced Public Health Nursing

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians/leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and/or educational systems with diverse populations and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care
- Provide leadership in influencing policies on the financing, regulation and delivery of health care
- Lead interprofessional teams to improve patient and population health outcomes
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| Graduate Nursing Core (Transfer From Graduate Program) | | Credit Hours |
|---|---|---|
| NSG-521 | Antiracism in Organizational Leadership | 3 |
| NSG-522 | Applied Epidemiology Biostats Nursing | 3 |
| NSG-523 | Research for Evidence-Based Practice | 3 |
| | | Subtotal: 9 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-536 | Principles of Case Management for Advanced Nursing Practice | 3 |
| NSG-565 | Advanced Nursing Roles in Public Health Systems | 3 |
| NSG-566 | Population Assessment and Health Promotion Frameworks | 3 |
| NSG-567 | Population Intervention Planning, Implementation and Evaluation | 3 |
| NSG-568 | Environmental Health | 3 |
| NSG-611 | Financial and Business Concepts | 3 |
| NSG-612 | Applied Organizational Analysis and the Management of Human Resources | 3 |
| NSG-614 | The Leader and Policy, Politics, Power and Ethics | 3 |
| | Cognates<br>The following courses are approved to be used to satisfy the Cognates Credit Hours requirement: HSM-688, NSG-534, NSG-572, NSG-578, NSG-675 or NSG-679. All other courses, within or outside Rush University, must be approved to ensure they satisfy requirements. Written approval from the assistant dean of specialty education is required. | 6 |
| | | Subtotal: 30 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>7 (588 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>2 (168 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1<br>1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1<br>1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1<br>1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 65** |

**Minimum credits required:** Successful completion of the APHN BSN to DNP track requires a minimum of 65 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

# Doctor of Nursing Practice (BSN to DNP)

## Population/Role: Acute Care Pediatric Nurse Practitioner (AC PNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care
- Provide leadership in influencing policies on the financing, regulation and delivery of health care
- Lead interprofessional teams to improve patient and population health outcomes
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice

### Graduation Requirements

The DNP degree requires a minimum of 68 term hours of postbaccalaureate.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

**APRN tracks:**

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

**Special situations:**

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| Graduate Nursing Core | | Credit Hours |
|---|---|---|
| NSG-521 | Antiracism in Organizational Leadership | 3 |
| NSG-522 | Applied Epidemiology Biostats Nursing | 3 |
| NSG-523 | Research for Evidence-Based Practice | 3 |
| NSG-524 | Health Promotion in Individuals and Clinical Populations | 3 |
| | | Subtotal: 12 |
| **Advanced Practice Nursing Core** | | **Credit Hours** |
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-532 | Advanced Physiology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-535 | Diagnostics for the APRN | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 18 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Specialty Cognates** | | **Credit Hours** |
| NSG-551A | Advanced Primary Care of the Child I | 3 |
| NSG-556 | Applied Pharmacology – Pediatric | 3 |
| NSG-557A | Pediatric Acute Care I | 3 |
| NSG-557B | Pediatric Acute Care II | 3 |
| | | Subtotal: 12 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum [Acute Care Pediatric] | 1-12 6 (504 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14 3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 68** |

**Minimum credits required:** Successful completion of the AC PNP BSN to DNP track requires 68 term hours as a minimum for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

**Palliative Care Training:** ELNEC pediatric, palliative care certification or palliative care coursework to be completed prior to NSG 557A

# Doctor of Nursing Practice (BSN to DNP)

## Population/Role: Adult-Gerontology Acute Care Clinical Nurse Specialist (AGACCNS)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| Graduate Nursing Core | | Credit Hours |
|---|---|---|
| NSG-521 | Antiracism in Organizational Leadership | 3 |
| NSG-522 | Applied Epidemiology Biostats Nursing | 3 |
| NSG-523 | Research for Evidence-Based Practice | 3 |
| NSG-524 | Health Promotion in Individuals and Clinical Populations | 3 |
| | | Subtotal: 12 |
| **Advanced Practice Nursing Core** | | **Credit Hours** |
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-532 | Advanced Physiology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-535 | Diagnostics for the APRN | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 18 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-570A | Pharmacotherapeutics Acute Care | 3 |
| NSG-571A | Management: Adult/Gerontology I | 3 |
| NSG-571C | Management: Adult/Gerontology Acute and Critical Illness I | 4 |
| NSG-571D | Management: Adult/Gerontology Acute and Critical Illness II | 2 |
| NSG-572 | Quality and Safety for the Aging Adult | 3 |
| NSG-679 | Evidence-Based Teaching in Health Professions | 3 |
| | | Subtotal: 18 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>5 (420 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>4 (336 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 74** |

**Minimum credits required:** Successful completion of the AGACCNS BSN to DNP track requires a minimum of 74 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

# Doctor of Nursing Practice (BSN to DNP)

## Population/Role: Adult-Gerontology Acute Care Nurse Practitioner (AGACNP)

This area of focus is a post-master's practice doctorate that prepares graduates for systems-level leadership and improving outcomes in a variety of settings. Students considered for admission should have leadership experience.

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

**APRN tracks:**

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

**Special situations:**

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing
b. No behavioral or professional performance concerns
c. No clinical performance concerns



### Curriculum

| Graduate Nursing Core | | Credit Hours |
|---|---|---|
| NSG-521 | Antiracism in Organizational Leadership | 3 |
| NSG-522 | Applied Epidemiology Biostats Nursing | 3 |
| NSG-523 | Research for Evidence-Based Practice | 3 |
| NSG-524 | Health Promotion in Individuals and Clinical Populations | 3 |
| | | Subtotal: 12 |
| **Advanced Practice Nursing Core** | | **Credit Hours** |
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-532 | Advanced Physiology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-535 | Diagnostics for the APRN | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 18 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-570A | Pharmacotherapeutics Acute Care | 3 |
| NSG-571A | Management: Adult/Gerontology I | 3 |
| NSG-571C | Management: Adult/Gerontology Acute and Critical Illness I | 4 |
| NSG-571D | Management: Adult/Gerontology Acute and Critical Illness II | 2 |
| NSG-572 | Quality and Safety for the Aging Adult | 3 |
| | | Subtotal: 15 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>4 (336 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>5 (420 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 71** |

**Minimum credits required:** Successful ompletion of the AGACNP BSN to DNP track requires a minimum of 71 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

# Doctor of Nursing Practice (BSN to DNP)

## Population/Role: Adult-Gerontology Primary Care Nurse Practitioner (AGPCNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing
b. No behavioral or professional performance concerns
c. No clinical performance concerns



### Curriculum

| Graduate Nursing Core | | Credit Hours |
|---|---|---|
| NSG-521 | Antiracism in Organizational Leadership | 3 |
| NSG-522 | Applied Epidemiology Biostats Nursing | 3 |
| NSG-523 | Research for Evidence-Based Practice | 3 |
| NSG-524 | Health Promotion in Individuals and Clinical Populations | 3 |
| | | Subtotal: 12 |
| **Advanced Practice Nursing Core** | | **Credit Hours** |
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-532 | Advanced Physiology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-535 | Diagnostics for the APRN | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 18 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-534 | Major Psychopathological Disorders | 3 |
| NSG-570B | Pharmacotherapeutics Primary Care | 3 |
| NSG-571A | Management: Adult/Gerontology I | 3 |
| NSG-571B | Management: Adult/Gerontology II | 3 |
| NSG-572 | Quality and Safety for the Aging Adult | 3 |
| | | Subtotal: 15 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>5 (420 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>4 (336 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 71** |

**Minimum credits required:** Successful completion of the AGPCNP BSN to DNP track requires a minimum of 71 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

# Doctor of Nursing Practice (BSN to DNP)

## Population/Role: Family Nurse Practitioner (FNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing
b. No behavioral or professional performance concerns
c. No clinical performance concerns



### Curriculum

| Graduate Nursing Core | | Credit Hours |
|---|---|---|
| NSG-521 | Antiracism in Organizational Leadership | 3 |
| NSG-522 | Applied Epidemiology Biostats Nursing | 3 |
| NSG-523 | Research for Evidence-Based Practice | 3 |
| | | Subtotal: 9 |
| **Advanced Practice Nursing Core** | | **Credit Hours** |
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-532 | Advanced Physiology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-535 | Diagnostics for the APRN | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 18 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-534 | Major Psychopathological Disorders | 3 |
| NSG-566 | Population Assessment and Health Promotion Frameworks | 3 |
| NSG-569 | Maternal Child Management for the FNP | 3 |
| NSG-570B | Pharmacotherapeutics Primary Care | 3 |
| NSG-571A | Management: Adult/Gerontology I | 3 |
| NSG-571B | Management: Adult/Gerontology II | 3 |
| | | Subtotal: 18 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>6 (504 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 71** |

**Minimum credits required:** Successful completion of the FNP BSN to DNP track requires 71 term hours as a minimum for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hour may be required.

# Doctor of Nursing Practice (BSN to DNP)

## Population/Role: Neonatal Clinical Nurse Specialist (NCNS)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by the program director (e.g., major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Poplead/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| Graduate Nursing Core | | Credit Hours |
|---|---|---|
| NSG-521 | Antiracism in Organizational Leadership | 3 |
| NSG-522 | Applied Epidemiology Biostats Nursing | 3 |
| NSG-523 | Research for Evidence-Based Practice | 3 |
| NSG-524 | Health Promotion in Individuals and Clinical Populations | 3 |
| | | Subtotal: 12 |
| **Advanced Practice Nursing Core** | | **Credit Hours** |
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-535 | Diagnostics for the APRN | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-547 | Neonatal Pathophysiology | 3 |
| NSG-548 | Advanced Neonatal Physical Assessment | 3 |
| | | Subtotal: 18 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Specialty Cognates** | | **Credit Hours** |
| NSG-536 | Principles of Case Management for Advanced Nursing Practice | 3 |
| NSG-546 | Developmental Physiology of the Fetus/Neonate | 3 |
| NSG-549 | Neonatal Pharmacotherapeutics | 3 |
| NSG-550A | Neonatal Management I | 3 |
| NSG-550B | Neonatal Management II | 3 |
| NSG-550C | Neonatal Management III | 3 |
| NSG-679 | Evidence-Based Teaching in Health Professions | 3 |
| | | Subtotal: 21 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>6 (504 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 77** |

**Minimum credits required:** Successful completion of the NCNS BSN to DNP track requires a minimum of 77 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

**Palliative Care Training:** ELNEC pediatric, palliative care certification or palliative care coursework to be completed prior to 551A

# Doctor of Nursing Practice (BSN to DNP)

## Population/Role: Neonatal Nurse Practitioner (NNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 56 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

**APRN tracks:**

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

**Special situations:**

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns

### Curriculum

| Graduate Nursing Core | | Credit Hours |
|---|---|---|
| NSG-521 | Antiracism in Organizational Leadership | 3 |
| NSG-522 | Applied Epidemiology Biostats Nursing | 3 |
| NSG-523 | Research for Evidence-Based Practice | 3 |
| NSG-524 | Health Promotion in Individuals and Clinical Populations | 3 |
| | | Subtotal: 12 |
| **Advanced Practice Nursing Core** | | **Credit Hours** |
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-547 | Neonatal Pathophysiology | 3 |
| NSG-548 | Advanced Neonatal Physical Assessment | 3 |
| | | Subtotal: 15 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-546 | Developmental Physiology of the Fetus/Neonate | 3 |
| NSG-549 | Neonatal Pharmacotherapeutics | 3 |
| NSG-550A | Neonatal Management I | 3 |
| NSG-550B | Neonatal Management II | 3 |
| NSG-550C | Neonatal Management III | 3 |
| | | Subtotal: 15 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>6 (504 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 68** |

**Minimum credits required:** Successful completion of the NNP BSN to DNP track requires a minimum of 68 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

# Doctor of Nursing Practice (BSN to DNP)

## Population/Role: Nurse Anesthesia (CRNA)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| Graduate Nursing Core | | Credit Hours |
|---|---|---|
| NSG-521 | Antiracism in Organizational Leadership | 3 |
| NSG-522 | Applied Epidemiology Biostats Nursing | 3 |
| NSG-523 | Research for Evidence-Based Practice | 3 |
| NSG-524 | Health Promotion in Individuals and Clinical Populations | 3 |
| | | Subtotal: 12 |
| **Advanced Practice Nursing Core** | | **Credit Hours** |
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-532 | Advanced Physiology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 15 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| ANA-500 | Neuroscience for Basic and Clinical Applications | 3 |
| NSG-541 | Chemistry and Physics in Anesthesia | 3 |
| NSG-542 | Nurse Anesthesia Pharmacology | 3 |
| NSG-543A | Anesthesia Principles I: Basic Principles of Nurse Anesthesia | 3 |
| NSG-543B | Anesthesia Principles II: Advanced Principles of Nurse Anesthesia | 3 |
| NSG-543C | Anesthesia Principles III: Obstetric and Pediatric Anesthesia | 3 |
| | | Subtotal: 18 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>12 (1,008 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>15 (1,260 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 30 |
| | | **Total: 89** |

**Minimum credits required:** Successful completion of the CRNA BSN to DNP track requires a minimum of 89 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

# Doctor of Nursing Practice (BSN to DNP)

## Population/Role: Pediatric Clinical Nurse Specialist (PCNS)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

**APRN tracks:**

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

**Special situations:**

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| Graduate Nursing Core | | Credit Hours |
|---|---|---|
| NSG-521 | Antiracism in Organizational Leadership | 3 |
| NSG-522 | Applied Epidemiology Biostats Nursing | 3 |
| NSG-523 | Research for Evidence-Based Practice | 3 |
| NSG-524 | Health Promotion in Individuals and Clinical Populations | 3 |
| | | Subtotal: 12 |
| **Advanced Practice Nursing Core** | | **Credit Hours** |
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-532 | Advanced Physiology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-535 | Diagnostics for the APRN | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 18 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-536 | Principles of Case Management for Advanced Nursing Practice | 3 |
| NSG-551A | Advanced Primary Care of the Child I | 3 |
| NSG-556 | Applied Pharmacology – Pediatric | 3 |
| NSG-557A | Pediatric Acute Care I | 3 |
| NSG-557B | Pediatric Acute Care II | 3 |
| NSG-679 | Evidence-Based Teaching in Health Professions | 3 |
| | | Subtotal: 18 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>6 (504 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 74** |

**Minimum credits required:** Successful completion of the PCNS BSN to DNP track requires a minimum of 76 semester hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

**Palliative Care Training:** ELNEC pediatric, palliative care certification or palliative care coursework to be completed prior to 551A

# Doctor of Nursing Practice (BSN to DNP)

## Population/Role: Primary Care Nurse Practitioner (PNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

**APRN tracks:**

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

**Special situations:**

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns

### Curriculum

| Graduate Nursing Core | | Credit Hours |
|---|---|---|
| NSG-521 | Antiracism in Organizational Leadership | 3 |
| NSG-522 | Applied Epidemiology Biostats Nursing | 3 |
| NSG-523 | Research for Evidence-Based Practice | 3 |
| NSG-524 | Health Promotion in Individuals and Clinical Populations | 3 |
| | | Subtotal: 12 |
| **Advanced Practice Nursing Core** | | **Credit Hours** |
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-532 | Advanced Physiology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-535 | Diagnostics for the APRN | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 18 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-551A | Advanced Primary Care of the Child I | 3 |
| NSG-551B | Advanced Primary Care of the Child II | 3 |
| NSG-551C | Advanced Primary Care of the Child III | 3 |
| NSG-556 | Applied Pharmacology – Pediatric | 3 |
| | | Subtotal: 12 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>6 (504 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 68** |

**Minimum credits required:** Successful completion of the PNP BSN to DNP track requires a minimum of 68 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

# Doctor of Nursing Practice (BSN to DNP)

## Population/Role: Psychiatric-Mental Health Nurse Practitioner (PMHNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

**APRN tracks:**

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

**Special situations:**

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| Graduate Nursing Core | | Credit Hours |
|---|---|---|
| NSG-521 | Antiracism in Organizational Leadership | 3 |
| NSG-522 | Applied Epidemiology Biostats Nursing | 3 |
| NSG-523 | Research for Evidence-Based Practice | 3 |
| NSG-524 | Health Promotion in Individuals and Clinical Populations | 3 |
| | | Subtotal: 12 |
| **Advanced Practice Nursing Core** | | **Credit Hours** |
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 12 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-534 | Major Psychopathological Disorders | 3 |
| NSG-575 | Psychopharmacology | 3 |
| NSG-576 | Neuropathophysiology: A Life Span Approach | 3 |
| NSG-577A | Diagnostics and Management I: Psychiatric Assessment Across the Life Span | 3 |
| NSG-577B | Diagnostics and Management II: Evidence-Based Treatment | 3 |
| NSG-577C | Diagnostics and Management III: Group Therapy and Complex | 3 |
| | | Subtotal: 18 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>6 (504 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 68** |

**Minimum credits required:** Successful completion of the PMHNP BSN to DNP track requires a minimum of 68 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

# Doctor of Nursing Practice (MSN to DNP - APRN)

## Population/Role: Acute Care Pediatric Nurse Practitioner (ACPNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 29 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| DNP Core | | Credit Hours |
|---|---|---|
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Specialty Cognates** | | **Credit Hours** |
| NSG-557A | Pediatric Acute Care I | 3 |
| NSG-557B | Pediatric Acute Care II | 3 |
| | | Subtotal: 6 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum<br>[Acute Care Pediatric] | 1-12<br>3 (252 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 9 |
| | | **Total: 29** |

**Minimum credits required:** Successful completion of the ACPNP MSN to DNP track for the APRN requires a minimum of 29 semester hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

A gap analysis will be performed, and an individualized program of study will be developed based on previous graduate education completed with evidence of the following coursework:

- Advanced Health Assessment Across the Life Span/ Diagnostics for the APRN
- Advanced Physiology and Advanced Pathophysiology
- Advanced Pharmacology and Pharmacotherapeutics
- Transition to the APRN Role
- Research
- Biostatistics/Epidemiology
- Advanced Primary Care of the Child Didactic

It is expected that previous clinical hours plus DNP Specialty Practicum and Immersion hours will be equal to or greater than 1,000 clock hours.

*Evidence of current APRN certification and active practice within the past two years required.

Palliative Care Training: ELNEC pediatric, palliative care certification or palliative coursework to be completed prior to NSG 557A

# Doctor of Nursing Practice (MSN to DNP - APRN)

## Population/Role: Adult-Gerontology Acute Care Nurse Practitioner (AGACNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| DNP Core | | Credit Hours |
|---|---|---|
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-570A | Pharmacotherapeutics Acute Care | 3 |
| NSG-571A | Management: Adult/Gerontology I | 3 |
| NSG-571C | Management: Adult/Gerontology Acute and Critical Illness I | 4 |
| NSG-571D | Management: Adult/Gerontology Acute and Critical Illness II | 2 |
| NSG-572 | Quality and Safety for the Aging Adult | 3 |
| | | Subtotal: 15 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>1 (84 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>5 (420 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 9 |
| | | **Total: 38** |

**Minimum credits required:** Successful completion of the AGACNP MSN to DNP track for APRNs requires a minimum of 38 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

A gap analysis will be performed, and an individualized program of study will be developed based on previous graduate education completed with evidence of the following coursework:

- Advanced Health Assessment Across the Life Span
- Advanced Pathophysiology
- Advanced Pharmacology
- Transition to the APRN Role
- Research
- Biostatistics/Epidemiology

It is expected that previous clinical hours plus DNP Specialty Practicum and Immersion hours will be equal to or greater than 1,000 clock hours.

# Doctor of Nursing Practice (MSN to DNP - APRN)

## Population/Role: Adult-Gerontology Primary Care Nurse Practitioner (AGPCNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| DNP Core | | Credit Hours |
|---|---|---|
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-534 | Major Psychopathological Disorders | 3 |
| NSG-570B | Pharmacotherapeutics Primary Care | 3 |
| NSG-571A | Management: Adult/Gerontology I | 3 |
| NSG-571B | Management: Adult/Gerontology II | 3 |
| NSG-572 | Quality and Safety for the Aging Adult | 3 |
| | | Subtotal: 15 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>2 (168 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>4 (336 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 9 |
| | | **Total: 38** |

**Minimum credits required:** Successful completion of the AGPCNP MSN to DNP track for APRNs requires a minimum of 38 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

A gap analysis will be performed, and an individualized program of study will be developed based on previous graduate education completed with evidence of the following coursework:

- Advanced Health Assessment Across the Life Span
- Advanced Pathophysiology
- Advanced Pharmacology
- Transition to the APRN Role
- Research
- Biostatistics/Epidemiology

It is expected that previous clinical hours plus DNP Specialty Practicum and Immersion hours will be equal to or greater than 1,000 clock hours.

# Doctor of Nursing Practice (MSN to DNP - APRN)

## Population/Role: Psychiatric-Mental Health Nurse Practitioner (PMHNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| DNP Core | | Credit Hours |
|---|---|---|
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-575 | Psychopharmacology | 3 |
| NSG-576 | Neuropathophysiology: Life Span Approach | 3 |
| NSG-577A | Diagnostics and Management I: Psychiatric Assessment Across the Life Span | 3 |
| NSG-577B | Diagnostics and Management II: Evidence-Based Treatment | 3 |
| NSG-577C | Diagnostics and Management III: Group Therapy and Complex Care | 3 |
| | | Subtotal: 15 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>6 (504 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 41** |

**Minimum credits required:** Successful completion of the PMHNP MSN to DNP track for APRNs requires a minimum of 41 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

A gap analysis will be performed, and an individualized program of study will be developed based on previous graduate education completed with evidence of the following coursework:

- Advanced Health Assessment Across the Life Span
- Advanced Pathophysiology
- Advanced Pharmacology
- Transition to the APRN Role
- Research
- Biostatistics/Epidemiology

It is expected that previous clinical hours plus DNP Specialty Practicum and Immersion hours will be equal to or greater than 1,000 clock hours.

# Doctor of Nursing Practice (MSN to DNP - non-APRN)

## Population/Role: Acute Care Pediatric Nurse Practitioner (ACPNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree for non-APRN post-master's study requires a minimum of 56 term hours. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| Advanced Practice Nursing Core | | Credit Hours |
|---|---|---|
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-532 | Advanced Physiology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-535 | Diagnostics for the APRN | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 18 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Specialty Cognates** | | **Credit Hours** |
| NSG-551A | Advanced Primary Care of the Child I | 3 |
| NSG-556 | Applied Pharmacology – Pediatric | 3 |
| NSG-557A | Pediatric Acute Care I | 3 |
| NSG-557B | Pediatric Acute Care II | 3 |
| | | Subtotal: 12 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum [Acute Care Pediatric] | 1-12 6 (504 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14 3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 56** |

**Minimum credits required:** Successful completion of the AC PNP MSN to DNP track for non-APRNs requires a minimum of 56 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

The equivalent of Biostatistics/Epidemiology must be completed prior to admission or added to the plan of study.

**Palliative Care Training:** ELNEC pediatric, palliative care certification or palliative care coursework to be completed prior to NSG 557A

# Doctor of Nursing Practice (MSN to DNP - non-APRN)

## Population/Role: Adult-Gerontology Acute Care Clinical Nurse Specialist (AGACCNS)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is
On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing
b. No behavioral or professional performance concerns
c. No clinical performance concerns



### Curriculum

| Advanced Practice Nursing Core | | Credit Hours |
|---|---|---|
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-532 | Advanced Physiology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-535 | Diagnostics for the APRN | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 18 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-570A | Pharmacotherapeutics Acute Care | 3 |
| NSG-571A | Management: Adult/Gerontology I | 3 |
| NSG-571C | Management: Adult/Gerontology Acute and Critical Illness I | 4 |
| NSG-571D | Management: Adult/Gerontology Acute and Critical Illness II | 2 |
| NSG-572 | Quality and Safety for the Aging Adult | 3 |
| NSG-679 | Evidence-Based Teaching in Health Professions | 3 |
| | | Subtotal: 18 |
| **DNP Practica and Capstone** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>5 (420 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>4 (336 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 62** |

**Minimum credits required:** Successful completion of the AGACCNS MSN to DNP track for non-APRNs requires a minimum of 62 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

The equivalent of Biostatistics/Epidemiology must be completed prior to admission or added to the plan of study.

# Doctor of Nursing Practice (MSN to DNP - non-APRN)

## Population/Role: Adult-Gerontology Acute Care Nurse Practitioner (AGACNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| Advanced Practice Nursing Core | | Credit Hours |
|---|---|---|
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-532 | Advanced Physiology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-535 | Diagnostics for the APRN | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 18 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-570A | Pharmacotherapeutics Acute Care | 3 |
| NSG-571A | Management: Adult/Gerontology I | 3 |
| NSG-571C | Management: Adult/Gerontology Acute and Critical Illness I | 4 |
| NSG-571D | Management: Adult/Gerontology Acute and Critical Illness II | 2 |
| NSG-572 | Quality and Safety for the Aging Adult | 3 |
| | | Subtotal: 15 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>4 (336 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>5 (420 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 59** |

**Minimum credits required:** Successful completion of the AGACNP MSN to DNP track for non-APRNs requires a minimum of 59 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

The equivalent of Research and Biostatistics/Epidemiology must be completed prior to admission or added to the plan of study.

# Doctor of Nursing Practice (MSN to DNP - non-APRN)

## Population/Role: Adult-Gerontology Primary Care Nurse Practitioner (AGPCNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 59 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| Advanced Practice Nursing Core | | Credit Hours |
|---|---|---|
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-532 | Advanced Physiology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-535 | Diagnostics for the APRN | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 18 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-534 | Major Psychopathological Disorders | 3 |
| NSG-570B | Pharmacotherapeutics Primary Care | 3 |
| NSG-571A | Management: Adult/Gerontology I | 3 |
| NSG-571B | Management: Adult/Gerontology II | 3 |
| NSG-572 | Quality and Safety for the Aging Adult | 3 |
| | | Subtotal: 15 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>5 (420 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>4 (336 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 59** |

**Minimum credits required:** Successful completion of the AGPCNP MSN to DNP track for non-APRNs requires a minimum of 59 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

The equivalent of Research and Biostatistics/Epidemiology must be completed prior to admission or added to the plan of study.

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# Doctor of Nursing Practice (MSN to DNP - non-APRN)

## Population/Role: Primary Care Nurse Practitioner (PNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 56 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| Advanced Practice Nursing Core | | Credit Hours |
|---|---|---|
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-532 | Advanced Physiology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-535 | Diagnostics for the APRN | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 18 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-551A | Advanced Primary Care of the Child I | 3 |
| NSG-551B | Advanced Primary Care of the Child II | 3 |
| NSG-551C | Advanced Primary Care of the Child III | 3 |
| NSG-556 | Applied Pharmacology – Pediatric | 3 |
| | | Subtotal: 12 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>6 (504 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 56** |

**Minimum credits required:** Successful completion of the PNP MSN to DNP track for non-APRNs requires a minimum of 56 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

The equivalent of Research and Biostatistics/Epidemiology must be completed prior to admission or added to the plan of study.

# Doctor of Nursing Practice (MSN to DNP - non-APRN)

## Population/Role: Psychiatric-Mental Health Nurse Practitioner (PMHNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

**APRN tracks:**

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

**Special situations:**

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| Advanced Practice Nursing Core | | Credit Hours |
|---|---|---|
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 12 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-534 | Major Psychopathological Disorders | 3 |
| NSG-575 | Psychopharmacology | 3 |
| NSG-576 | Neuropathophysiology: a Life Span Approach | 3 |
| NSG-577A | Diagnostics and Management I: Psychiatric Assessment Across the Life Span | 3 |
| NSG-577B | Diagnostics and Management II: Evidence-Based Treatment | 3 |
| NSG-577C | Diagnostics and Management III: Group Therapy and Complex Care | 3 |
| | | Subtotal: 18 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>6 (504 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 56** |

**Minimum credits required:** Successful completion of the PMHNP MSN to DNP track for non-APRNs requires 56 term hours as a minimum for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

The equivalent of Biostatistics/Epidemiology must be completed prior to admission or added to the plan of study.

# Doctor of Nursing Practice (MSN to DNP - non-APRN)

## Area of Focus: Advanced Public Health Nursing

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns



### Curriculum

| Graduate Nursing Core (Transfer From Graduate Program) | | Credit Hours |
|---|---|---|
| NSG-523 | Research for Evidence Based Practice | 3 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-536 | Principles of Case Management for Advanced Nursing Practice | 3 |
| NSG-565 | Advanced Nursing Roles in Public Health Systems | 3 |
| NSG-566 | Population Assessment and Heath Promotion Frameworks | 3 |
| NSG-567 | Population Intervention Planning, Implementation and Evaluation | 3 |
| NSG-568 | Environmental Health | 3 |
| NSG-611 | Financial and Business Concepts | 3 |
| NSG-612 | Applied Organizational Analysis and the Management of Human Resources | 3 |
| NSG-614 | The Leader and Policy, Politics, Power And Ethics | 3 |
| | | Subtotal: 24 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>7 (588 Clock Hours) |
| NSG-607 | DNP/Specialty Immersion Residency | 1-14<br>2 (268 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 53** |

**Minimum credits required:** Successful completion of the APHN MSN to DNP track for non-APRNs requires a minimum of 53 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

The equivalent of Biostatistics/Epidemiology must be completed prior to admission or added to the plan of study.

# Doctor of Nursing Practice (MSN to DNP)

## Area of Focus: Transformative Leadership: Population Health

This area of focus is on the development of population-based knowledge and skills to enhance clinical health outcomes for patient aggregates, communities, and populations. Students with an MSN in a primary care specialty will be considered for admission to the Transformative Leadership: Population Health option.

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

**APRN tracks:**

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

**Special situations:**

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing
b. No behavioral or professional performance concerns
c. No clinical performance concerns



### Curriculum

All students must take a graduate-level evidence-based practice research course. If this course has not been taken prior to the start of the program, NSG-523 will be added to your plan of study.

| Graduate Nursing Core | | Credit Hours |
|---|---|---|
| NSG-522 | Applied Epidemiology Biostats Nursing | 3 |
| | | Subtotal: 3 |
| **DNP Core** | | |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-565 | Advanced Nursing Roles in Public Health Systems | 3 |
| NSG-566 | Population Assessment and Health Promotion Frameworks | 3 |
| NSG-567 | Population Intervention Planning, Implementation and Evaluation | 3 |
| NSG-611 | Financial and Business Concepts | 3 |
| NSG-614 | The Leader and Policy, Politics, Power and Ethics | 3 |
| | | Subtotal: 15 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>3 (252 Clock Hours) |
| NSG-607 | DNP/Specialty Immersion Residency | 1-14<br>2 (168 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 8 |
| | | **Total: 40** |

**Minimum credits required:** Successful completion of the Transformative Leadership: Population Health MSN to DNP track requires a minimum of 40 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

It is expected that previous clinical hours plus DNP Specialty Practicum and Immersion hours will be equal to or greater than 1,000 clock hours.

# Doctor of Nursing Practice (MSN to DNP)

## Area of Focus: Transformative Leadership: Systems

This area of focus is a post-master's practice doctorate that prepares graduates for systems-level leadership and improving outcomes in a variety of settings. Students considered for admission should have potential or demonstrated leadership ability.

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

**APRN tracks:**

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

**Special situations:**

On a case-by-case basis where the clinical practicum is
On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing
b. No behavioral or professional performance concerns
c. No clinical performance concerns



### Curriculum

| DNP Core | | Credit Hours |
|---|---|---|
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-611 | Financial and Business Concepts | 3 |
| NSG-612 | Applied Organizational Analysis and Management of Human Resources | 3 |
| NSG-613 | Data and Decision Making for Strategic Outcomes Management | 3 |
| NSG-614 | The Leader and Policy, Politics, Power and Ethics | 3 |
| NSG-616 | Advanced Nurse Leadership | 3 |
| | | Subtotal: 15 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum [Systems] | 1-12<br>1 (84 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>2 (168 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 6 |
| | | **Total: 35** |

**Minimum credits required:** Successful completion of the Systems MSN to DNP track requires a minimum of 35 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

It is expected that previous clinical hours plus DNP Specialty Practicum and Immersion hours will be equal to or greater than 1,000 clock hours.

# Doctor of Nursing Practice (MSN to DNP)

## Population/Role: Family Nurse Practitioner (FNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

**APRN tracks:**

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

**Special situations:**

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns

### Curriculum

| Advanced Practice Nursing Core | | Credit Hours |
|---|---|---|
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-532 | Advanced Physiology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-535 | Diagnostics for the APRN | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 18 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-534 | Major Psychopathological Disorders | 3 |
| NSG-566 | Population Assessment and Health Promotion Frameworks | 3 |
| NSG-569 | Maternal Child Management for the FNP | 3 |
| NSG-570B | Pharmacotherapeutics Primary Care | 3 |
| NSG-571A | Management: Adult/Gerontology I | 3 |
| NSG-571B | Management: Adult/Gerontology II | 3 |
| | | Subtotal: 18 |
| **DNP Practica and Capstone** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>6 (504 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 62** |

**Minimum credits required:** Successful completion of the FNP MSN to DNP track requires 62 term hours as a minimum for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hour may be required.

The equivalent of Research and Biostatistics/Epidemiology must be completed prior to admission or added to the plan of study.

# Doctor of Nursing Practice (MSN to DNP)

## Population/Role: Neonatal Clinical Nurse Specialist (NCNS)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

**APRN tracks:**

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

**Special situations:**

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing
b. No behavioral or professional performance concerns
c. No clinical performance concerns



### Curriculum

| Advanced Practice Nursing Core | | Credit Hours |
|---|---|---|
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-535 | Diagnostics for the APRN | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-547 | Neonatal Pathophysiology | 3 |
| NSG-548 | Advanced Neonatal Physical Assessment | 3 |
| | | Subtotal: 18 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-536 | Principles of Case Management for Advanced Nursing Practice | 3 |
| NSG-546 | Developmental Physiology of the Fetus/Neonate | 3 |
| NSG-549 | Neonatal Pharmacotherapeutics | 3 |
| NSG-550A | Neonatal Management I | 3 |
| NSG-550B | Neonatal Management II | 3 |
| NSG-550C | Neonatal Management III | 3 |
| NSG-679 | Evidence-Based Teaching in Health Professions | 3 |
| | | Subtotal: 21 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>6 (504 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 65** |

**Minimum credits required:** Successful completion of the NCNS MSN to DNP track requires a minimum of 65 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

The equivalent of Research and Biostatistics/Epidemiology must be completed prior to admission or added to the plan of study.

**Palliative Care Training:** ELNEC pediatric, palliative care certification or palliative care coursework to be completed prior to 551A

# Doctor of Nursing Practice (MSN to DNP)

## Population/Role: Neonatal Nurse Practitioner (NNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns

### Curriculum

| Advanced Practice Nursing Core | | Credit Hours |
|---|---|---|
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-547 | Neonatal Pathophysiology | 3 |
| NSG-548 | Advanced Neonatal Physical Assessment | 3 |
| | | Subtotal: 15 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-546 | Developmental Physiology of the Fetus/Neonate | 3 |
| NSG-549 | Neonatal Pharmacotherapeutics | 3 |
| NSG-550A | Neonatal Management I | 3 |
| NSG-550B | Neonatal Management II | 3 |
| NSG-550C | Neonatal Management III | 3 |
| | | Subtotal: 15 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>6 (504 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 56** |

**Minimum credits required:** Successful completion of the NNP MSN to DNP track requires a minimum of 56 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

The equivalent of Research and Biostatistics/Epidemiology must be completed prior to admission or added to the plan of study.

# Doctor of Nursing Practice (MSN to DNP)

## Population/Role: Nurse Anesthesia (CRNA)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing

b. No behavioral or professional performance concerns

c. No clinical performance concerns

### Curriculum

| Advanced Practice Nursing Core | | Credit Hours |
|---|---|---|
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-532 | Advanced Physiology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 15 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| ANA-500 | Neuroscience for Basic and Clinical Applications | 3 |
| NSG-541 | Chemistry and Physics in Anesthesia | 3 |
| NSG-542 | NRS Anesthesia Pharmacology | 3 |
| NSG-543A | Anesthesia Principles I: Basic Principles of Nurse Anesthesia | 3 |
| NSG-543B | Anesthesia Principles II: Advanced Principles of Nurse Anesthesia | 3 |
| NSG-543C | Anesthesia Principles III: Obstetric and Pediatric Anesthesia | 3 |
| | | Subtotal: 18 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>12 (1,008 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>15 (1,260 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 30 |
| | | **Total: 77** |

**Minimum credits required:** Successful completion of the CRNA MSN to DNP track requires a minimum of 77 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

The equivalent of Research and Biostatistics/Epidemiology must be completed prior to admission or added to the plan of study.

# Doctor of Nursing Practice (MSN to DNP)

## Population/Role: Pediatric Clinical Nurse Specialist (PCNS)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 62 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

**Special situations:**

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing
b. No behavioral or professional performance concerns
c. No clinical performance concerns



### Curriculum

| Advanced Practice Nursing Core | | Credit Hours |
|---|---|---|
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-532 | Advanced Physiology | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| NSG-535 | Diagnostics for the APRN | 3 |
| NSG-537 | Transition to the APRN Role | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 18 |
| **DNP Core** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-536 | Principles of Case Management | 3 |
| NSG-551A | Advanced Primary Care of the Child I | 3 |
| NSG-556 | Applied Pharmacology – Pediatric | 3 |
| NSG-557A | Pediatric Acute Care I | 3 |
| NSG-557B | Pediatric Acute Care II | 3 |
| NSG-679 | Evidence-Based Teaching in Health Professions | 3 |
| | | Subtotal: 18 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>6 (504 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 62** |

**Minimum credits required:** Successful completion of the PCNS MSN to DNP track requires a minimum of 62 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

The equivalent of Research and Biostatistics/Epidemiology must be completed prior to admission or added to the plan of study.

**Palliative Care Training:** ELNEC pediatric, palliative care certification or palliative care coursework to be completed prior to 551A

# Doctor of Nursing Practice (MSN to DNP)

## Population/Role: Pediatric Nurse Practitioner (PNP)

### Program Student Learning Outcomes

The DNP degree is designed to prepare graduates to function as highly developed clinicians and leaders in advanced nursing practice or systems of care. Graduates are prepared to practice in a variety of complex clinical, organizational and educational systems with diverse populations, and can affect changes in health care outcomes through evidence-based decision-making and system redesign.

- Integrate science-based theories and data-based concepts to develop, critically appraise and implement practice approaches that improve health care and health care systems.
- Apply organizational theories and systems thinking to improve the quality, cost-effectiveness and safety outcomes of practice decisions and initiatives.
- Apply effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization and research.
- Apply knowledge of informatics to monitor and improve outcomes, programs and systems of care.
- Provide leadership in influencing policies on the financing, regulation and delivery of health care.
- Lead interprofessional teams to improve patient and population health outcomes.
- Function independently in an advanced nursing role to improve health outcomes in a specialty area of practice.

### Graduation Requirements

The DNP degree requires a minimum of 32 term hours of post-baccalaureate or 30 term hours of post-master's study. All Doctor of Nursing Practice students must complete degree requirements within five years.

### DNP Curricular Sequencing Guidelines

Graduate core courses should be taken early in the plan of study. Notes: NSG 522 Applied Epidemiology Biostats Nursing should be taken before/concurrently with NSG 523 Research for Evidence Based Practice. Research for Evidence Based Practice is currently listed as a prerequisite for NSG 521 Antiracism in Organizational Leadership.

#### APRN tracks:

- NSG 532 Advanced Physiology and 533 Advanced Pathophysiology are key foundational scientific courses that should be completed early in coursework before clinical practicum. Note: Both courses are currently listed as prerequisites for NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice and NSG 535 Diagnostics for the APRN.
- Key clinical practicum preparation courses should be completed prior to students beginning clinical practicum. This includes NSG 625/625L Advanced Health Assessment for Advanced Nursing Practice, NSG 535 Diagnostics for the APRN, NSG 531 Advanced/Applied Pharmacotherapy course (track specific) and other track specific courses as specified by program director (e.g. major psychopathological disorders, etc.).
- Direct care clinical practicum should be taken concurrently with clinical management courses. Some program tracks offset didactic from clinical practicum by one semester, so foundational management content is received before clinical practicum begins.

Ideally, Transition to the APRN role (NSG 537) should be taken later in the plan of study as a transition to practice course. However, it does not have a prerequisite and can technically be taken at any time during the plan of study.

Leadership in Evolving Health Care Environments (NSG 600) and Health Care Economics, Policy and Finance (NSG 602) should be completed before/concurrently with (NSG 609C).

Theory courses to guide DNP project work include NSG 608/610/565/566/567. NSG 610 should precede 609A, and 608 should precede/concurrent with 615 such that students have the necessary theory content to complete their project proposal. For Population Health/APHN DNP Tracks, NSG 606 should be taken concurrently with 565/566/567 and should be completed prior to taking 607.

#### Special situations:

On a case-by-case basis where the clinical practicum is delayed, students may continue in their didactic management courses at the discretion of the student's adviser and program director. If the delay is greater than one semester, the situation should be discussed with DNP program leadership, and additional coursework may be required. Documentation should be noted in an academic success form.

a. Good academic standing
b. No behavioral or professional performance concerns
c. No clinical performance concerns



### Curriculum

| DNP Core | | Credit Hours |
|---|---|---|
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| NSG-608 | Program Evaluation | 3 |
| NSG-610 | DNP Project Planning and Implementation | 3 |
| NSG-615 | DNP Project Proposal Seminar | 2 |
| | | Subtotal: 14 |
| **Population/Role Cognates** | | **Credit Hours** |
| NSG-551A | Advanced Primary Care of the Child I | 3 |
| NSG-551B | Advanced Primary Care of the Child II | 3 |
| NSG-551C | Advanced Primary Care of the Child III | 3 |
| NSG-556 | Applied Pharmacology – Pediatric | 3 |
| | | Subtotal: 12 |
| **DNP Practica and Project** | | **Credit Hours** |
| NSG-606 | DNP Specialty Practicum | 1-12<br>6 (504 Clock Hours) |
| NSG-607 | DNP Immersion Residency | 1-14<br>3 (252 Clock Hours) |
| NSG-609A | DNP Project Practicum A | 1 (84 Clock Hours) |
| NSG-609B | DNP Project Practicum B | 1 (84 Clock Hours) |
| NSG-609C | DNP Project Practicum C | 1 (84 Clock Hours) |
| | | Subtotal: 12 |
| | | **Total: 38** |

**Minimum credits required:** Successful completion of the PNP MSN to DNP track for APRNs requires a minimum of 38 term hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

A gap analysis will be performed, and an individualized program of study will be developed based on previous graduate education completed with evidence of the following coursework:

- Advanced Health Assessment Across the Life Span/ Diagnostics for the APRN
- Pathophysiology Across the Life Span
- Advanced Pharmacology and Pharmacotherapeutics
- Transition to the APRN Role
- Research
- Biostatistics/Epidemiology

*It is expected that previous clinical hours plus DNP Specialty Practicum and Immersion hours will be equal to or greater than 1,000 clock hours.*

*Evidence of current APRN certification and active practice within the past two years required.*

DOCTOR OF PHILOSOPHY

# Nursing Science, PhD

The Doctor of Philosophy in Nursing Science (PhD) program is a minimum of 67 credit hours and can be taken as a full-time or part-time curriculum.

Students may enter the PhD program with a BSN or a master's degree in nursing or another health-related field. Non-nurses with a graduate degree in a health-related field may also apply for admission to the PhD program.

## Program Student Learning Outcomes

Graduates of the PhD program develop the skills of a clinical researcher. These skills are based on the integration of knowledge from biological, behavioral and clinical sciences. Their clinical research skills contribute to the scientific basis of care provided to individuals across the life span and in any setting where care is provided. Graduates also have leadership skills necessary to serve as senior academicians and influence health care systems and policy.

- Generate knowledge to contribute to nursing science and inform health policy.
- Integrate knowledge of diversity, equity, and inclusion into the design, conduct, and relevance of research.
- Collaborate with multidisciplinary teams in the design and conduct of research.
- Disseminate research findings to diverse communities and health care settings.
- Use relevant informatics and emerging technologies that contributes to nursing science.
- Conduct ethical and responsible research.
- Assume the role of scholar and scientist.

## Graduation Requirements

Divisional graduation requirements require completion of the approved individual program of study. For MSN to PhD students, coursework for the PhD must be the equivalent of at least 52 term hours of graduate credit in addition to the completed dissertation. BSN to PhD students must complete at least 63 term hours of graduate credit in addition to the dissertation. Students have a maximum of eight years to complete degree requirements.

## Academic Program Curricula

### Doctor of Philosophy (PhD)

### Nursing Science

| Philosophy of Science and Nursing Theory | | Credit Hours |
|---|---|---|
| NSG-680 | Understanding Scientific Paradigms | 3 |
| NSG-681 | Understanding Theoretical Framework Development | 3 |
| | | Subtotal: 6 |
| **Statistics** | | **Credit Hours** |
| NSG-684 | Intermediate Statistics | 3 |
| NSG-685 | Multivariate Statistics | 3 |
| | | Subtotal: 6 |
| **Research Methods** | | **Credit Hours** |
| NSG-675 | Literature Synthesis Approach | 3 |
| NSG-686 | The Research Process: Quantitative Design and Methods Part I | 3 |
| NSG-687 | The Research Process: Quantitative Design and Methods Part II | 3 |
| NSG-688 | The Research Process: Qualitative Design and Methods | 3 |
| NSG-697 | Dissertation Seminar | 2 |
| NSG-698 | Dissertation Proposal Development | 2 |
| | | Subtotal: 16 |
| **Research Ethics** | | **Credit Hours** |
| NSG-683 | Ethical Conduct in Research Setting | 3 |
| | | Subtotal: 3 |
| **Role Courses** | | **Credit Hours** |
| NSG-600 | Leadership in Evolving Health Care Environments | 3 |
| NSG-614 | The Leader and Policy, Politics, Power and Ethics | 3 |
| NSG-679 | Evidence-Based Teaching in Health Professions | 3 |
| NSG-690 | Grant Writing | 3 |
| NSG-676 | Research | 1 |
| NSG-692 | Teaching Practicum | 2 |
| NSG-693 | Research Practicum | 2 |
| | | Subtotal: 18 |
| **Cognate Courses** | | **Credit Hours** |
| | | Subtotal: 6 |
| **Dissertation** | | **Credit Hours** |
| NSG-699 | Dissertation Research<br>Minimum Total: 12 (Minimum 2 credit hours and maximum 4 credit hours per term) | 2-4 |
| | | Subtotal: 12 |
| **Bridge Coursework** | | **Credit Hours** |
| (Individual for each student; only for BSN-PhD students) | | |
| | | Subtotal: 8 |
| | | **Total: 75 (for BSN-PhD); 67 (for MSN-PhD)** |

# Master of Science in Nursing (MSN) Nursing Leadership Program: Clinical Nurse Leader (CNL) for RNs

The master's prepared clinical nurse leader (CNL) is responsible for clinical management of comprehensive client care, for individuals and clinical populations across the continuum of care and in multiple settings. The CNL assumes leadership and accountability for health outcomes for a specific group of clients within a unit or setting through the assimilation and application of research-based information to design, implement and evaluate plans of care.

The clinical nurse leader is also responsible for the coordination and planning of health care team activities and functions. Health promotion, risk reduction and improvement in point-of-care outcomes are critical elements in the role of the clinical nurse leader.

Applicants to the post-licensure Clinical Nurse Leader (CNL) program must have earned a baccalaureate degree in nursing from an accredited university. The program is six terms in length and offered as a part-time program of study. The majority of the CNL program is offered online, but students are required to come to campus for NSG-625L Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab. This is a course that requires students to be on-campus two days (dates available at time of registration). There is a clinical residency requirement that may be completed at the student's place of employment.

All MSN students are expected to complete their degree requirements in no more than five years.

## Program Student Learning Outcomes

Both the prelicensure and post-licensure MSN programs comprehensively prepare students to be graduate nurse clinicians with a focus in clinical leadership.

To achieve quality patient (client/population/cohort of clients) outcomes, the Clinical Nurse Leader will meet the following objectives:

- Use communication techniques that reflect an understanding of the dignity and respect afforded to all persons.
- Deliver competent, holistic, and contextually appropriate patient-family-population-centered nursing care.
- Synthesize the knowledge of nursing science, social science and humanities in the promotion of health, prevention of disease, and delivery of care across diverse populations and health care environments.
- Demonstrate the ability to work with interdisciplinary teams to optimize nursing care delivery.
- Demonstrate leadership behaviors within and across systems at all levels of prevention.
- Recognize the impact of the micro and macro system environments on health care delivery.
- Demonstrate professional values in nursing practice.

## Graduation Requirements

**MSN for RNs: Clinical Nurse Leader (CNL)** requires a minimum of 37 credit hours and 500 clock hours of clinical instruction. Graduates are eligible to sit for CNL certification.



## Academic Program Curricula (Summer/Fall Admission)

### Master of Science in Nursing (MSN)

### Area of Focus: Clinical Nurse Leader (CNL)-Part Time

| Term 1 | | Credit Hours |
|---|---|---|
| NSG-522 | Applied Epidemiology Biostats Nursing | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| | | Subtotal: 6 |
| **Term 2** | | **Credit Hours** |
| NSG-524 | Health Promotion in Individuals and Clinical Populations | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| | | Subtotal: 6 |
| **Term 3** | | **Credit Hours** |
| NSG-531 | Advanced Pharmacology | 3 |
| NSG-523 | Research for Evidence-Based Practice | 3 |
| | | Subtotal: 6 |
| **Term 4** | | **Credit Hours** |
| NSG-521 | Antiracism in Organizational Leadership | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L* | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 6 |
| **Term 5** | | **Credit Hours** |
| NSG-517 | Immersion: CNL Role Practicum | 5 |
| NSG-519 | Clinical Leadership and Project Development for Post-Licensure Students | 3 |
| | | Subtotal: 8 |
| **Term 6** | | **Credit Hours** |
| NSG-515 | Clinical Project Implementation | 5 |
| | | Subtotal: 5 |
| | | **Total: 37** |

** This course requires students to attend two live, on-campus days of lab. Dates for the on-campus days will be provided at registration time.*

## Program Student Learning Outcomes

Both the prelicensure and post-licensure MSN programs comprehensively prepare students to be graduate nurse clinicians with a focus in clinical leadership.

To achieve quality patient (client/population/cohort of clients) outcomes, the Clinical Nurse Leader will meet the following objectives:

- Use communication techniques that reflect an understanding of the dignity and respect afforded to all persons.
- Deliver competent, holistic, and contextually appropriate patient-family-population-centered nursing care.
- Synthesize the knowledge of nursing science, social science and humanities in the promotion of health, prevention of disease, and delivery of care across diverse populations and health care environments.
- Demonstrate the ability to work with interdisciplinary teams to optimize nursing care delivery.
- Demonstrate leadership behaviors within and across systems at all levels of prevention.
- Recognize the impact of the micro and macro system environments on health care delivery.
- Demonstrate professional values in nursing practice.

## Graduation Requirements

**MSN for RNs: Clinical Nurse Leader (CNL)** requires a minimum of 37 credit hours and 500 clock hours of clinical instruction. Graduates are eligible to sit for CNL certification.

## Academic Program Curricula (Spring Admission)

### Master of Science in Nursing (MSN)

### Area of Focus: Clinical Nurse Leader (CNL)-Part Time

| Term 1 | | Credit Hours |
|---|---|---|
| NSG-522 | Applied Epidemiology Biostats Nursing | 3 |
| NSG-602 | Health Care Economics, Policy and Finance | 3 |
| | | Subtotal: 6 |
| **Term 2** | | **Credit Hours** |
| NSG-524 | Health Promotion in Individuals and Clinical Populations | 3 |
| NSG-533 | Advanced Pathophysiology | 3 |
| | | Subtotal: 6 |
| **Term 3** | | **Credit Hours** |
| NSG-523 | Research for Evidence-Based Practice | 3 |
| NSG-625 | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span | 2 |
| NSG-625L* | Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab | 1 |
| | | Subtotal: 6 |
| **Term 4** | | **Credit Hours** |
| NSG-521 | Antiracism in Organizational Leadership | 3 |
| NSG-531 | Advanced Pharmacology | 3 |
| | | Subtotal: 6 |
| **Term 5** | | **Credit Hours** |
| NSG-517 | Immersion: CNL Role Practicum | 5 |
| NSG-519 | Clinical Leadership and Project Development for Post-Licensure Students | 3 |
| | | Subtotal: 8 |
| **Term 6** | | **Credit Hours** |
| NSG-515 | Clin Project Implementation | 5 |
| | | Subtotal: 5 |
| | | **Total: 37** |

** This course requires students to attend two live, on-campus days of lab. Dates for the on-campus days will be provided at registration time.*

# Master's Entry in Nursing (MSN) for Non-Nurses: Clinical Nurse Leader

The MSN Clinical Nurse Leader program, designed for Generalist Entry Master's (GEM) students, comprehensively prepares students in a two-year full-time graduate curriculum to be a registered nurse (RN) clinician with a focus in clinical leadership. Graduates are prepared to function at a high level in inpatient, outpatient, and community settings.

The GEM program gives the student a broad overview of all the major specialties in which nurses work, as well as a variety of settings across the health care continuum. In the GEM program, students take core graduate courses that are applicable in their progression to doctoral education in either a Doctor of Nursing Practice (DNP) specialty or the Doctor of Philosophy in Nursing Science (PhD) program.

Students are considered for admission to the GEM program after completing baccalaureate education at another accredited college or university. The GEM curriculum consists of 74 term hours of graduate coursework in nursing and related sciences. Students are eligible to take the NCLEX for RN licensure and Clinical Nurse Leader certification examination upon graduation. GEM students are expected to complete the MSN requirements on a full-time basis in six terms.

## Program Student Learning Outcomes

- Use communication techniques that reflect an understanding of the dignity and respect afforded to all persons.
- Deliver competent, holistic, and contextually appropriate patient-family-population-centered nursing care.
- Synthesize the knowledge of nursing science, social science and humanities in the promotion of health, prevention of disease, and delivery of care across diverse populations and health care environments.
- Demonstrate the ability to work with interdisciplinary teams to optimize nursing care delivery.
- Demonstrate leadership behaviors within and across systems at all levels of prevention.
- Recognize the impact of the micro and macro system environments on health care delivery.
- Demonstrate professional values in nursing practice.

## Master of Science in Nursing

### Required Prerequisite Courses

As a profession and a discipline, nursing promotes and protects human health and well-being and is grounded in a strong, liberal arts, undergraduate education that includes the arts and humanities, as well as the behavioral, social and physical sciences. Recognizing that different undergraduate majors have varying requirements, evaluation of applicants will be based both on their success in meeting the requirements of their undergraduate programs and on the breadth and depth of their educational preparation for entry into nursing.

Nursing practice and scholarship have great application in our society, ranging from the acute care of individuals to the management and promotion of the health of whole communities and even nations. The College of Nursing welcomes and is enriched by applicants from a spectrum of disciplines and professions.

All required prerequisite courses listed below must be successfully completed with a grade of C or better by the application deadline for which the student is applying. We recommend but do not require that you complete a laboratory component for each of these courses:

- General chemistry I*
- Human Anatomy**
- Human Physiology**
- Microbiology

*We do not accept Introductory Chemistry, Basic Chemistry, Fundamentals of Chemistry or Foundations of Chemistry. Only one term of General Chemistry is required.

**Anatomy and Physiology may be taken as two separate courses or as Anatomy and Physiology I and Anatomy and Physiology II. We strongly discourage applicants from taking Anatomy and Physiology online unless offered through a traditional community college or university. We recommend but do not require that applicants completed a Human Anatomy and Physiology course within the last three years.

## Graduation Requirements

**Direct Entry Master's (MSN) for Non-Nurses: Generalist Entry Master's (GEM) Clinical Nurse Leader (CNL) Program** requires a minimum of 74 term hours of didactic and 1,220 clock hours of clinical instruction. Candidates are given a comprehensive examination in the final term of the program in preparation for the National Council Licensure Examination for Registered Nurses or NCLEX. Graduates are eligible to sit for the NCLEX and the CNL certification exam.



## Academic Program Curricula

### Master's of Nursing Science (MSN)

### Area of Focus: Generalist Entry Master's (GEM)

| Term 1 | | Credit Hours |
|---|---|---|
| NSG-500 | Socialization Into Nursing Seminar | 1 |
| NSG-501 | Role of the Professional Nurse | 3 |
| NSG-501P | Role of the Professional Nurse Practicum | 3 |
| NSG-510 | Pathophysiology | 3 |
| NSG-525 | Health Assessment Across the Life Span | 2 |
| NSG-525L | Health Assessment Across the Life Span Lab | 1 |
| | | Subtotal: 13 |
| **Term 2** | | **Credit Hours** |
| NSG-502 | Nursing Management of Common Health Alterations Across the Life Span | 3 |
| NSG-502P | Nursing Management of Common Health Alterations Across the Life Span Practicum | 3 |
| NSG-511 | Pharmacology | 3 |
| NSG-522 | Applied Epidemiology Biostats Nursing | 3* |
| | | Subtotal: 12 |
| **Term 3** | | **Credit Hours** |
| NSG-503 | Psychiatric and Mental Health Nursing | 3 |
| NSG-503P | Psychiatric and Mental Health Nursing Practicum | 3 |
| NSG-518 | Palliative Care for Nursing | 2* |
| NSG-523 | Research for Evidence-Based Practice | 3* |
| NSG-524 | Health Promotion in Individuals and Clinical Populations | 3 |
| | | Subtotal: 14 |
| **Term 4** | | **Credit Hours** |
| NSG-504 | Women's Health Across the Life Span | 3 |
| NSG-504P | Women's Health Across the Life Span Practicum | 1 |
| NSG-505 | Public Health Nursing | 3 |
| NSG-505P | Public Health Nursing Practicum | 2 |
| NSG-521 | Antiracism in Organizational Leadership | 3* |
| | | Subtotal: 12 |
| **Term 5** | | **Credit Hours** |
| NSG-506 | Nursing Management of Complex Health Alterations Across the Life Span | 3 |
| NSG-506P | Nursing Management of Complex Health Alterations Across the Life Span Practicum | 3 |
| NSG-512 | Clinical Leadership and Project Development | 3 |
| NSG-536 | Principles of Case Management for Advanced Nursing Practice | 3 |
| | | Subtotal: 12 |
| **Term 6** | | **Credit Hours** |
| NSG-507 | Preparation for Professional Practice | 1 |
| NSG-513 | Clinical Project Implementation | 5* |
| NSG-514 | Immersion: Clinical Practicum | 5 |
| | | Subtotal: 11 |
| | | **Total: 74** |

** Currently offered online with in-person meetings*

*Note: Students must complete a minimum of 100 professional development hours to meet the CNL competencies.*

- IPE - 502 Interprofessional Person Centered Teams Credit(s): 0
- Interprofessional Person Centered Team course is a pass/no pass course. Students will use experiential team based learning to apply knowledge, skills, and values of the IPEC competencies. The fall cohort will be automatically enrolled in term one and two. The spring cohort will be automatically enrolled in the term three and four. Workshops will be held Wednesday afternoons. Participation requires approximately 20 hours of student time.

**Rush University**

## College of Health Sciences

## Welcome to the College of Health Sciences

The College of Health Sciences offers a wide variety of educational programs dedicated to preparing the next generation of skilled practitioners and leaders in the health care industry. Programs are designed to immerse students in a rich academic environment that is both challenging and supportive, fosters excellence, encourages innovation and requires compassionate care.

Program graduates work in many different settings, including acute, chronic, primary and community-based care in clinics, physician offices, educational institutions, research facilities and industry settings. Patients range from newborn infants and pediatric patients to adults and older adults. Allied health professionals make up the majority of the health care workforce and the demand for graduates is strong and projected to remain so for the foreseeable future.

College faculty members are not only educators but also seasoned professionals and researchers who bring their experiences into the classroom. They are passionate about mentoring students, guiding them through rigorous coursework and leading by example through professional engagement and scholarly activities. This unique blend of academic rigor and practical expertise is what sets our graduates apart, making them highly sought after in the workforce.

As you consider your future in health care, I invite you to explore the opportunities within the college and university. Join us in a community that values belonging, embraces innovation, and strives for excellence in every aspect of health care education.

Jason S. Turner, PhD

Professor & Interim Dean, College of Health Sciences



## Overview

The College of Health Sciences, founded in 1975, is responsible for education and research in the allied health professions, including health care management. Rush University educates students as practitioners, scientists, teachers and leaders. As an integral component of Rush University, the College of Health Sciences seeks to prepare excellent allied health practitioners and leaders to provide the very best care for our patients. In addition, the college makes meaningful and significant contributions to advancing health care through research, scholarship, service and practice.

The College of Health Sciences includes the following departments: Cardiopulmonary Sciences (Cardiovascular Perfusion and Respiratory Care), Clinical Nutrition, Communication Disorders and Sciences (Audiology and Speech-Language Pathology), Health Sciences, Health Systems Management, Medical Laboratory Science (Medical Laboratory Science, Clinical Laboratory Management and Specialist in Blood Bank), Occupational Therapy, Physician Assistant Studies, Religion, Health and Human Values, Social Work and Undergraduate Studies (Health Sciences, Imaging Sciences and Vascular Ultrasound).

The college offers the following programs and degrees:

- Doctor of Audiology (AuD)
- Medical Laboratory Science (MS)
- Clinical Laboratory Management (MS)
- Specialist in Blood Bank (certificate)
- Clinical Nutrition Dietetic Integrated Track (MS)
- Clinical Nutrition (MS)
- Health Sciences (BS, PhD)
- Health Systems Management (MS)
- Imaging Sciences (BS)
- Occupational Therapy (OTD)
- Cardiovascular Perfusion (MS)
- Physician Assistant Studies (MS)
- Respiratory Care (MS)
- Speech-Language Pathology (MS)
- Vascular Ultrasound Technology (BS)

## Organization

The organization of the College of Health Sciences centers around departments and programs, each headed by a department chairperson and program director who report to the college dean.

The senior administrative and policy body of the College is the Chair's Council, made up of the chairpersons from each of the college's departments, program directors, and a representative from the Faculty Council. The senior representative body of the college is the Faculty Council, which comprises two faculty members elected from each department. Meetings of the Faculty Council are ordinarily held quarterly. Faculty may propose agenda items and guests are welcome by invitation.

## Alumni Activities

Outstanding educational programs have outstanding alumni, and the College of Health Sciences encourages the development of strong ties with its graduates. All graduates are considered alumni of the College of Health Sciences. No dues are levied for membership in the college alumni association. In addition, each of the programs in the College of Health Sciences has an individual program alumni organization.

Further information about the College of Health Sciences can be obtained by contacting the Dean's Office:

College of Health Sciences Dean's Office
Rush University
600 S. Paulina St., Suite 1001
Chicago, IL
60612
(312) 942-7120

## Mission and Vision

Rush University's purpose is to educate students as practitioners, scientists and teachers who will become leaders in advancing health care, and to further the advancement of knowledge through research. The College of Health Sciences, as an integral component of the University, seeks to prepare superb practitioners and leaders in the allied health professions to provide the very best care for our patients.

In addition, the college seeks to make meaningful and significant contributions in advancing health care through

excellence in research, scholarship and service. In keeping with the Rush University practitioner-teacher model, the college integrates patient care, research, scholarship and service into the teaching-learning process of developing future allied health professionals and leaders.

### Mission

The mission of the College of Health Sciences is to advance the quality and availability of health care through excellence in education, research and scholarship, service and patient care. The college promotes the values of diversity, access and inclusion in all of its endeavors.

### Vision

The College of Health Sciences at Rush University will be a world-class school of allied health sciences whose programs are recognized as among the best in the United States.

## Admission Requirements

Admission to the College of Health Sciences programs is on a competitive basis. Student selection is based on several factors, including overall grade-point average, prerequisite or science grade-point average, consistency of academic performance, coursework completed prior to application, examination scores, prior health care and life experiences and interpersonal abilities. The GRE graduate school entry exam score submission and a personal interview may be required by certain College of Health Sciences programs. For information on how to gain admission to a specific College of Health Sciences program, please consult the webpages for the relevant academic program at www.rushu.rush.edu/health.

### Application Procedure

Application for admission into programs offered in the College of Health Sciences varies by program. For more information on application procedures, please consult the specific program and department webpages.

### TOEFL Policy

All applicants whose native language is not English must present evidence of proficiency in English by satisfactorily completing the Test of English as a Foreign Language, or TOEFL, examination.

A total TOEFL score of at least 88 on the web-based version, at least 570 on the paper-delivered version or 230 on the computer version must be achieved. For each of the three subtests (listening, structure/writing and reading), applicants may score no less than 20 on the computer version or 18 on the web-based and paper delivered versions of the TOEFL.

An official report of these scores must be received by the Admissions Office prior to the date(s) on which admission decisions are made for the program(s) to which the applicant has applied. To obtain information or to register to take the TOEFL, write directly to the Education Testing Service:

The Education Testing Service
P.O. Box 6151
Princeton, NJ 08541

You may also wish to visit the TOEFL website at www.toefl.org. The applicant should indicate on the application for the examination that results should be sent to institution code No. 1676.

Applicants whose native language is not English and who have graduated from high school or successfully completed a higher education degree program (associate degree or higher) in the United States or one of its English-speaking protectorates **may petition for a waiver of the TOEFL requirement** to the College of Health Sciences' Admissions Department via chs_admissions@rush.edu

Waiver requests should include proof of receipt of a high school or college diploma from an accredited institution in the United States or one of its English-speaking protectorates. College or university degrees must be granted by a regionally accredited college or university to be considered for waiver of the TOEFL.

## Philosophy of General Education

Undergraduate programs at Rush University prepare entry-level professionals for various roles in health care. The University strives to provide an environment where knowledgeable, informed and literate students are prepared to take their place, not only in the health care arena, but also as citizens of the world. The professional education builds on a solid general education, which forms the basis for lifelong learning and prepares graduates to be practitioners with social consciences.

Students are admitted to Rush University with general education sufficient to lay the groundwork for developing excellent written and verbal communication skills, critical thinking abilities, cultural sensitivity, high ethical standards and an inquiring mind. Students are expected to enter Rush University with foundations in communications, humanities, mathematics, physical/life sciences and social sciences.

The professional education offered by the University completes the student's general education, resulting in a graduate who displays the following:

- Communicates effectively in writing and speech.
- Demonstrates intellectual curiosity and critical thinking in the application of math and science to practice.
- Applies ethical principles to practice.
- Demonstrates ability to practice effectively in a diverse society.
- Exercises/expresses their social conscience to positively influence health care at local to global level.

## Academic Policies

### Examination Policy

The examination policy is the responsibility of the individual course director, who will inform students of examination requirements for that particular course. A time period at the end of the semester is provided for examinations. This time may be used as the course director chooses.

### Readmission

Any student who has withdrawn from a program or has not been enrolled for one or more semesters, as well as any dismissed student, may apply for readmission by submitting an application for this purpose. Applications for re-enrollment must be received at least three months before the planned return.

An interview may be required. A re-entering student must meet the conditions for re-enrollment stated in their dismissal or re-entry acceptance letter and all policies, requirements and course sequences in effect at the time of re-entry. Previously enrolled students may be considered as part of the pool of new applicants and are not guaranteed admission. The student will pay tuition and fees at the rates in effect at the time of re-enrollment.

### Rush University Academic Policies

The Academic Resources and Policies section of this catalog contains additional Rush University academic policies.

### Student Professional and Community Service Requirement

Participation in service activities is an important attribute of the health science professional. A hallmark of outstanding Rush students and alumni is the desire and ability to make meaningful service contributions. Community service activities may include volunteer activities (health fairs and clinics, health education, provision of health services to at-risk or disadvantaged populations, and other outreach education or clinical activities) and service on community boards, committees, work groups and other service activities that promote the health and well-being of the community and its members. Professional service may include participation in the provision of state, national or international activities to advance the quality, access and effectiveness of health care services provided by allied health professionals.

Achievement of the College of Health Sciences Excellence in Service Goal is demonstrated in part through the following:

1. Student and faculty participation in community service activities.
2. Student satisfaction with, and appreciation for, community service.
3. Students and faculty who provide leadership and support to professional associations, boards and committees.
4. Provision of community and professional continuing education to local, national and international audiences

In order to support achievement of the college's service excellence goals and objectives, the college has developed a professional and community service requirement for all College of Health Sciences students as a part of their academic programs.

As a requirement for program completion, each academic degree granting program will establish a minimum service requirement for each student enrolled in the program of at least 16 contact hours of approved professional or community service.

Examples of activities that may be used to meet this requirement include participation in community health fairs; community health screening and/or health services; provision of community health education; participation in approved professional service and/or continuing education activities; and assistance with the delivery of seminars, lectures, workshops and related community or professional continuing education activities.

## Conduct and Ethics

Students are expected to conduct themselves in a professional manner at all times in a manner that conforms to the ethics of the health professions and instills confidence in their abilities as health care professionals. Each student is expected to conform to the professional code of ethics as outlined in their departmental student handbook.

Irresponsible, unprofessional or unethical behavior may result in disciplinary action, which may include suspension or dismissal from the college. All clinical agency or hospital regulations are to be followed by students when undergoing clinical or other training in a facility. For additional information, students should refer to the Rush University Statement on Academic Honesty and Student Conduct and the Rush University Medical Center Code of Conduct.

## Scholastic Dishonesty and Cheating

The College of Health Sciences will not condone cheating in any form. Allegations of cheating will be reviewed by the departmental Committee on Progress and Promotions.

Any student found to be cheating on an examination may receive a 0 for the examination and will be subject to formal disciplinary action, which may include suspension or dismissal from the program. Failure to report incidents involving scholastic dishonesty on the part of another student will be considered unprofessional conduct and may also result in disciplinary action. Students should refer to the Rush University Policy on Academic Honesty and Student Conduct for further information.

## HIPAA and Patient Privacy

Rush University students have a legal and ethical responsibility to safeguard the privacy of all patients and protect confidentiality and security of all health information. Protecting the confidentiality of patient information means protecting it from unauthorized use or disclosure in any format, including verbal, fax, written or electronic/computer. Patient confidentiality is a central obligation of patient care. Any breaches in patient confidentiality or privacy may result in disciplinary action, up to and including dismissal from the college.

The laboratory component of some courses may use students as simulated patients. This is particularly true for the patient evaluation, medicine and patient education components. Additionally, the sharing of personal experiences can be a rich resource in the development of students' understanding, knowledge and appreciation of disease, health care and impact on peoples' lives.

Practicing the medical history and physical examination of patients places students in close contact and leads to the sharing of personal information and physical findings. Similarly, students may use personal experiences in patient role-playing exercises.

All shared and personal medical information and physical examination findings are to be treated with utmost confidentiality-the same as for any patient contact. Failure to protect the confidentiality of any information related to the activities in a course or clinical rotation may result in disciplinary action, up to and including suspension or dismissal from the college. For additional information, students should refer to the Rush University HIPAA policy and the Rush University Policy on Privacy and Confidentiality of Student Records and FERPA.

## Guide to Professional Conduct

Professionalism relates to the intellectual, ethical, behavioral and attitudinal attributes necessary to perform as a health care provider or manager. As it applies to their professional role, the student will be expected to do the following:

### Attend

1. Demonstrate awareness of the importance of learning by asking pertinent questions, identifying areas of importance in practice, and reporting and recording those areas.
2. Avoid disruptive behavior in class, laboratory and clinical or practicum rotations, such as talking or other activities that interfere with effective teaching and learning.

### Participate

1. Complete assigned work and prepare for class, laboratory and clinical or practicum objectives prior to attending.
2. Participate in formal and informal discussions, answer questions, report on experiences and volunteer for special tasks and research.
3. Initiate alteration in patient care techniques when appropriate via notification of instructors, staff and physicians.

### Dependability and Appearance

1. Attend and be punctual and reliable in completing assignments with minimal instructor supervision.
2. Promote a professional demeanor by appropriate hygiene, grooming and attire.

### Communicate

1. Demonstrate a pleasant and positive attitude when dealing with patients and coworkers by greeting them by name, approaching them in a non-threatening manner and setting them at ease.
2. Explain procedures clearly to the patient.
3. Ask patients how they feel and solicit patient comments regarding the patient's overall condition and response to assessment and/or therapy.
4. Communicate clearly to staff and physicians regarding the patient status, utilizing appropriate charting, oral communication and the established chain of command.
5. Demonstrate a pleasant and positive attitude when dealing with coworkers, instructors, faculty, nurses and physicians.

### Organize

1. Display recognition of the importance of interpersonal relationships with students, faculty and other members of the health care team by acting in a cordial and pleasant manner.
2. Work as a team with fellow students, instructors, nursing staff and the physician in providing patient care.
3. Organize work assignments effectively.
4. Collect information from appropriate resources.
5. Correlate care to overall patient condition.
6. Adapt care techniques to overcome difficulties.
7. Devise or suggest new techniques for patient welfare or unit efficiency.

### Be Safe

1. Verify identity of patients before initiating therapeutic action.
2. Interpret written information and verbal directions correctly.
3. Observe and report significant changes in patient's condition promptly to appropriate person(s).
4. Act to prevent accidents and injury to patients, personnel and self.
5. Transfer previously learned theory and skills to new/different patient situations.
6. Request help from faculty/staff when unsure.
7. Comply with hospital and university guidelines for performance.

The following are examples of critical errors in professional conduct and judgment:

1. Failure to place the patient's welfare as first priority.
2. Failure to maintain physical, mental and emotional composure.
3. Consistent ineffective or inefficient use of time.
4. Failure to be appropriately honest with patients, faculty and colleagues.
5. Scholastic dishonesty in any form.
6. Failure to follow the Rush University Medical Center Code of Conduct.

## Procedure for Unprofessional Conduct

For specific rules regarding the procedures for unprofessional conduct, please refer to the departmental or program student handbook. In general, for issues that are not satisfactorily resolved between the instructor and student, the following guidelines should be followed for unprofessional conduct:

**Step 1.** The student will have been identified as violating an established standard of professional conduct/judgment or moral/ ethical behavior, and the department chair or program director will have been notified.

**Step 2.** The department chairperson or program director will meet with the individual(s) making the allegation and the student's faculty adviser to review the available information and determine the veracity of the allegations.

**Step 3.** The department chairperson, student and faculty adviser, whenever possible, will meet as promptly as possible after the alleged incident. The department chairperson will report to the student the facts and available information and will seek to authenticate or clarify the allegations where possible. If it is determined that there is no basis for the allegation, no further action will be taken.

**Step 4.** If it is determined that there is a basis for the allegation and that further investigation is necessary, a preliminary hearing of the departmental Committee on Progress and Promotions will be convened to review the allegations and recommend a course of action. The department chairperson will inform the student and the dean in writing of the preliminary hearing and the following:

- Date
- Name of student
- Nature of the allegations

- Date of alleged incident/occurrence
- Professional attributes that allegedly violate standards (skill, behavior, judgment, ethical values, etc.)

For more information regarding the procedures for handling instances of unprofessional conduct, see the current departmental student handbook, University Catalog and the College of Health Sciences Policies and Procedures for the Rush University Rules for Governance.

## Incidents in the Clinical Agency

An incident that affects patients' or staff's well-being, or the patient's prescribed care, will be reported to the clinical instructor or preceptor immediately. An institutional incident report will then be completed following the policy of the health care institution or hospital in which the incident occurred. A duplicate of the hospital incident report, as well as a memorandum of explanation from the clinical instructor or preceptor, will be placed in the student's clinical file, and the department chairperson, program director or clinical director will be notified immediately. Incidents involving gross errors in judgment or practice on the part of the student will constitute grounds for dismissal from the program.

## Criminal Background Checks and Drug Testing

Programs offered in the College of Health Sciences often require that clinical rotations, practica, internships or other learning experiences be successfully completed in hospitals and other health care facilities to meet program requirements. Because the use of these facilities is required, students must be able to successfully complete their assigned rotations in order to fulfill the academic requirements of their program.

Hospitals and other health care facilities often have policies requiring criminal background checks for employees, students and volunteers. These facilities may refuse to accept individuals for clinical, practicum or other experiential rotations based on past criminal convictions.

Students should be prepared to comply with the policies and procedures at any facility where they are assigned as part of their educational program and may not request facility assignments in an effort to avoid specific requirements. Students who have certain types of information in their criminal background checks may be ineligible to complete rotations in specific facilities. Students who are not allowed to participate at assigned facilities or who are terminated from rotations based on the results of a criminal background check will be unable to complete the program requirements for graduation and will be subject to dismissal on academic grounds.

Students should also be advised that persons with certain types of criminal convictions may not be eligible for state licensure or national registry or certification, or both. In addition, many employers perform criminal background checks and may not hire individuals with certain types of criminal convictions.

## Drug Testing

Hospitals and other health care facilities often have policies requiring drug testing for employees, students and volunteers. Some facilities provide that students who test positive for drugs are ineligible to complete clinical, practicum or work assignments in that facility. Students should be prepared to comply with the policies and procedures at any assigned facility and may not request facility assignments in an effort to avoid drug screening requirements. Students who fail to report for clinical or practicum assignments or who are terminated from rotations because they violate the drug-testing or drug-use policies of the facilities will be subject to dismissal from the program.

## Procedures Implementing Academic Accommodation for Students Seeking Accommodations

Rush University is committed to diversity and to attracting and educating students who will serve diverse communities locally and nationally.

Our core values — I CARE (innovation, collaboration, accountability, respect and excellence) — translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and creates a respectful, accountable culture through our confidential and specialized disability support.

Rush is committed to excellence in accessibility; we encourage students with disabilities to disclose and seek accommodations. Students who may need special accommodations can access this information at www.rushu.rush.edu/office-student-accessibility-services.

## Student Government

A Student Government Association exists for the students enrolled in the College of Health Sciences. Student representatives will be elected by the student body in such a manner as to provide appropriate representation for all students in the College of Health Sciences.

## Release of Student Information

Students must sign a release requesting enrollment verificaStudents must sign a release requesting enrollment verification, verification of degree, recommendations, letters of reference or release of other student information. For a Letter of Degree or Enrollment Verification, the student should use the form provided by the Office of the Registrar. The Office of the Registrar is the only office at Rush University authorized to release enrollment or degree verification information.

For recommendations or letters of reference, a release form is required for personally identifiable information from a student's education record given out by College of Health Sciences faculty. (Please note: The College of Health Sciences requires that all recommendations or letters of reference-even if they are based upon the recommender's personal observation or knowledge-have a release form on file before the person writing the recommendation can release the recommendation or letter of reference.)

Student grades will not be posted and cannot be given out over the telephone or via email.

For additional information, students should refer to the Rush University Policy on Privacy and Confidentiality of Student Records and FERPA.

## Student Academic Appeal and Grievance Procedures

The College of Health Sciences student appeals and grievance procedures provide a review mechanism for students with a complaint of unfair treatment to obtain a review of the issue. The student appeals procedures shall not be used to question a rule, procedure or policy established by an authorized faculty or administrative body. Rather, it shall be used to provide due process for those who believe that a rule, procedure, or policy has been applied in an unfair or inequitable manner or that there has been unfair or improper treatment by a person or persons.

Students who appeal an academic decision that could result in a dismissal from the University may be allowed to continue progressing in the program until the issue is resolved. If the academic decision is upheld and the student is dismissed from the University, they will be withdrawn from their current classes. This withdrawal will be backdated to before the beginning of the term, and the student will receive 100% tuition reimbursement for that term.

A student wishing to appeal an academic decision should follow the process summarized below in the sequence indicated:

**Step 1.** In the academic community, the responsibility for course development, course delivery and the assessment of student achievement rests primarily with each course instructor. Any student who has a complaint of inappropriate treatment related to a course should first seek to resolve it with the course instructor.

a. A student with such a complaint must request reconsideration, in writing, of the application of a rule, procedure or policy, or unfair or improper treatment. The request must be within five working days following the issue that forms the basis for the complaint.

b. The instructor will meet with the student to discuss the issue. The instructor will notify the student in writing of the decision regarding the appeal.

If the course instructor is the department chairperson or if the appeal does not pertain to a specific course, the student should seek resolution with the department chairperson at the outset and begin with Step 2.

**Step 2.** If resolution is not achieved in Step 1, the student may submit a written appeal describing the application of a rule, procedure or policy, or unfair or improper treatment to the chairperson of the department in which the student's program resides within five working days following notification by the instructor of their decision.

a. The chairperson will meet with the student following receipt of the student's request for resolution to discuss the issue or refer the appeal to the department's student progress and promotion committee as outline in Step 3.

b. The chairperson will notify the student of their decision in writing following the meeting.

**Step 3.** If resolution is not achieved in Step 2, the student may submit a written appeal describing the application of a rule, procedure or policy, or unfair or improper treatment to the student progress and promotion committee of the department within five working days following notification by the department chairperson of their decision.

a. The student may appear before the committee in person, make an oral statement and answer questions from the committee. The student will not be allowed to be present during committee deliberations.

b. The committee may request that any university employees pertinent to the appeal appear before the committee to make an oral statement and answer questions.

c. Following review of the information provided, the committee will notify the chairperson who will notify the student of its decision.

**Step 4.** If the resolution is not achieved in Step 3, the student may submit a written appeal describing the application of a rule, procedure or policy, or unfair or improper treatment seeking a hearing to the dean within five working days of receiving the department progress and promotion committee decision.

a. The dean will meet with the student for a hearing following receipt of the written request from the student.

b. After the meeting with the student, the dean may either render a decision or choose to appoint a panel to investigate the appeal.

c. Following review of the information provided and any recommendations from the panel, should one be appointed, the dean will then notify the student of their decision.

The decision of the dean is final.

## Committees

The senior administrative and policy body of the College of Health Sciences is the Chairs Council. Its membership consists of the chairpersons of each of the college's departments and a representative of the Faculty Council.

The senior representative body of the College of Health Sciences is the Faculty Council. Its membership comprises faculty members representing all departments and ranks.

The Committee on Senior Faculty Appointments and Promotions recommends all promotions and appointments of faculty to senior ranks. It is elected by the faculty and has representatives from all departments in the college.

In addition, the dean may appoint special committees and task forces of the college to meet specific college needs, such as strategic planning.



## College of Health Sciences Academic Programs

**Cardiopulmonary Sciences**
Cardiovascular Perfusion (MS)
Respiratory Care - Professional Phase, Two-Year Track (MS)
Respiratory Care: RRT Advanced Standing (MS)

**Communication Disorders and Sciences**
Audiology (AuD)
Speech-Language Pathology (MS)

**Clinical Nutrition**
Master of Science Clinical Nutrition (MS)
Master of Science Clinical Nutrition (MS)
Dietetic Integrated Track

**Health Sciences**
Health Sciences (PhD)

**Health Systems Management**
Health Systems Management (MS)
Health Systems Management, Executive Track (MS)

**Medical Laboratory Science**
Clinical Laboratory Management (MS)
Medical Laboratory Science (MS)
Specialist in Blood Bank Technology (CP)

**Occupational Therapy**
Occupational Therapy (OTD)

**Physician Assistant Studies**
Physician Assistant Studies (MS)

**Undergraduate Studies**
Health Sciences (BS)
Imaging Sciences (BS)
Vascular Ultrasound and Technology (BS)

# Cardiopulmonary Sciences

## Master of Science Cardiovascular Perfusion (MS)

### Program Overview

The Master of Science degree is intended for those whose baccalaureate degree is in a field other than cardiovascular perfusion. The Cardiovascular Perfusion program curriculum provides the knowledge, clinical experiences and opportunity for our students to achieve competence in the practice of cardiovascular perfusion.

This medical specialty has become increasingly important in the health care field. The perfusionist serves primarily as part of the cardiovascular surgical team, operating the heart-lung machine during open-heart surgery. The perfusionist is also responsible for other life-support equipment, such as intra-aortic balloon pumps, ventricular assist devices and extracorporeal membrane oxygenation. In addition to cardiovascular surgery, additional professional practice may include veno-venous bypass for liver transplantation, isolated limb or organ chemotherapy perfusion, cardiopulmonary bypass supported cardiac catheterization procedures and blood salvaging for orthopedic or general surgery procedures.

Students in the Cardiovascular Perfusion program will benefit from the teaching and research expertise of established scholars and practitioners. The program is committed to providing increased opportunities for experiential learning at nationally ranked cardiac centers across the country.

## Cardiovascular Perfusion: Admission Requirements

- A baccalaureate degree from an accredited college or university.
- Receipt of official transcripts from each institution of higher education attended.
  - If a college or university outside the United States conferred the baccalaureate degree, the Educational Credentials Evaluators (ECE) or World Education Services (WES) must evaluate international transcripts. A detailed course-by-course report is required. Contact ECE at (414) 289-3400 or www.ece.org or WES at (800) 361-3106 or wes.org.
- Cumulative and science GPA of 3.0 on a 4.0 scale.
- Receipt of three letters of recommendation.
- Applicants who did not complete high school in the United States must submit TOEFL scores.
- The following courses must be completed with a grade of C or better prior to enrolling. Required courses must be taken for a letter grade rather than a pass-fail option.

#### Natural and Biological Sciences

16 semester hours or 24 quarter hours

Science courses must include the following:

- One semester of inorganic chemistry
- One semester of physics
- One semester of a human anatomy course AND
- One semester of a human physiology course OR
- Two semesters of a combined anatomy and physiology course with a laboratory component

Some community college introductory science classes may not be comprehensive enough to satisfy the prerequisite requirements. For any questions about courses, please contact the Office of College Admission Services at (312) 942-7100 to speak with an admissions counselor.

#### Mathematics and Statistics

Two college-level mathematics courses, which must include an introductory course in statistics.

#### English Composition

Two courses or documented proficiency at composition II level. Although not required, applicants are encouraged to take additional courses focusing on written communication, because writing skills are essential for the successful completion of the Cardiovascular Perfusion Program.

#### Social Sciences

14 semester hours or 20 quarter hours

Course work must include the following:

- Introduction to psychology
- Introduction to sociology
- Other social science courses (may include psychology, sociology, economics, history and anthropology)

#### Humanities

Eight semester hours or 12 quarter hours

- Humanities courses include religion, philosophy, foreign languages, literature or the history of art, music, theater, film or dance (studio art classes, instrumental music classes, and speech classes are not acceptable)
- Medical Terminology

Applicants must complete all the required prerequisite coursework with a grade of C or better prior to enrolling at Rush.



#### Additional Recommendation

In addition, it is highly recommended that prospective students talk to a clinical perfusionist and, if possible, observe a *procedure requiring the use of cardiopulmonary bypass.*

## Cardiovascular Perfusion: Technical Standards

Rush University is committed to diversity and to attracting and educating students who will serve diverse communities locally and nationally.

Our core values — I CARE (innovation, collaboration, accountability, respect and excellence) — translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and creates a respectful, accountable culture through our confidential and specialized disability support.

Rush is committed to excellence in accessibility. We encourage students with disabilities to disclose and seek accommodations.

The following technical functions are required of all students enrolled in the Cardiovascular Perfusion program:

#### Acquire Information

- Acquire information from demonstrations and experiences in courses such as lecture, group and physical demonstrations.
- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval).
- Identify information presented in accessible images from paper, slides, videos with audio description and transparencies.
- Recognize and assess patient changes in mood, activity, cognition, verbal and non-verbal communication.

#### Use and Interpret

- Use and interpret information from assessment techniques/maneuvers.
- Use and interpret information related to physiologic phenomena generated from diagnostic tools.

#### Motor

- Possess psychomotor skills necessary to provide or assist in holistic cardiovascular perfusion care and perform or assist with procedures and treatments.
- Practice in a safe manner and appropriately provide cardiovascular perfusion care and assessment in emergencies and life support procedures and perform universal precautions against contamination.

#### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors and all members of the health care team during practicum and other learning experiences.
- Accurately elicit information, including a medical history and other information, to adequately and effectively evaluate a population's, client's or patient's condition.

#### Intellectual Ability

- Measure, calculate, reason, analyze and synthesize data related to diagnosis and treatment of patients and populations.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the cardiovascular perfusion role.
- Synthesize information, problem-solve and think critically to judge the most appropriate theory, assessment or treatment strategy.

#### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

#### Character

- Demonstrate concern for others.
- Integrity, accountability, interest and motivation are necessary personal qualities.
- Demonstrate intent and desire to follow the Rush University and Cardiovascular Perfusion Code of Ethics.

The technical standards delineated above must be met with or without accommodation. Students who, after review of the technical standards, determine they require reasonable accommodation to fully engage in the program should contact the Office of Student Accessibility Services to confidentially discuss their accommodations needs.

Given the clinical nature of our programs, time may be needed to implement the accommodations. Accommodations are never retroactive; therefore, timely requests are essential and

encouraged. To learn more about accommodations at Rush University please contact the Office of Student Accessibility Services:

Marie Lusk, MBA, MSW, LSW
Director, Office of Student Accessibility Services
Rush University
600 S. Paulina St., Suite 901
Chicago, IL 60612
(312) 942-5237
marie_lusk@rush.edu

## Cardiovascular Perfusion: Educational Activities

The faculty of the department is responsible for providing both the didactic coursework and the clinical experiences necessary for the completion of the Master of Science degree in Cardiovascular Perfusion. The program is accredited by the Accreditation Committee-Perfusion Education of the Commission on Accreditation of Allied Health Education Programs.

## Cardiovascular Perfusion: Service Activities

Faculty members are licensed perfusion technologists actively involved in the daily activities of the Department of Extracorporeal Services.

## Cardiovascular Perfusion (MS): Graduation Requirements

- Completion of all required coursework with a grade-point average of 3.0 or better.
- Completion of each required cardiovascular perfusion course with a grade of B or better.
- Completion of all university requirements for graduation.

## Cardiovascular Perfusion (MS): Curriculum

Central themes of evidence-based practice, leadership, cultural competence, technology integration and scholarship are addressed throughout the program and recognized by the professional commitments of our graduates and faculty.

The Cardiovascular Perfusion program curriculum provides the knowledge, clinical experiences and opportunity for our students to gain competence in the practice of cardiovascular perfusion.

Students in the Cardiovascular Perfusion program benefit from the teaching and research expertise of established scholars and practitioners. The program is committed to providing increased opportunities for experiential learning at nationally ranked cardiac centers across the country.

Graduates of the program will be qualified to sit for the certification examination of the American Board of Cardiovascular Perfusion.

### Curriculum

| First Year | | Credits |
|---|---|---|
| **Fall Term** | | |
| CVP-605 | Cardiopulmonary Anatomy and Physiology | 3 |
| CVP-611 | Cardiovascular Perfusion Technology I | 3 |
| CVP-612 | Instrumentation in Cardiovascular Perfusion | 3 |
| CVP-620 | Evaluation of the Cardiac Surgery Patient | 3 |
| CVP-621 | Seminar I | 3 |
| CHS-601 | Introduction to Biostatistics | 2 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| **Spring Term** | | |
| CVP-606 | Acid Base Physiology | 2 |
| CVP-615 | Cardiovascular Perfusion Technology II | 3 |
| CVP-622 | Pathophysiology and Perfusion Techniques | 5 |
| CVP-632 | Principles of Pharmacology | 3 |
| CHS-610 | Research Methods in the Health Sciences | 2 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| **Summer Term** | | |
| CVP-623 | Adult and Pediatric Congenital Heart Disease | 2 |
| CVP-624 | Mechanical Circulatory Support | 2 |
| CVP-640 | Principles and Practices of Cardiopulmonary Bypass with Simulation | 4 |
| CVP-641 | Perfusion Practicum I | 4 |
| CVP-661 | Master's Project I | 2 |
| **Second Year** | | |
| **Fall Term** | | |
| CVP-642 | Perfusion Practicum II | 12 |
| CVP-662 | Master's Project II | 2 |
| CVP-680 | Organizational Leadership | 2 |
| **Spring Term** | | |
| CVP-645 | Perfusion Practicum III | 12 |
| CVP-664 | Master's Project III | 2 |
| CVP-681 | Health Care Quality and Operations Management | 2 |
| | **Hours Required for MS Degree: 78** | |



## Respiratory Care - Professional Phase, Two-Year Track (MS)

### Program Overview

The Division of Respiratory Care in the College of Health Sciences at Rush University is dedicated to clinical and academic excellence in teaching, research, service and patient care. The Respiratory Care program is designed to provide students with an outstanding education in preparation for a satisfying professional career as advanced respiratory care practitioners, as well as to provide a foundation for leadership in management and supervision, research and clinical specialization.

The Respiratory Care program involves motivation, curiosity, professional fulfillment and personal satisfaction. The work is both hard and rewarding.

Interaction with faculty, therapists, physicians and nurses is essential and is the key to the program. Students engage in seminars, intensive classes and laboratories, and clinical training in hospitals. The result is an outstanding education in respiratory care, but it is more than that: There is a sense of personal growth and a real commitment to serving people.

The overall purpose of the program is to provide a high quality education that is relevant and professionally sound to meet the respiratory care leadership needs in the health care community. Inherent in this purpose is the goal to prepare respiratory therapists who can demonstrate the attitudes, skills and knowledge required to meet the changing needs in the community.

It will be necessary for the respiratory therapist to collaborate with all members of the health care team to identify and solving the problems that relate to respiratory diseases and disorders of the cardiopulmonary system. The respiratory therapist must be able to think critically, communicate effectively, demonstrate judgment and provide self direction. It is a primary objective of the program to educate well qualified, competent respiratory therapists who demonstrate leadership ability.

As an academic medical center program, the Respiratory Care program must also make an appropriate contribution in the areas of research, service and patient care. With respect to research and scholarship, the division conducts and publishes original research studies, participates in the publication of textbooks and chapters, abstracts and invited presentations based on original research. Service activities include participation on local, state and national professional boards and committees, community service, university service activities and continuing education. Patient care is integral to the division's teaching, research and service activities. The faculty embrace the practitioner-teacher model and are passionate about students achieving academic excellence and professional competence.

The Respiratory Care program is dedicated to the mission, vision and values of the College of Health Sciences, university and medical center.

## Master of Science Program

The Master of Science degree in respiratory care requires a minimum of 92 semester hours of credit for graduation. This is an integrated program, requiring 29 semester hours of program preprofessional prerequisite requirements prior to admission to Rush University for the professional phase (24 months). The preprofessional phase requirements may be completed at any accredited college or university and include the successful completion of a baccalaureate degree. Dedicated to clinical and academic excellence, the professional phase includes over 1000 hours of clinical practice.

As a leadership program in respiratory care, this course of study aspires to provide graduates with the foundation needed to assume professional leadership roles in clinical practice, clinical specialty areas, research, education and management. Upon completion of the program, graduates are eligible for the national board examinations in respiratory care, as well as state licensure.

## Respiratory Care (MS): Admission Requirements

Admission to the program is on a competitive basis. Student selection is based on several factors, including overall grade-point average, prerequisite grade-point average, consistency of academic performance, coursework completed prior to application, Graduate Record Examination (GRE) scores and interpersonal abilities. The program is rigorous, and applicants are required to arrange an orientation visit to a respiratory care department at a hospital prior to acceptance to the program if the applicant has no previous experience in the field of respiratory care.

Requirements for admission to the professional phase of the program in respiratory care include the following:

- A minimum overall GPA of 2.5 in undergraduate coursework.
- Completion of all professional prerequisite required courses with a grade of C or better.

- Completion of a bachelor's degree.
- Senior standing at the time of application and the ability to complete all preprofessional coursework by the beginning of the fall term of the first year.
- Submission of the GRE graduate school entry exam scores is encouraged but not required (from an examination taken within five years of the date of application to the program).
- A personal interview with division faculty.
- Completed application to the program and submission of official transcripts for all college coursework completed.

### Program Prerequisites

All program prerequisite courses must be taken prior to entry into the first-year of the regular professional program (alterations in the student's planned program require **written approval** by the department chairperson/program director). Registration for the first sequence of professional courses in the program requires the following:

- Admission into the program.
- Completion of human anatomy and physiology, chemistry, physics, microbiology, psychology, mathematics (college algebra or higher) and statistics with a grade of C or better.
- Consent of the Committee on Progress and Promotions for Respiratory Care.

**Please note:** Individuals holding the RRT credential may be admitted to the program prior to completion of all program prerequisites.

## Respiratory Care: Technical Standards

Rush University is committed to diversity and to attracting and educating students who will serve diverse communities locally and nationally.

Our core values — I CARE (innovation, collaboration, accountability, respect and excellence) — translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and creates a respectful, accountable culture through our confidential and specialized disability support.

Rush is committed to excellence in accessibility. We encourage students with disabilities to disclose and seek accommodations.

The following technical functions are required of all students enrolled in the Respiratory Care program:

#### Acquire Information

- Acquire information from demonstrations and experiences in courses, such as lecture, group and physical demonstrations.
- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval).
- Identify information presented in accessible images from paper, slides, videos with audio description and transparencies.
- Recognize and assess patient changes in mood, activity, cognition, verbal and non-verbal communication.

#### Use and Interpret

- Use and interpret information from assessment techniques/maneuvers.
- Use and interpret information related to physiologic phenomena generated from diagnostic tools.

#### Motor

- Possess psychomotor skills necessary to provide or assist in holistic respiratory care and perform or assist with procedures and treatments.
- Practice in a safe manner and appropriately provide respiratory care and assessment in emergencies and life support procedures and perform universal precautions against contamination.

#### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors and all members of the health care team during practicum and other learning experiences.
- Accurately elicit information, including a medical history and other information, to adequately and effectively evaluate a population's, client's or patient's condition.

#### Intellectual Ability

- Measure, calculate, reason, analyze and synthesize data related to the diagnosis and treatment of patients and populations.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the respiratory care role.
- Synthesize information, problem-solve and think critically to judge the most appropriate theory, assessment or treatment strategy.

#### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

#### Character

- Demonstrate concern for others.
- Integrity, accountability, interest and motivation are necessary personal qualities.
- Demonstrate intent and desire to follow the Rush University and Respiratory Care code of ethics.

The technical standards delineated above must be met with or without accommodation. Students who, after review of the technical standards, determine they require reasonable accommodation to fully engage in the program, should contact the Office of Student Accessibility Services to confidentially discuss their accommodations needs.

Given the clinical nature of our programs, time may be needed to implement the accommodations. Accommodations are never retroactive; therefore, timely requests are essential and encouraged. Contact the Office of Student Accessibility Services to learn more about accommodations at Rush University:

Marie Lusk, MBA, MSW, LSW
Director, Office of Student Accessibility Services
Rush University
600 S. Paulina St., Suite 901
Chicago, IL 60612
(312) 942-5237
marie_lusk@rush.edu

## Respiratory Care: Academic Policies

### Master of Science

All professional courses (RCP prefix) in the program are taught in a sequential manner. Each professional course in the program serves as the prerequisite for the subsequent course. Consequently, professional courses must be taken in sequence.

**Withdrawing or failure to successfully complete a professional course with a letter grade of C or better may result in the student being placed on a three-year track, given a leave of absence, or LOA, and academic probation or dismissed from the program after review by the Committee on Progress and Promotions.** Students readmitted to the program at times other than the fall term of the second year will pick up the course sequence as prescribed by the chairperson/program director or Committee on Progress and Promotions for Respiratory Care.

#### Standards of Performance for Respiratory Care and Major Field-Related Courses

90-100 = A

80-89 = B

75-79 = C

70-74 = D

Below 70 = F

Unless otherwise described in a given course syllabus, the minimum satisfactory grade for course credit is a letter grade of C, and all stipulated segments of a course must be passed by this standard. Students must demonstrate proficiency in all clinical skills presented to pass clinical courses. For all clinical courses, the final exam must be passed at the designated cut score and a grade of C or better must be maintained to successfully complete each clinical course to continue in the program.

**Students are expected to maintain an overall GPA in the program of at least 3.0.**

Failure to maintain a cumulative GPA of at least 3.0 will subject the student to a review and may result in the student being placed on probation, given an LOA or dismissed from the program after review by the Committee on Progress and Promotions.

If a student is dismissed and wishes to re-enter the program, they must reapply and will be considered on the same basis as any new applicant. Students who voluntarily withdraw from the program, either passing or failing, have no guarantee of reinstatement to the program. Students requesting readmission to the program should submit a letter to that effect to the Committee on Progress and Promotion for Respiratory Care. Students readmitted to the program will pick up the course sequence as prescribed by the chairperson/program director or Committee on Progress and Promotions for Respiratory Care.

### Clinical Final Examinations

All students are required to pass the clinical final examination after completing clinical courses to continue in the program. In the event a student fails the clinical final examination, the student is allowed to make one more attempt to pass. In the event the student passes the clinical final exam on the second attempt, the student will continue in the program. The grade earned on the first attempt will be used to calculate the final clinical grade.

In the event the student does not pass the clinical final exam on the second attempt, the student will be placed in remediation. The student will be given a third attempt to pass the final exam by the end of the next term. In the event the student does not pass on the third attempt, the student will earn an F in the clinical course and may be suspended or released from the program.

### Comprehensive End-of-Program Competency Assessment Examination

Before graduating, the student will complete comprehensive end-of-program examination assessments (NBRC secure Therapist Multiple Choice, or TMC, and clinical simulation examinations, or CSE). The TMC examination will be taken at the end of the spring term of the second year as a part of RCP 575, Clinical Practice III. The CSE will be given at the beginning of the summer term of the second year as part of RCP 585, Clinical Practice IV. A passing score is required to successfully complete RCP 575 and RCP 585, as well as to meet graduation and program course completion requirements.

Students who do not successfully complete the comprehensive self-assessment examinations will receive an incomplete grade of "I for RCP 575 and/or RCP 585. Those students failing and receiving an I grade will be required to attend remediation over the following term. Those failing the examination after multiple attempts or failing to attend remediation may be subject to dismissal from the program. Those students may reapply to the program (see Procedures for Readmission).

### Conduct and Ethics

Each student is expected to conduct oneself in a dignified manner at all times. This manner conforms to the ethics of the profession and instills patient confidence in one's abilities as a health care practitioner. Each student is expected to conform to the professional code of ethics as outlined in this handbook and the policies outlined in the university catalog.

Irresponsible, unprofessional or unethical behavior as determined by the instructor, or failure to follow the instructions of a clinical instructor during clinical practice, may result in dismissal from the program. Falsification on any clinical documents will be treated as scholastic dishonesty. All hospital regulations are to be followed by students when undergoing clinical training in a facility.

If employed by a clinical site in which the student is assigned a clinical rotation, the student must not complete clinical coursework while in an employee status.

### Scholastic Dishonesty and Cheating

The division will not condone cheating in any form. Plagiarizing or copying others writing or work is considered cheating. Any allegations of cheating will be reviewed by the Committee on Progress and Promotions for Respiratory Care and, if merited, dealt with in a strict manner, including immediate dismissal from the program.

Any student found to be cheating on an examination, test, quiz or assignment will automatically receive a grade of 0 and will be subject to dismissal from the program at the discretion of the Committee on Progress and Promotions for Respiratory Care. Plagiarism on drafts of assignments may result in a grade of 0 for the entire assignment. Failure to report incidents involving scholastic dishonesty on the part of another student will be considered unprofessional conduct on the part of the student and may result in disciplinary action.

### Examination Review

At the discretion of the course instructor, during review of any examination given within the curriculum, no other papers or books will be allowed on the student's desk. No writing implements of any kind will be allowed. NO note-taking or recording of any kind will be permitted. This includes written note-taking and/or any form of mechanical, electronic, audio or video recording. Violation of this policy will constitute academic dishonesty and will be referred to the Committee on Progress and Promotions for review and possible disciplinary action.

### Examination Administration

All examinations given by the division will be monitored by faculty or staff at all times. Students will be seated in such a manner as to minimize the opportunity for observation of other students' examination papers. No breaks will be allowed once an examination period has begun, and students may not leave the room during an exam until they are finished taking the examination, except in the event of an emergency, which will be judged by the faculty or staff monitoring the exam on a case by case basis.

If a student turns in an examination without answering all questions, he or she will NOT be given an opportunity to finish the examination after leaving the room.

Only marks made on the Scantron sheet will be used to compute a grade on all Scantron-graded examinations. Even if a student marks the answer correctly on his or her examination, but does not mark it correctly on the Scantron, only the Scantron answer will be used to compute the grade, not the answer marked on the examination.

Calculators will be provided to students for examinations, thus personal calculators will not be allowed during examinations.

### Policy for Transfer Students

Students who have completed coursework at other approved respiratory care programs may petition to have these courses transfer in lieu of specific coursework in the Rush University program. Students must submit a transcript of their courses from the program and a copy of the course syllabus for each course in which they desire transfer credit. The syllabus must contain the following: course objectives, lecture outlines, course content, evaluation procedures and related information. These courses will be evaluated on an individual basis for content and total contact hours and credit hours.

The division reserves the right to test the proficiency of any student in coursework transferred from other respiratory care programs and the right to disallow such transfer credit in such coursework in cases where the student cannot demonstrate acceptable proficiency. All transfer credit is subject to the approval of the Committee on Progress and Promotions for Respiratory Care. The student must also have a minimum grade of B (3.0) for each course being transferred.

A student cannot receive transfer credit for any respiratory care coursework if they left the previous program due to academic probation, suspension or exclusion. All university policies regarding transfer credit must be satisfied.

## Respiratory Care (MS): Graduation Requirements

- Completion of all required coursework with a grade-point average of 3.0 or better
- Completion of each required respiratory care professional course with a grade of C or better
- Basic Life Support (BLS), Advanced Cardiac Life Support (ACLS), Pediatric Advanced Life Support (PALS) and Neonatal Resuscitation Provider (NRP) course completion
- Successfully complete a division research project
- Completion of all university requirements for graduation

## Respiratory Care (MS): Curriculum

### Preprofessional Phase - Program Prerequisites

The preprofessional phase (lower-division, college-level coursework) requires a minimum of 29 term hours of prescribed study as outlined below.

| Professional Prerequisites | Credit Hours |
|---|---|
| Human Anatomy and Physiology (or 4 hours Anatomy and 4 hours Physiology) | 8 |
| Chemistry (With Lab) | 4 |
| Physics (With Lab) | 4 |
| Microbiology (With Lab) | 4 |
| Psychology (Courses With prefixes PSYC) | 3 |
| Mathematics (College Algebra or Higher) | 3 |
| Statistics | 3 |
| **Total** | **29** |

## Professional Phase: Respiratory Care Professional Courses

### Two-Year Track: MS Degree

Students accepted into the professional phase begin coursework in the fall term of the first year of the program. Coursework in the professional phase is taken on a full-time basis in the following sequence:

| First Year | | Credits |
|---|---|---|
| **Fall Term** | | |
| RCP-501 | Foundations of Professional Practice | 3 |
| RCP-511 | Introduction to Respiratory Care | 3 |
| RCP-512 | Cardiopulmonary Anatomy and Physiology | 5 |
| RCP-515 | Respiratory Care Pharmacology | 2 |
| **Spring Term** | | |
| RCP-520 | Respiratory Care Equipment and Techniques | 4 |
| RCP-521 | Patient Assessment | 4 |
| RCP-522 | Pulmonary Disease | 3 |
| RCP-523 | Mechanical Ventilation | 4 |
| **Summer Term** | | |
| RCP-531 | Critical Respiratory Care | 4 |
| RCP-532 | Pulmonary Function Testing | 3 |
| RCP-534 | Clinical Practice I | 3 |
| RCP-563 | Research Methods | 3 |
| RCP-566 | Education | 3 |
| **Second Year** | | **Credits** |
| **Fall Term** | | |
| CHS-601 | Introduction to Biostatistics | 2 |
| RCP-530 | Cardiac Diseases | 2 |
| RCP-533 | Pediatric and Neonatal Respiratory Care | 4 |
| RCP-565 | Research Project I | 1 |
| RCP-569 | Clinical Practice II | 7 |
| **Spring Term** | | |
| RCP-567 | Management | 3 |
| RCP-570 | Cardiopulmonary Diagnostics | 2 |
| RCP-573 | Research Project II | 1 |
| RCP-575 | Clinical Practice III | 7 |
| RCP-577 | Clinical Seminar | 3 |
| **Summer Term** | | |
| RCP-583 | Research Project III | 1 |
| RCP-585 | Clinical Practice IV | 4-8 |
| | *Total credits required: Credits/Units: 8* | |
| RCP-589 | Disease Management/Home Health Care | 3 |
| CHS-605 | Introduction to Ethics in Health Care | 2 |
| CHS-620 | Health Care in America | 2 |
| | **Program Total:** | **92** |



## Respiratory Care: RRT Advanced Standing (MS)

### Program Overview

#### Introduction

Individuals may have acquired academic credit in respiratory care courses from other schools and universities. Some individuals may acquire knowledge through experience and on the job training. When such persons apply for admission into the program, an attempt is made to grant academic credit for equivalent educational courses, equivalent knowledge acquired from experience and/or successful completion of the National Board for Respiratory Care's certification and registry examinations.

All students graduating from the Respiratory Care program must meet the same standards for graduation; the awarding of advanced standing does not signify a lesser quality education than that offered through regular course work. What it does, however, is attempt to exempt the student from those areas of the formal program where the student already has the knowledge and expertise in those skills that would be offered.

The program has identified the minimum competencies that a respiratory therapist must have in order to provide safe, high-quality patient care. The identification of these competencies is a complex task, and a great deal of care must be taken to ensure a standard of excellence.

The following policies and procedures are designed to ensure that those individuals who receive advanced standing are qualified to do so, and that the screening process adheres to university and departmental policies at all times.

It is not in the student's or program's best interest to allow individuals who are not qualified to receive advanced standing.

To allow individuals who are not qualified, to receive advanced standing, is not in the student's or the program's best interest.

#### Definition

Advanced standing is defined as a special and individually determined status granted to a student in a formal educational setting who has already gained professional experience through other sources or through non academic experiences, knowledge, skills and professionalism taught in the program courses.

### Purpose of Advanced-Standing Procedures

The purpose of the advanced-standing procedures is to recognize and give formal educational credit for knowledge and/or ability gained through previous training or experience.

### Methods of Granting Advanced Standing

1. Advanced standing can be awarded through transfer credit.
2. Advanced standing can be awarded through the passing of an equivalency examination covering a certain area of knowledge. (An equivalency examination is an instrument or means by which a student accepted into the Respiratory Care program can demonstrate mastery of a knowledge area, content area or skill, and thus be exempted from a course in the program that teaches that area or skill.).
3. Advanced standing can be awarded as credit for successful completion of national registry examinations (RRT/RPFT).

### Eligibility for Advanced Standing

1. Transfer students who have been accepted into the R University Respiratory Care program may receive a transfer credit for equivalent courses within the Respiratory Care program curriculum.
2. Credentialed students (RRT, RPFT) who have been accepted into the Rush University Respiratory Care program may receive transfer credit and will also be eligible to take equivalency examinations in certain courses.

### Policy for Transfer Students

Students who have completed coursework at other approved respiratory care programs may petition to have these courses transfer in lieu of specific coursework in the Rush University program. Students must submit a transcript of their courses from the program and a copy of the course syllabus for each course in which they desire transfer credit. The syllabus must contain the following: course objectives, lecture outlines, course content, evaluation procedures and related information. These courses will be evaluated on an individual basis for content and total contact hours and credit hours.

The department reserves the right to test the proficiency of any student in coursework transferred from other respiratory care programs and the right to disallow such transfer credit in such coursework in cases which the student cannot demonstrate acceptable proficiency. All transfer credit is subject to the approval of the Committee on Progress and Promotions for Respiratory Care.

The student must also have a minimum grade of B (3.0) for each course being transferred. A student cannot receive transfer credit for any respiratory care coursework if he or she left the previous program due to academic probation, suspension or exclusion. All university policies regarding transfer credit must be satisfied.

### Policy for Individuals Who Hold the RRT Credential

Advanced standing is available to individuals who have successfully completed the National Board for Respiratory Care's Respiratory Therapy Registry (RRT), who hold a baccalaureate degree from a regionally accredited college or university. Those eligible for advanced standing must submit the following documentation:

1. A notarized copy of the RRT certificate indicating that it is a true and accurate copy
2. Official transcripts of all previous respiratory care and general education coursework attempted and/or completed indicating award of the bachelor's degree from an accredited college or university
3. A notarized copy of the certificate of completion from an approved respiratory care training program as applicable
4. A completed application for admission to the advanced-sanding program. This is available through the Allied Health Centralized Application System (AHCAS)
5. A letter directed to the Committee on Progress and Promotions for Respiratory Care requesting advanced standing.

## RRT Advanced Standing (MS): Admissions Requirements

Individuals holding the RRT credential and a baccalaureate degree may apply to enter the Respiratory Care graduate program prior to any semester. Submission of an application for admission should be made through the Allied Health Centralized Application System(AHCAS) with all official transcripts, NBRC RRT certificate and a personal interview at least 30 days prior to the first day of the semester when the individual desires to begin classes. Professional prerequisites must be completed prior to graduation. All other program policies and procedures apply.

## RRT Advanced Standing (MS): Technical Standards

Rush University is committed to diversity and to attracting and educating students who will serve diverse communities locally and nationally.

Our core values — I CARE (innovation, collaboration, accountability, respect and excellence) — translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and creates a respectful, accountable culture through our confidential and specialized disability support. Rush is committed to excellence in accessibility; we encourage students with disabilities to disclose and seek accommodations.

The following technical functions are required of all students enrolled in the Respiratory Care program:

#### Acquire Information

- Acquire information from demonstrations and experiences in courses, such as lecture, group and physical demonstrations.
- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval).
- Identify information presented in accessible images from paper, slides, videos with audio description and transparencies.
- Recognize and assess patient changes in mood, activity, cognition, verbal and non-verbal communication.

#### Use and Interpret

- Use and interpret information from assessment techniques/maneuvers.
- Use and interpret information related to physiologic phenomena generated from diagnostic tools.

#### Motor

- Possess psychomotor skills necessary to provide or assist in holistic respiratory care and perform or assist with procedures and treatments.
- Practice in a safe manner and appropriately provide respiratory care and assessment in emergencies and life-support procedures and perform universal precautions against contamination.

#### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors and all members of the health care team during practicum and other learning experiences.
- Accurately elicit information, including a medical history and other information, to adequately and effectively evaluate a population's, client's or patient's condition.

#### Intellectual Ability

- Measure, calculate, reason, analyze and synthesize data related to the diagnosis and treatment of patients and populations.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the respiratory care role.
- Synthesize information, problem-solve and think critically to judge the most appropriate theory, assessment or treatment strategy.

#### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

#### Character

- Demonstrate concern for others.
- Integrity, accountability interest and motivation are necessary personal qualities.
- Demonstrate intent and desire to follow the Rush University and Respiratory Care Code of Ethics.

The technical standards delineated above must be met with or without accommodation. Students who, after review of the technical standards, determine they require reasonable accommodation to fully engage in the program should contact the Office of Student Accessibility Services to confidentially discuss their accommodations needs.

Given the clinical nature of our programs, time may be needed to implement the accommodations. Accommodations are never retroactive; therefore, timely requests are essential and encouraged. Contact the Office of Student Accessibility Services to learn more about accommodations at Rush University:

Marie Lusk, MBA, MSW, LSW
Director, Office of Student Accessibility Services
Rush University
600 S. Paulina St., Suite 901
Chicago, IL 60612
(312) 942-5237
marie_lusk@rush.edu

## RRT Advanced Standing (MS): Curriculum

### Credit Based on the RRT Credential

Individuals providing documentation that they hold the RRT credential may receive credit for the following theory courses:

| Course | | Credits |
|---|---|---|
| RCP-511 | Introduction to Respiratory Care | 3 |
| RCP-515 | Respiratory Care Pharmacology | 2 |
| RCP-520 | Respiratory Care Equipment & Techniques | 4 |
| RCP-521 | Patient Assessment | 4 |
| RCP-534 | Clinical Practice I | 3 |
| RCP-569 | Clinical Practice II | 7 |
| RCP-575 | Clinical Practice III | 7 |
| RCP-577 | Clinical Seminar | 3 |
| | | **Total: 33 Credit Hours** |

### Required Courses

RRT students must enroll in and complete the following required courses:

| Course | | Credits |
|---|---|---|
| RCP-501 | Foundations of Professional Practice | 3 |
| RCP-563 | Research Methods | 3 |
| RCP-565 | Research Project I | 1 |
| RCP-566 | Education | 3 |
| RCP-567 | Management | 3 |
| RCP-573 | Research Project II | 1 |
| RCP-583 | Research Project III | 1 |
| * RCP-585 | Clinical Practice IV | 4-8* |
| RCP-589 | Disease Management/Home Health Care | 3 |
| CHS-601 | Introduction to Biostatistics | 2 |
| CHS-605 | Introduction to Ethics in Health Care | 2 |
| | | **Total: 30 Credit Hours** |

**With the program director's permission, RCP-585 may be taken twice for four credit hours each, over two semesters instead of as a single, eight-hour course.*

### Elective Courses

The RRT student must select a minimum of nine semester hours from the following courses to take at Rush University. All other required elective courses will be assigned proficiency credit:

| Course | Credits |
|---|---|
| RCP-570 Cardiopulmonary Diagnostics | 2 |
| RCP-530 Cardiac Diseases | 2 |
| RCP-531 Critical Respiratory Care | 4 |
| RCP-532 Pulmonary Function Testing | 3 |
| RCP-533 Pediatric and Neonatal Respiratory Care | 4 |
| RCP-512 Cardiopulmonary Anatomy and Physiology | 5 |
| RCP-522 Pulmonary Disease | 3 |
| RCP-523 Mechanical Ventilation | 4 |
| CHS-620 Health Care in America | 2 |
| **Total: 29 Credit Hours** | |
| Total credit that may be awarded based on the RRT credential | **53** |
| Credit hours that must be completed at Rush | **39** |
| Total Respiratory Care course hours required for the degree | **92** |

### Sample Advanced-Standing Program Student Schedule:

| Fall Term | Credits |
|---|---|
| RCP-501 Foundations of Professional Practice | 3 |
| RCP-563 Research Methods | 3 |
| RCP-565 Research Project I | 1 |
| RCP-566 Education | 3 |
| RCP-567 Management | 3 |
| **Spring Term** | **Credits** |
| RCP-573 Research Project II | 1 |
| RCP-523 Mechanical Ventilation | 4 |
| CHS-601 Introduction to Biostatistics | 2 |
| RCP-585 Clinical Practice IV | 4-8 |
| **Summer Term** | **Credits** |
| CHS-605 Introduction to Ethics in Health Care | 2 |
| RCP-583 Research Project III | 1 |
| RCP-532 Pulmonary Function Testing | 3 |
| CHS-620 Health Care in America | 2 |

**Note regarding RCP 585, Clinical Practice IV:** The purpose of this clinical practice is to allow students to acquire special clinical skills and/or expertise that is not normally achieved in an associate degree program or through work experience. The student may also use this course to refine or upgrade clinical skills that may have been used infrequently due to the nature of their work environment or experiences. A course proposal or prospectus for clinical practice will be designed by the student and submitted to the director of Clinical Education.

The prospectus or proposal must be reviewed and approved by the program director or Committee on Progress and Promotion for Respiratory Care. The prospectus must include course goals and objectives, methodology to achieve these goals and objectives to include clinical or laboratory facilities to be utilized, time spent in a given clinical or laboratory area and proposed method of evaluation. The following are areas of concentration that may be included:

- Pulmonary function laboratory
- Cardiac and/or pulmonary stress testing
- Diagnostic sleep laboratory
- Fiberoptic bronchoscopy
- Physiologic monitoring to include hemodynamics
- Adult critical care
- Pediatric and/or neonatal respiratory care
- ECMO
- Mechanical circulatory assistance
- Respiratory home care
- Sub-acute/long-term care facilities
- Pulmonary and/or cardiac rehabilitation
- Invasive and/or non-invasive cardiology
- Hyperbaric medicine
- Applied research
- Respiratory care education
- Management
- Advanced generalist (to include two or more subspecialties)

Substitutions for the above courses to meet individual student needs may be made from other respiratory care curriculum course work if approved by the program director.

Students who desire additional course work related to supervision and management may request that specific courses taken at the graduate level in another Rush University department be substituted for specific required or elective courses.

### Summary of Minimum Requirements for the MS Degree for RRT Students Holding a Bachelor's Degree

| | |
|---|---|
| Respiratory Care Required Courses | 39 |
| Credit Based on RRT | 53 |
| **TOTAL** | **92** |



# Communication Disorders and Sciences

## Communication Disorders and Sciences

### Philosophy

The underlying basis for the graduate degree programs in Audiology and Speech-Language Pathology is the practitioner-teacher model, whereby students learn from faculty who have taken on dual roles as academicians and practitioners. This approach to professional education helps bridge the gap that can exist between classroom teaching and clinical service delivery. Students learn in an environment where teaching, research, and patient care are integrated.

The faculty at Rush have established records in clinical service delivery and participate in the clinical process in addition to teaching and research. Students receive outstanding clinical education experiences with diverse patients who present a full range of communicative disorders. The Audiology and Speech-Language Pathology programs are accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) of the American Speech-Language-Hearing Association (ASHA).

The programs in Audiology and Speech-Language Pathology are based on the philosophy that professional education is optimized by drawing upon the patients, health care providers, and other academic medical center resources. The resources at Rush University enrich and enhance faculty and student research and scholarship, and they provide unique opportunities for interprofessional education and collaboration.

The clinical skills of Rush students are fostered and developed through didactic courses, clinical observation, and instruction, and are supervised by practitioner-teachers. The department faculty is supplemented by the expertise of physicians, scientists, and other health care practitioners within Rush University Medical Center.

### Mission Statement

The Department of Communication Disorders and Sciences at Rush University Medical Center integrates outstanding graduate education, superior patient care, excellence in research and scholarship, and service to diverse communities.

### Vision Statement

The clinical and graduate education programs of the Department of Communication Disorders and Sciences will be recognized as among the best in the United States.

### Professional Credentialing

Rush programs in Communication Disorders and Sciences offer the academic and clinical education background necessary to begin the ASHA clinical fellowship year (speech-language pathology) and to meet requirements for certification in audiology and speech-language pathology. Upon graduation students are eligible to do the following:

- Obtain Illinois licensure.
- Meet requirements for professional certification in speech-language pathology or audiology.
- Meet the requirements for the Illinois Educator License as a non-teaching speech-language pathologist. This is under the School Services Personnel category. Eligibility for the Illinois Educator License may require adjustment to a student's didactic or clinical experiences.

## Doctor of Audiology (AuD)

### Admission Process

Application for admission to the Doctor of Audiology program is through a central application system. Refer to the program's webpage for more information. The application deadline is Jan. 1 for matriculation the following fall.

### Admission Requirements

At the time of application, individuals should have completed or be in the process of completing the baccalaureate degree at an accredited institution. The baccalaureate degree must be completed before commencing work at Rush University. Students entering the program must have transcript credit for at least one college-level math or statistics course, at least one course in the behavioral/social sciences, at least one course in the biological sciences, and at least one course in the physical sciences.

Although not required, the following course work is strongly recommended: advanced college-level math, research methods, psychology, and physics. Applicants should check the program webpage for additional information about prerequisites.

Admission is granted for the fall semester of each year. The application file includes a completed application with essay, application fee, three letters of recommendation from individuals acquainted with the applicant's academic background, official transcripts from all universities attended, and official scores from the Graduate Record Examination (GRE). Applicants whose native language is not English and who have not obtained a college degree from a U.S. institution must submit official scores from the Test of English as a Foreign Language (TOEFL).

The generally applied minimum standards for acceptance into the AuD program are a 3.0 undergraduate GPA overall (on a 4.0 scale). The program's Admissions Committee reviews all applications and makes all admissions decisions. In accordance with Rush's I CARE values (innovation, collaboration, accountability, respect, excellence) and in an effort to support diversity and inclusion in our student body, the Rush Doctor of Audiology Program is taking all required application materials into consideration in the admissions process.

### Technical Standards for the Audiology Program

Rush University is committed to diversity and to attracting and educating students who will serve diverse communities locally and nationally.

Our core values — innovation, collaboration, accountability, respect and excellence (I CARE) — translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and creates a respectful, accountable culture through our confidential and specialized disability support. Rush is committed to excellence in accessibility; we encourage students with disabilities to disclose and seek accommodations.

The following technical functions are required of all students enrolled in the Audiology program:

#### Acquire Information

- Acquire information from demonstrations and experiences in courses such as lecture, group and physical demonstrations.
- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval).
- Identify information presented in accessible images from paper, slides, videos with audio description and computer presentations.
- Recognize and assess patient changes in mood, activity, cognition, and verbal and non-verbal communication.

#### Use and Interpret

- Use and interpret information from assessment techniques/maneuvers.
- Use and interpret information related to physiologic phenomena generated from diagnostic tools.

#### Motor

- Possess psychomotor skills necessary to provide or assist in holistic audiology care and perform or assist with procedures and treatments.
- Practice in a safe manner and appropriately provide audiology care and assessment in emergencies and life-support procedures and perform universal precautions against contamination.

#### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors and all members of the health care team during practicum and other learning experiences.
- Accurately elicit information, including a medical history and other information, to adequately and effectively evaluate a population's, client's or patient's condition.

#### Intellectual Ability

- Measure, calculate, reason, analyze and synthesize data related to diagnosis and treatment of patients and populations.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the audiology role.
- Synthesize information, problem solve, and think critically to judge the most appropriate theory, assessment or treatment strategy.

#### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

#### Character

- Demonstrate concern for others.
- Demonstrate integrity, accountability, interest and motivation.
- Demonstrate intent and desire to follow the Rush University and Audiology and Speech-Language Pathology Code of Ethics.



The technical standards delineated above must be met with or without accommodation. Students who, after review of the technical standards, determine that they require reasonable accommodation to fully engage in the program should contact the Office of Student Accessibility Services to confidentially discuss their accommo-dation needs.

Given the clinical nature of our programs, time may be needed to implement the accommodations. Accommodations are never retroactive; therefore, timely requests are essential and encouraged. Contact the Office of Student Accessibility Services to learn more about accommodations at Rush University:

Marie Lusk, MBA, MSW, LSW
Director, Office of Student Accessibility Services
600 S. Paulina St., Suite 901
Chicago, IL 60612
(312) 942-5237
marie_lusk@rush.edu

## Communication Disorders and Sciences: Academic Policies

The Academic Resources and Policies section of this catalog contains Rush University academic policies.

### Academic Probation

Academic probation is assigned to a student who earns a Academic probation is assigned to a student who earns a single-term academic grade point average (GPA) between 2.5 and 2.99 (A = 4.0), and/or whose cumulative academic GPA falls between 2.5 and 2.99 at any time. The academic GPA is calculated for all non-clinical coursework. A remediation plan to address probation will be developed by the student's academic adviser and the student and will be documented in the student's program file.

A student must earn a single-term academic GPA of 3.0 or greater at the end of the semester for which the student is on academic probation and a cumulative academic GPA of 3.0 or greater by the end of the first academic year to continue in the program. A student who incurs a semester academic GPA below 3.0 after being removed from academic probation will be dismissed from the program, even if the cumulative academic GPA is 3.0 or greater.

A student who earns a grade of D or less in a required course must repeat that course or an equivalent course that has been approved by the student's program and transferred from an outside institution. In a repeated course, the new grade will replace the earlier grade in the cumulative academic GPA. Failure to receive a grade of C or greater in a repeated course will result in dismissal from the program.

A student must receive a grade of C or greater in an approved transfer course in order for it to be accepted as an equivalent for the course for which the student received a grade of D or less. Credit for a transferred course is not included in the calculation of the cumulative academic GPA. The course for which the student earned the grade of D or less will remain on the student's transcript and will be used to calculate the academic GPA. This may impact the student's minimum GPA requirement for graduation.

A student who earns a grade of D or less in two or more required courses, regardless of the grade earned in a repeated course and regardless of the cumulative academic GPA, will be dismissed from the program.

A student who earns a single-term academic GPA of less than 2.5 at any point during his/her course of study will be dismissed from the program.

A student who fails to meet the stated criteria for the comprehensive examination will be dismissed from the program.

A cumulative academic GPA of 3.0 or greater is required for graduation.

### Clinical Probation

Clinical probation is assigned to a student who earns a grade of C or less in a clinical practicum, internship or externship. Although the clinical contact hours may be used to meet the ASHA Council for Clinical Certification (CFCC) requirements, the student may be required to repeat the clinical education course before progressing further in the clinical sequence.

A remediation plan to address clinical probation will be determined by the student, the student's academic adviser, and the clinical education manager; this remediation plan will be documented. Failure to achieve a grade of B or higher in any subsequent clinical education course will result in dismissal from the program.

The faculty reserves the right to request the withdrawal of any student whose conduct or performance demonstrates lack of fitness for continuance in a health profession. Any such student not voluntarily withdrawing will be dismissed from the program.

## Clinical Progression

In the AuD program, a grade of B or higher is required to pass a clinical course. Students receiving a grade of C or less in any AuD clinical course prior to the final externship semester will be placed on clinical probation and required to repeat and pass the practicum before progressing further in the clinical sequence. Any earned clinical contact hours may be used to meet the ASHA Council for Clinical Certification requirements.

Students receiving a grade of C in their final externship semester will be placed on probation and required to register for one credit of continuing enrollment in the following semester to complete remediation and achieve good standing before graduation. Students receiving a grade of D in their final externship semester will be placed on probation and required to repeat the course. Students receiving an F in the final externship semester will be dismissed from the program.

For students placed on clinical probation at any time during the AuD clinical sequence, a remediation plan to address clinical probation will be determined jointly by the student, the student's academic adviser, and the clinical education manager; this remediation plan will be documented. Failure to achieve a grade of B or higher in any subsequent clinical education course will result in dismissal from the program.

The faculty reserves the right to request the withdrawal of any student whose conduct or performance demonstrates lack of fitness for continuance in a health profession. Any such student not voluntarily withdrawing will be dismissed from the program.

## Interrupted Program

Students who wish or need to interrupt their program must fulfill the following requirements:

- Meet with their academic adviser and the program director to work out a plan of action before leaving the program.
- Complete all degree requirements within eight years (doctoral program) of the beginning of the first term in which the full-time student is enrolled in the department.
- Follow all appropriate leave of absence/withdrawal procedures and policies as defined by Rush University.

## Academic Appeal and Grievance

See the CDS Student Manual for the policy on academic appeal and grievance, and for other policies. The department follows procedures outlined in the College of Health Sciences Student Academic Appeal and Grievance Procedures. Students who wish to file a complaint related to compliance with an accreditation standard may contact the Council on Academic Accreditation:

Chair, Council on Academic Accreditation in Audiology and Speech-Language Pathology
American Speech-Language-Hearing Association
2200 Research Blvd, Suite 310
Rockville, MD 20850
(800) 498-2071 or (301) 296-5700

## Clinical Education Experiences in Audiology

Clinical training occurs throughout the curriculum, including clinical methods course work, patient experiences, and alternative clinical experiences. Enrollment in each term of practicum, internship or externship is contingent upon satisfactory completion (grade of B or better) of the previous term's clinical education course. Clinical experiences include direct and indirect patient care activities across the scope of practice with diverse populations from all age groups at both on- and off-campus facilities.

## Graduation Requirements

The requirements for the Doctor of Audiology degree include a cumulative academic GPA of 3.0 or greater and successful completion of the comprehensive examination. Audiology students also must complete an investigative project. In addition, AuD students are required to pass the PRAXIS prior to receiving their degrees.

Requirements for the doctoral degree must be completed within eight years of the beginning of the first term in which a full-time student is enrolled. Students must complete the number of term hours required by the program. Refer to the Department of Communication Disorders and Sciences Student Manual for additional discussion about graduation and degree progression.



## Educational Activities

The Department of Communication Disorders and Sciences provides professional education and training in speech-language pathology and audiology. Its programs are notable in that the education of speech-language pathologists and audiologists is enhanced by the opportunities, resources, and facilities provided by a world-class academic medical center.

In addition to didactic and clinical activities, students and faculty participate in journal clubs, rounds and student-faculty development sessions available within the department, as well as throughout Rush University Medical Center. Students and faculty benefit from presentations by distinguished guests who share research and clinical expertise in audiology or speech-language pathology. Special seminars and presentations on various health care topics are available to students throughout the medical center.

Faculty members are involved in the education of residents and students in Rush Medical College. Faculty members participate in grand rounds for various medical specialties and provide in-service programs on campus for staff at Rush University Medical Center.

## Research Activities

Faculty members are involved in interprofessional and translational research in the areas of audiology, hearing science, and speech-language pathology. Projects include cochlear implant processing, working memory and communication, adult speech disorders, dysphagia, neurogenic communication disorders, language and literacy in children, quality of life and hearing aids, aging and hearing loss, language disorders and second language learning, and many other topics related to human communication and swallowing.

Faculty members publish in professional journals and present at international, national, and state meetings. Summaries of faculty research and professional activities are available on the department's webpage. Students are encouraged to participate in the research process, including development of hypotheses, data collection, and presentation or publication of results.

## Investigative Project

Students enrolled in the Doctor of Audiology program complete the investigative project during the third year of the curriculum. The objectives of the investigative project are to synthesize a body of literature related to a specific topic in audiology, cultivate professional writing skills, acquire didactic skills for dissemination of professional information, and develop organizational and verbal tools needed for professional presentations.

Ordinarily, the investigative project includes three options: systematic review, experimental project or professional/clinical project. A complete description of the investigative project is found in the Student Manual for the Department of Communication Disorders and Sciences. Students are expected to submit the completed project for presentation at a state or national professional meeting and/or for publication.

## Service Activities

The faculty provides a full range of diagnostic and therapeutic services to a large clinical population that includes both inpatients and outpatients. In addition, faculty and students participate in community and professional activities on the local, national and international level. Students and faculty participate in health fairs, screenings, and other service activities throughout the year. Faculty provide leadership, editorial and committee service to state and national scientific and professional associations.

## Audiology (AUD): Curriculum

| First Year | | Credit Hours |
|---|---|---|
| **Fall Term** | | |
| AUD-602 | Anatomy and Physiology of Hearing and Balance | 3 |
| AUD-606 | Introduction to Neuroscience | 3 |
| AUD-613 | Acoustics and Psychoacoustics | 2 |
| AUD-621 | Clinical Methods in Audiology | 2 |
| AUD-622 | Clinical Observation in Audiology | 1 |
| AUD-623 | Audiologic Assessment | 3 |
| **Spring Term** | | |
| AUD-607 | Pathophysiology of the Auditory System | 3 |
| AUD-614 | Acoustic Phonetics and Speech Perception | 2 |
| AUD-640 | Basic Amplification | 2 |
| AUD-650 | Vestibular Assessment and Rehabilitation | 3 |
| AUD-690 | Clinical Practicum I | 1 |
| CHS-610 | Research Methods in Health Sciences | 2 |
| **Summer Term** | | |
| AUD-611 | Embryology and Genetics of the Auditory System | 1 |
| AUD-630 | Electrophysiologic Assessment I | 3 |
| AUD-660 | Pediatric Audiology | 2 |
| AUD-691 | Clinical Practicum II | 1 |
| CDS-576 | Issues in Counseling | 2 |
| **Second Year** | | **Credit Hours** |
| **Fall Term** | | |
| AUD-592 | Grand Rounds | 1 |
| AUD-615 | Pharmacology | 2 |
| AUD-637 | Electrophysiologic Assessment II | 2 |
| AUD-641 | Adult Amplification | 3 |
| AUD-645 | Adult and Geriatric Rehabilitative Audiology | 3 |
| AUD-692 | Clinical Practicum III | 1 |
| **Spring Term** | | |
| AUD-592 | Grand Rounds | 1 |
| AUD-663 | Pediatric Amplification and Habilitation | 2 |
| AUD-664 | Educational Audiology | 2 |
| AUD-665 | Auditory Implants | 2 |
| AUD-672 | Seminar in Current Professional Issues | 1 |
| AUD-800 | Internship I | 3 |
| **Summer Term** | | |
| AUD-651 | Vestibular Seminar | 1 |
| AUD-667 | Auditory Processing | 2 |
| AUD-670 | Seminar in Hearing Conservation | 1 |
| AUD-671 | Seminar in Supervision and Mentorship | 1 |
| AUD-801 | Internship II | 3 |
| CHS-605 | Introduction to Ethics in Health Care | 2 |
| **Third Year** | | **Credit Hours** |
| **Fall Term** | | |
| AUD-673 | Practice Management Across Settings | 2 |
| AUD-802 | Internship III | 3 |
| AUD-642 | Amplification Seminar | 1 |
| AUD-682 | Investigative Project Planning Seminar | 2 |
| CHS-601 | Introduction to Biostatistics | 2 |
| **Spring Term** | | |
| AUD-683 | Investigative Project | 3 |
| AUD-803 | Internship IV | 5 |
| **Summer Term** | | |
| AUD-850 | Externship I | 7 |
| **Fourth Year** | | **Credit Hours** |
| **Fall Term** | | |
| AUD-851 | Externship II | 7 |
| **Spring Term** | | |
| AUD-852 | Externship III | 7 |
| | **Program Total:** | **108** |

# Master of Science Speech-Language Pathology (MS)

### Admission Process

Application for admission to the Master of Science in Speech-Language Pathology program is through a central application system. Refer to the program's webpages for more information. The application deadline is Jan. 1 for matriculation the following fall.

### Admission Requirements

At the time of application, individuals should have completed or be in the process of completing a baccalaureate degree at an accredited institution. The baccalaureate degree must be completed before commencing work at Rush University. Students entering the program must have successfully completed coursework in introduction to audiology, phonetics, normal speech and language development, speech and hearing science, speech and hearing anatomy and physiology, and statistics. In addition, entering students must have transcript credit for at least one course in each of the following areas: biological sciences, physical sciences (physics and/or chemistry) and social/behavioral sciences. Applicants should check the program webpage for additional information about prerequisites. High school Advanced Placement (AP) credits may not meet this requirement. All courses must be taken for a grade at the baccalaureate level.

Admission is granted for the fall term of each year. The application file includes a completed application with essay, application fee, three letters of recommendation from individuals acquainted with the applicant's academic background, official transcripts from all universities attended and applicants may also be invited to participate in an interview. Applicants whose native language is not English and who have not obtained a college degree from a U.S. institution must submit official scores from the Test of English as a Foreign Language or TOEFL.

The generally applied minimum standards for acceptance into the program are a 3.0 undergraduate GPA overall (on a 4.0 scale) and a 3.5 in major courses in speech-language pathology or a 3.5 in the prerequisite course content as listed in the application. The SLP Program Admissions Committee reviews all applications and makes all admissions decisions.

The Rush MS-SLP program accepts student with a degree in any discipline. However, there are prerequisites that must be successfully completed before you enter the program:

Required Prerequisites:

- Introduction to Audiology
- Phonetics
- Normal Speech and Language Development
- Anatomy and Physiology of Speech and Hearing
- Speech and Hearing Science

- Minimum of one course in behavioral/social sciences (e.g., psychology, sociology, anthropology or public health)
- Minimum of one course in the biological sciences (e.g., cellular biology, bio/life sciences, ecology, cytology, embryology, evolutionism, genetic science, microbiology, molecular biology, morphology, neurobiology, physiology, radiobiology or sociobiology)
- Minimum of one course in the physical sciences (e.g., physics or chemistry)
- Statistics

### Technical Standards for the Speech-Language Pathology Program

Rush University is committed to diversity and to attracting and educating students who will serve diverse communities locally and nationally.

Our core values — I CARE (innovation, collaboration, accountability, respect and excellence) — translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and creates a respectful, accountable culture through our confidential and specialized disability support. Rush is committed to excellence in accessibility; we encourage students with disabilities to disclose and seek accommodations.

The following technical functions are required of all students enrolled in the Speech-Language Pathology program:

#### Acquire Information

- Acquire information from demonstrations and experiences in courses such as lecture, group and physical demonstrations.
- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval).
- Identify information presented in accessible images from paper, slides, videos with audio description and computer presentations.
- Recognize and assess patient changes in mood, activity, cognition and verbal and non-verbal communication.

#### Use and Interpret

- Use and interpret information from assessment techniques/maneuvers.
- Use and interpret information related to physiologic phenomena generated from diagnostic tools.

#### Motor

- Possess psychomotor skills necessary to provide or assist in holistic speech-language pathology care and perform or assist with procedures and treatments.
- Practice in a safe manner and appropriately provide speech-language pathology care and assessment in emergencies and life-support procedures and perform universal precautions against contamination.

#### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors and all members of the health care team during practicum and other learning experiences.
- Accurately elicit information, including a medical history and other information, to adequately and effectively evaluate a population's, client's or patient's condition.

#### Intellectual Ability

- Measure, calculate, reason, analyze and synthesize data related to diagnosis and treatment of patients and populations.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the speech-language pathology role.
- Synthesize information, problem solve and think critically to judge the most appropriate theory, assessment or treatment strategy.

#### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

#### Character

- Demonstrate concern for others.
- Demonstrate integrity, accountability, interest and motivation.
- Demonstrate intent and desire to follow the Rush University and Speech-Language Pathology Code of Ethics.



The technical standards delineated above must be met with or without accommodation. Students who, after review of the technical standards, determine they require reasonable accommodation to fully engage in the program, should contact the Office of Student Accessibility Services to confidentially discuss their accommodations needs.

Given the clinical nature of our programs, time may be needed to implement the accommodations. Accommodations are never retroactive; therefore, timely requests are essential and encouraged. Contact the Office of Student Accessibility Services to learn more about accommodations at Rush University:

Marie Lusk, MBA, MSW, LSW
Director, Office of Student Accessibility Services
600 S. Paulina St., Suite 901
Chicago, IL 60612
(312) 942-5237
marie_lusk@rush.edu

## Communication Disorders and Sciences: Academic Policies

The Academic Resources and Policies section of this catalog contains Rush University academic policies.

### Academic Probation

Academic probation is assigned to a student who earns a single-term academic grade point average (GPA) between 2.5 and 2.99 (A = 4.0) and/or whose cumulative academic GPA falls between 2.5 and 2.99 at any time. The academic GPA is calculated for all non-clinical coursework. A remediation plan to address probation will be developed by the student's academic adviser and the student and will be documented in the student's program file.

A student must earn a single-term academic GPA of 3.0 or greater at the end of the semester for which the student is on academic probation and a cumulative academic GPA of 3.0 or greater by the end of the first academic year to continue in the program. A student who incurs a semester academic GPA below 3.0 after being removed from academic probation will be dismissed from the program, even if the cumulative academic GPA is 3.0 or greater.

A student who earns a grade of D or less in a required course must repeat that course or an equivalent course that has been approved by the student's program and transferred from an outside institution. In a repeated course, the new grade will replace the earlier grade in the cumulative academic GPA. Failure to receive a grade of C or greater in a repeated course will result in dismissal from the program.

A student must receive a grade of C or greater in an approved transfer course in order for it to be accepted as an equivalent for the course for which the student received a grade of D or less. Credit for a transferred course is not included in the calculation of the cumulative academic GPA. The course for which the student earned the grade of D or less will remain on the student's transcript and will be used to calculate the academic GPA. This may impact the student's minimum GPA requirement for graduation.

A student who earns a grade of D or less in two or more required courses, regardless of the grade earned in a repeated course and regardless of the cumulative academic GPA will be dismissed from the program.

A student who earns a single-term academic GPA of less than 2.5 at any point during his/her/their course of study will be dismissed from the program.

A student who fails to meet the stated criteria for the comprehensive examination will be dismissed from the program.

A cumulative academic GPA of 3.0 or greater is required for graduation.

### Clinical Probation

Clinical probation is assigned to a student who earns a grade of C or less in a clinical practicum, internship or externship. Although the clinical contact hours may be used to meet the ASHA Council for Clinical Certification (CFCC) requirements, the student may be required to repeat the clinical education course before progressing further in the clinical sequence.

A remediation plan to address clinical probation will be determined by the student, the student's academic adviser and the clinical education manager and will be documented. Failure to achieve a grade of B or higher in any subsequent clinical education course will result in dismissal from the program.

The faculty reserves the right to request the withdrawal of any student whose conduct or performance demonstrates lack of fitness for continuance in a health profession. Any such student not voluntarily withdrawing will be dismissed from the program.

## Clinical Progression

In the Speech-Language Pathology (SLP) program, a grade of B or higher is required to pass an SLP clinical practicum. Students receiving a grade of C or less in any SLP practicum prior to the final practicum (Practicums I-IV) will be placed on clinical probation and required to repeat and pass that practicum before progressing further in the clinical sequence. Any earned clinical contact hours may be used to meet the ASHA Council for Clinical Certification (CFCC) requirements.

Students receiving a grade of C in their final practicum will be placed on probation and required to register for one credit of continuing enrollment in the following semester to complete remediation and achieve good standing before graduation. Students receiving a grade of D in their final practicum will be placed on probation and required to repeat the course. Students receiving an F in the final practicum will be dismissed from the program.

For students placed on clinical probation at any time during the SLP practicum sequence, a remediation plan to address clinical probation will be determined jointly by the student, the student's academic adviser and the clinical education manager; this remediation plan will be documented. Failure to achieve a grade of B or higher in any subsequent clinical education course will result in dismissal from the program.

The faculty reserves the right to request the withdrawal of any student whose conduct or performance demonstrates lack of fitness for continuance in a health profession. Any such student not voluntarily withdrawing will be dismissed from the program.

## Interrupted Program

Students who wish or need to interrupt their program must fulfill the following requirements:

- Meet with their academic adviser, the clinical education manager and the program director to work out a plan of action before leaving the program.
- Complete all degree requirements within four years (master's program) of the beginning of the first term in which the full-time student is enrolled in the department.
- Follow all appropriate leave of absence/withdrawal procedures and policies as defined by Rush University.

## Academic Appeal and Grievance

See the CDS Student Manual for the policy on academic appeal and grievance and for other policies. The department follows procedures outlined in the College of Health Sciences Student Academic Appeal and Grievance Procedures. Students who wish to file a complaint related to compliance with an accreditation standard may contact the Council on Academic Accreditation:

Chair, Council on Academic Accreditation in Audiology and Speech-Language Pathology
American Speech-Language-Hearing Association
2200 Research Blvd, Suite 310
Rockville, MD 20850
(800) 498-2071 or (301) 296-5700

## Clinical Education Experiences in Speech-Language Pathology

Clinical training occurs throughout the curriculum, including patient experiences and clinical methods coursework. Enrollment in each term of practicum, internship or externship is contingent upon satisfactory completion (grade B or better) of the previous term's clinical education course. Clinical experiences include direct and indirect patient care activities across the scope of practice with diverse populations from all age groups at both on- and off-campus facilities.

## Graduation Requirements

The requirements for the Master of Science degree in Speech-Language Pathology degree include a cumulative academic GPA of 3.0 or greater, receive a passing score on the PRAXIS exam and successful completion of the comprehensive examination. Thesis students must successfully complete the thesis process in lieu of passing a comprehensive examination.

All master's degree requirements must be completed within 48 months from the beginning of the first term in which a full-time student is enrolled in the program. Students must complete the number of term hours required by the program. Refer to the Department of Communication Disorders and Sciences Student Manual for additional discussion about graduation and degree progression.



## Educational Activities

The Department of Communication Disorders and Sciences provides professional education and training in speech-language pathology and audiology. Its programs are notable in that the education of speech-language pathologists and audiologists are enhanced by the opportunities, resources and facilities provided by a world-class academic medical center.

In addition to didactic and clinical activities, students and faculty participate in journal clubs, rounds and student-faculty development sessions available within the department as well as throughout the Rush University Medical Center. Students and faculty benefit from presentations by distinguished guests who share research and clinical expertise in audiology or speech-language pathology. Special seminars and presentations on various health care topics are available to students throughout Rush University Medical Center.

Faculty members are involved in the education of residents and students in Rush Medical College. Faculty members participate in grand rounds for various medical specialties and provide in-service programs on campus for staff at Rush University Medical Center and the Johnston R. Bowman Health Center.

## Research Activities

Faculty members are involved in interprofessional and translational research in the areas of audiology, hearing science and speech-language pathology. Projects include cochlear implant processing, working memory and communication, adult speech disorders, dysphagia, neurogenic communication disorders, language and literacy in children, quality of life and hearing aids, aging and hearing loss, language disorders and second language learning, and many other topics related to human communication and swallowing.

Faculty members publish in professional journals and present at international, national and state meetings. Summaries of faculty research and professional activities are available online on the department's webpage. Students are encouraged to participate in the research process, including the development of hypotheses, data collection and presentation or publication of results.

## Thesis

The faculty's commitment to research and the belief that an appreciation of scientific endeavors is critical to the clinical process provide the basis for an optional thesis. Many students in graduate school choose to do a thesis, thereby gaining valuable research experience. A thesis project is data based and may be an original or replication study.

Often, students present the results of their research at a professional meeting or publish results in a professional journal. The thesis project is optional in the speech-language pathology curriculum, and students are encouraged to consider choosing this option. The complete thesis policy is found in the Student Manual for the Department of Communication Disorders and Sciences.

## Service Activities

The faculty provides a full range of diagnostic and therapeutic services to a large clinical population that includes inpatients and outpatients. In addition, faculty and students participate in community and professional activities on the local, national and international level. Students and faculty participate in health fairs, screenings and other service activities throughout the year. Faculty provides leadership, editorial and committee service to state and national scientific and professional associations.

## Speech-Language Pathology (MS) Non-Thesis Track: Curriculum

| First Year | | Credit Hours |
|---|---|---|
| **Fall Term** | | |
| SLP-506L | Clinical Methods Lab | 1 |
| SLP-537L | Anatomy Lab | 2 |
| SLP-521 | Language Disorders in Children I: Birth through Age Five | 3 |
| CHS-610 | Research Methods in Health Sciences (online) | 2 |
| SLP-526 | Speech Sound Disorders | 2 |
| AUD-606 | Introduction to Neuroscience | 3 |
| SLP-511P | Speech-Language Pathology Practicum I | 1 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| **Spring Term** | | |
| SLP-522 | Language Disorders in Children II: Age Six through Adolescence | 3 |
| SLP-558 | Dysphagia | 3 |
| SLP-567 | Dysarthria | 3 |
| SLP-523L | Instrumentation Lab | 1 |
| SLP-564 | Aphasia | 3 |
| SLP-512P | Speech-Language Pathology Practicum II | 2 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| **Summer Term** | | |
| SLP-568 | Cognition of Acquired Language and Communication Disorders | 3 |
| SLP-563 | Voice Disorders | 3 |
| SLP-524 | Fluency, Dysfluency and Stuttering | 2 |
| SLP-542L | Tracheostomy and Ventilator Lab | 1 |
| SLP-503L | Auditory Skills Lab for the Speech-Language Pathologist | 1 |
| CDS-576 | Issues in Counseling | 2 |
| SLP-513P | Speech-Language Pathology Practicum III | 2-6 |
| **Second Year** | | **Credit Hours** |
| **Fall Term** | | |
| SLP-510 | Professional Issues in Speech-Language Pathology | 2 |
| SLP-582 | Topics in Research Methods In Communication Disorders | 1 |
| SLP-562 | Craniofacial Anomalies and Genetic Syndromes | 2 |
| SLP-535 | Clinical Issues in Cultural and Language Diversity | 2 |
| SLP-540 | Head and Neck Cancer Management | 2 |
| SLP-592 | Applied Topics in Communication Disorders | 1 |
| SLP-589P | SLP Practicum IV | 4 |
| **Spring Term** | | |
| SLP-590P | Speech-Language Pathology Practicum V | 8-10 |
| | **Program Total:** | **67** |

## Speech-Language Pathology (MS) Thesis Track: Curriculum

Thesis students may deselect up to 8 credit hours of select coursework (**see courses listed with two asterisks - "**"**). Deselected courses may be audited; audited courses will appear on the student's transcript without credit hours assigned. The selection of the courses to remove from a student's program of study is done with the approval of the student's adviser, considering the individual's undergraduate background and graduate needs and experiences. Courses not audited are required to be taken for credit.

Clinic practicum hours may be altered. Students selecting the thesis option should schedule an appointment with the clinical education manager at the time they elect to complete a thesis to begin this planning. The Summer Practicum (SLP Practicum 3) may be increased to four credit hours. The Spring Year 2 Practicum (SLP Practicum 5) may be reduced to eight credit hours. These practicum experiences will be scheduled either on campus or at select external sites to facilitate completion of the thesis.

Students may also seek additional practicum opportunities earlier in their academic programs, to accelerate the achievement of the requisite number of contact hours. Students who may potentially alter their practicum hours must be in frequent contact with the clinical education manager to monitor that the requisite contact hours needed for graduation are being attained. Students who do not obtain the needed contact hours will register for additional credit during the following summer term so that this graduation requirement will be met.

## Speech-Language Pathology (MS) Thesis Track: Curriculum

| First Year | | Credit Hours |
|---|---|---|
| **Fall Term** | | |
| SLP-537L | Anatomy Lab | 2 |
| SLP-521 | Language Disorders in Children I: Birth through Age Five | 3 |
| CHS-610 | Research Methods in Health Sciences (online) | 2 |
| SLP-526 | Speech Sound Disorders | 2 |
| AUD-606 | Introduction to Neuroscience | 3 |
| SLP-511P | Speech-Language Pathology Practicum I | 1 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| **Spring Term** | | |
| SLP-522 | Language Disorders in Children II: Age Six through Adolescence | 3 |
| SLP-558 | Dysphagia | 3 |
| SLP-567 | Dysarthria | 3 |
| SLP-523L | Instrumentation Lab | 1 |
| SLP-564 | Aphasia | 3 |
| SLP-512P | Speech-Language Pathology Practicum II | 2 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| **Summer Term** | | |
| SLP-568 | Cognition of Acquired Language and Communication Disorders | 3 |
| SLP-563 | Voice Disorders | 3 |
| SLP-524** | Fluency, Dysfluency and Stuttering | 2 |
| SLP-542L** | Tracheostomy and Ventilator Lab | 1 |
| SLP-503L** | Auditory Skills Lab for the Speech-Language Pathologist | 1 |
| CDS-576** | Issues in Counseling | 2 |
| SLP-513P | Speech-Language Pathology Practicum III | 3-6 |
| SLP-598 | Thesis | 2 |

## Speech-Language Pathology (MS) Thesis Track: Curriculum

| Second Year | | Credit Hours |
|---|---|---|
| **Fall Term** | | |
| SLP-510** | Professional Issues in Speech-Language Pathology | 2 |
| SLP-582 | Topics in Research Methods In Communication Disorders | 1 |
| SLP-562** | Craniofacial Anomalies and Genetic Syndromes | 2 |
| SLP-535 | Clinical Issues in Cultural and Language Diversity | 2 |
| SLP-540** | Head and Neck Cancer Management | 2 |
| SLP-592 | Applied Topics in Communication Disorders | 1 |
| SLP-589P | SLP Practicum IV | 4 |
| SLP-598 | Thesis | 2 |
| **Spring Term** | | |
| SLP-590P | Speech-Language Pathology Practicum V | 8-10 |
| SLP-598 | Thesis | 2 |
| | **Program Total:** | **67** |

** Indicates course may be audited.

Students in the thesis track will begin their research with Independent Study in Spring 1 (two credits) and continue with Thesis Research in Summer 1, Fall 2, and Spring 2 (two credits each). A total of eight credit hours of independent study and thesis research will be accrued. Thesis-track students may audit a maximum of four credit hours per term in Summer 1 and Fall 2 to offset the credit hours attained through their thesis research.

Although up to eight credit hours of coursework may be audited, any eligible course not audited must be taken for credit to satisfy the program's overall degree requirements. Due to thesis-track students' ability to audit up to eight credit hours, the number of credit hours required for graduation is equal for thesis and non-thesis students.

### ASHA Requirements for the Certificate of Clinical Competence

The academic coursework and clinical education hours required by ASHA for the Certificate of Clinical Competence is described on the ASHA's website (www.asha.org). Students are responsible for reviewing this information and their undergraduate and graduate coursework to assure that the requirements will be met. If a deficiency exists, it is best to identify it early so that appropriate plans can be made. Students should review their coursework with their academic advisers during the first term of enrollment.



# Clinical Nutrition

## Master of Science
## Clinical Nutrition (MS)

### Academic Programs

#### Master of Science

The Clinical Nutrition MS degree track is for those who hold a baccalaureate degree and wish to expand their understanding of clinical nutrition through critical evaluation, integration and application of nutrition research. Students will complete didactic coursework and a master's research project. Upon completion of the curriculum, the student earns an MS degree with a major in clinical nutrition.

Obtaining the Clinical Nutrition MS degree without an accredited, supervised practice experience will not make the student eligible to sit for the registration exam to become a Registered Dietitian Nutritionist, or RDN.

### Admission Requirements

All who apply to the Clinical Nutrition MS degree track must have a baccalaureate degree.

Prerequisite courses from an accredited U.S. university that are required for admission to the Clinical Nutrition MS degree include the following:

- At least one course in biochemistry*
- At least one course in physiology
- At least one course in nutrition
- At least one course in statistics

**Students should note that two semesters of general chemistry and one semester of organic chemistry are typically the prerequisites for biochemistry. The prerequisite for physiology is an introductory biology course.*

Application requirements: Required application fees and the application process are specified on the Department of Clinical Nutrition webpage. If you have questions, contact Sarah Peterson, PhD, RD, LDN, program director at sarah_j_peterson@rush.edu or call (312) 942-7845.

Acceptance procedures for the Clinical Nutrition MS degree track include a review of application materials by the Rush University College of Health Sciences Admissions Office for completeness of application and a review by the Clinical Nutrition Admissions Committee for program acceptance. Students may be admitted in any of the three terms.

Students accepted into the Clinical Nutrition MS degree track will receive a letter of acceptance from the Rush University College of Health Sciences Admissions Office. An acceptance confirmation fee of $250 is required at this time. This fee is nonrefundable and will be applied to tuition for the first term.

### Required Testing for all Applicants

Applicants for the Clinical Nutrition MS degree track will need to submit results of the following:

International applicants: Graduates who obtained their education outside the United States and its territories must have their academic degree(s) validated as equivalent to the baccalaureate or master's degree conferred by a regionally accredited college or university in the United States. These applicants also must submit results of the TOEFL examination (see College of Health Sciences TOEFL requirements).

### Graduation Requirements

Once admitted into the Clinical Nutrition MS degree track, students must complete all coursework for graduation. Students must perform the following in order to graduate and have the degree conferred:

- Maintain a cumulative GPA of 3.0 or greater.
- Successfully complete all didactic coursework.
- Successfully complete all requirements of the master's research project.
- Pass the Rush University Interprofessional course.
- Complete a minimum of 16 contact hours of approved professional or community service.

Students must complete all requirements within five years from matriculation. Any student who expects to go beyond the timeframe must request an exception to the policy in writing to the Clinical Nutrition Academic Progress and Promotions committee.

### Research Activities

Students will be required to complete a master's research project. Faculty members of the Department of Clinical Nutrition are involved in applied nutrition research. Faculty and students present at professional meetings and publish in peer reviewed journals. A list of faculty and student research presentations and publications can be found on the Clinical Nutrition webpage.

### Service Activities

Students are required to complete 16 hours of community or professional service. Students meet this requirement in a variety of ways, including assisting at health fairs, volunteering at a local food pantry and helping at local clinics.

## Master of Science Clinical Nutrition: Academic Policies

The Clinical Nutrition MS degree track is offered on a part-time or full-time basis. A full-time student can complete the curriculum in four terms. All students must complete the curriculum within five years of matriculation. If a student is not finished with the MS degree in five years, a request for an extension must be made to the Clinical Nutrition Academic Progress and Promotions Committee. If an extension is granted, conditions of the extension may include additional coursework to assure relevancy and currency of knowledge and competence at the master's level.

Rush University requires continuous enrollment through to completion of degree (see Rush University policies for further information).

Students may be allowed to transfer up to 12 semester hours of applicable graduate credit from another accredited university. Graduate courses must be completed with a B or better and approved by the student's supervisory committee to be awarded transfer credit.

### Academic Progression

Students in the MS in Clinical Nutrition degree track are required to earn a grade of C or better in all didactic courses. Students will be placed on academic probation if any one of the following occur:

- Cumulative GPA falls below 3.0 in any semester.
- Receives a grade of D or F in any didactic course.

Students will need to re-take any course in which they received a grade of D or F. This will extend their anticipated graduation date.

The Clinical Nutrition Academic Progress and Promotions Committee will notify any student placed on probation, state the reason(s) for probation and indicate the conditions that must be satisfied for removal of probation.

Students will be dismissed if any of the following occur:

- Failure to earn a cumulative GPA of 3.0 or greater by the end of the next two consecutive terms after being placed on academic probation.
- A student receives a grade of D or F in two or more didactic courses over the duration of the curriculum.

Additionally, any conduct or performance by a student that demonstrates lack of fitness for continuance in the MS in Clinical Nutrition degree track may result in dismissal.

## Master of Science Clinical Nutrition: Technical Standards

Rush University is committed to diversity and to attracting and educating students who will serve diverse communities locally and nationally.

Our core values — I CARE (innovation, collaboration, accountability, respect and excellence) — translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and creates a respectful, accountable culture through our confidential and specialized disability support. Rush is committed to excellence in accessibility; we encourage students with disabilities to disclose and seek accommodations.

The following technical functions are required of all students enrolled in the Clinical Nutrition MS degree track:

### Acquire Information

- Acquire information from demonstrations and experiences in courses, such as lecture, group and physical demonstrations.
- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval).
- Identify information presented in accessible images from paper, slides, videos with audio description and transparencies.
- Recognize and assess patient changes in mood, activity, cognition, verbal and non-verbal communication.

### Use and Interpret

- Use and interpret information from assessment techniques/maneuvers.
- Use and interpret information related to physiologic phenomena generated from diagnostic tools.

### Motor

- Possess psychomotor skills necessary to provide or assist in holistic clinical nutrition care and perform or assist with procedures and treatments.
- Practice in a safe manner and appropriately provide clinical nutrition care and assessment in emergencies and life support procedures and perform universal precautions against contamination.

### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors and all members of the health care team during practicum and other learning experiences.
- Accurately elicit information, including a medical history and other information to adequately and effectively evaluate a population's, client's or patient's condition.

### Intellectual Ability

- Measure, calculate, reason, analyze and synthesize data related to the diagnosis and treatment of patients and populations.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the clinical nutrition role.
- Synthesize information, problem-solve and think critically to judge the most appropriate theory, assessment or treatment strategy.

### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

### Character

- Demonstrate concern for others.
- Integrity, accountability, interest and motivation are necessary personal qualities.
- Demonstrate intent and desire to follow the Rush University and Clinical Nutrition Code of Ethics.

The technical standards delineated above must be met with or without accommodation. Students who, after review of the technical standards, determine they require reasonable accommodation to fully engage in the program, should contact the Office of Student Accessibility Services to confidentially discuss their accommodations needs.

Given the clinical nature of our programs, time may be needed to implement the accommodations. Accommodations are never retroactive; therefore, timely requests are essential and encouraged. Contact the Office of Student Accessibility Services to learn more about accommodations at Rush University:

Marie Lusk, MBA, MSW, LSW
Director, Office of Student Accessibility Services
Rush University
600 S. Paulina St., Suite 901
Chicago, IL 60612
(312) 942-5237
marie_lusk@rush.edu

## Master of Science Clinical Nutrition: Curriculum

| First Year | | Credit Hours |
|---|---|---|
| **Fall Term** | | |
| CHS-610 | Research Methods in the Health Sciences | 2 |
| NTR-660 | Applied Evidence in Clinical Nutrition: Obesity | 2 |
| NTR-682 | Research Methods Application and Special Topics in Clinical Nutrition | 1 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| | **Electives** *(see below)* | 2 |
| **Spring Term** | | |
| CHS-601 | Introduction to Biostatistics | 2 |
| NTR-621 | Regulation of Macronutrients and Energy Metabolism | 2 |
| NTR-661 | Applied Evidence in Clinical Nutrition: Metabolic Diseases | 2 |
| NTR-683 | Clinical Nutrition Master's Research Project I | 1 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| | **Electives** *(see below)* | 2 |
| **Summer Term** | | |
| NTR-662 | Applied Evidence in Clinical Nutrition: Cancer and GI Disease | 2 |
| NTR-691 | Nutrition Epidemiology | 3 |
| NTR-692 | Seminar in Clinical Nutrition | 1 |
| NTR-684 | Clinical Nutrition Master's Research Project II | 1 |
| | **Electives** *(see below)* | 2 |
| **Second Year** | | **Credit Hours** |
| **Fall Term** | | |
| NTR-622 | Vitamins and Minerals | 2 |
| NTR-685 | Clinical Nutrition Master's Research Project III | 1 |
| NTR-686 | Clinical Nutrition Master's Research Project IV | 2 |
| | **Electives** *(see below)* | 2 |
| **Electives** | | |
| CHS-605 | Introduction to Ethics in Healthcare | 2 |
| CHS-620 | Health Care in America | 2 |
| NTR-604 | Core Concepts of Health and Wellness | 2 |
| NTR-605 | Sports Nutrition | 2 |
| NTR-606 | Critical Analysis Multimedia | 2 |
| NTR-623 | Maternal and Infant Nutrition | 2 |
| NTR-613 | Advanced Nutrition Care III | 2 |
| NTR-900 | Independent Study | 1-3 |
| | **Program Total** | **30** |



## Master of Science Clinical Nutrition (MS) and Dietetic Integrated Track

### Dietetic Integrated Track

The MS in Clinical Nutrition - Dietetic Integrated Track is a 21-month curriculum that integrates didactic and supervised experiential learning. Students will also complete a master's research project. Upon completion of the track, the student earns an MS degree with a major in clinical nutrition, completes an accredited supervised experiential learning experience and is eligible to take the Registration Examination for Dietitians.

The MS in Clinical Nutrition - Dietetic Integrated Track is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND).

Accreditation Council for Education in Nutrition and Dietetics
Academy of Nutrition and Dietetics
120 S. Riverside Plaza, Suite 2190
Chicago, IL 60606
(800) 877-1600, ext. 5400
www.eatright.org/acend

## Master of Science Clinical Nutrition Dietetic Integrated Track: Admission Requirements

All who apply to the MS in Clinical Nutrition - Dietetic Integrated Track, must have a verification statement from an ACEND accredited didactic program in dietetics (DPD) or a baccalaureate degree in any field of study along with the completion of the prerequisite courses listed below.

- General chemistry with lab (minimum 3 credit hours)
- Organic chemistry with lab (minimum 3 credit hours)
- Biochemistry with lab (minimum 3 credit hours)
- Anatomy with lab (minimum 3 credit hours)
- Physiology with lab (minimum 3 credit hours)
- Microbiology with lab (minimum 3 credit hours)
- Human nutrition (minimum 3 credit hours)
- Food science with lab (minimum 3 credit hours)
- Introduction to foods or meal management (minimum 3 credit hours)

Application requirements, fees and the application process are specified on the Department of Clinical Nutrition webpage at www.rushu.rush.edu/cndi.

Once students are accepted into the MS in Clinical Nutrition - Dietetic Integrated Track, they are then required to complete the application for Rush University. An acceptance confirmation fee of $250 is required at this time. The fee is nonrefundable and will be applied to tuition for the first term.

If you have questions, contact Mark McInerney, DHSc, RD, LDN, at mark_c_mcinerney@rush.edu or (312) 563-0990.

### Drug Testing

Rush University Medical Center requires that all prospective employees, including dietetic students, undergo drug testing as a contingency for employment or enrollment.

### Criminal Background Check

All dietetic students will undergo a criminal background check to comply with legislation regarding employment in the health care field to assure patient safety.

### Required Testing for all Applicants

Those applying to the MS in Clinical Nutrition Dietetic Integrated Track need to submit results of the following: International applicants — graduates who obtained their education outside the United States and its territories must have their academic degree(s) validated as equivalent to the baccalaureate or master's degree conferred by a regionally accredited college or university in the United States. These applicants also must submit results of TOEFL examination (see College of Health Sciences TOEFL requirements).

## Master of Science Clinical Nutrition - Dietetic Integrated Track: Graduation Requirements

Once admitted to the MS in Clinical Nutrition - Dietetic Integrated Track, students will need to successfully complete the required 48 credit hours for graduation. This includes a minimum of 1,000 supervised experiential learning hours. In order to be eligible to take the registration exam for dietitians administered by the Commission on Dietetic Registration, students must fulfill all requirements of the MS in Clinical Nutrition and supervised experiential learning to receive a verification statement. Students must complete all MS in Clinical Nutrition and supervised experiential learning hours within 31.5 months of matriculation.

Students must meet the following in order to graduate and have the degree conferred:

- Maintain a cumulative GPA of 3.0 or greater.
- Successfully complete all didactic coursework.
- Successfully complete all required supervised experiential learning experiences.
- Successfully complete all requirements of the master's research project.
- Pass the Rush University Interprofessional course.
- Complete a minimum of 16 contact hours of approved professional or community service.

### Research Activities

Students will be required to complete a master's research project. Faculty members of the Department of Clinical Nutrition are involved in basic and applied nutrition research. Faculty and students present at professional meetings and publish in peer reviewed journals.

### Service Activities

Students are required to complete 16 hours of community or professional service. Students meet this requirement in a variety of ways, including assisting at health fairs, volunteering at the local food pantry and helping at local clinics.

## Master of Science Clinical Nutrition - Dietetic Integrated Track: Academic Policies

The MS in Clinical Nutrition Dietetic Integrated Track spans five semesters, including the summer semester, and is offered on a full-time basis only. Students must complete all of the required courses and supervised experiential learning experiences within 31.5 months of matriculation.

Rush University requires continuous enrollment through the completion of the degree (see Rush University Policies for further information). Students may be allowed to transfer up to 12 term hours of applicable graduate credit from another accredited university for the MS degree portion. Graduate courses must be completed with a B or better and approved by the student's supervisory committee to be awarded transfer credit.

### Academic Progression

Students in the MS in Clinical Nutrition - Dietetic Integrated Track are required to earn a Passing (P) grade in all supervised experiential learning courses (NTR 625P, NTR 626P, NTR 627P, NTR 628P and NTR 629P). A grade of C or better is required in all didactic courses. Students will be placed on academic probation if any one of the following occur:

- Cumulative GPA falls below 3.0 in any semester
- Receives a grade of Not Passing (NP) in a supervised experiential learning course
- Receives a grade of D or F in any didactic course

For didactic and supervised experiential learning corequisite courses (NTR 625 and 625P, NTR 626 and 626P, NTR 627 and 627P, NTR 628 and 628P, and NTR 629 and 629P), the student must earn a grade of C or better in the didactic courses and a grade of P in the supervised experiential learning corequisite to advance to the next corequisite course in the course sequence.

If a student receives a grade of NP in a supervised experiential learning course or a grade of D or F in a didactic course, the student must retake the course when offered the following academic year. This will extend their anticipated graduation date.

The Clinical Nutrition Academic Progress and Promotions Committee will notify any student placed on probation, state the reason(s) for probation and indicate the conditions that must be satisfied for removal of probation.

Students will be dismissed if any of the following occur:

- Failure to earn a cumulative GPA of 3.0 or greater by the end of the next two consecutive terms after being placed on academic probation.
- A student receives a NP grade in a supervised experiential learning course and receives a grade of D or F in any didactic course over the duration of the curriculum.
- A student receives a NP grade in two or more supervised experiential learning courses over the duration of the curriculum.
- A student receives a grade of D or F in two or more didactic courses over the duration of the curriculum.

Additionally, any conduct or performance by a student that demonstrates lack of fitness for continuance in the MS in Clinical Nutrition - Dietetic Integrated track may result in dismissal.

## Master of Science Clinical Nutrition and Dietetic Integrated Track: Technical Standards

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### Use and Interpret

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- Use and interpret information related to physiologic phenomena generated from diagnostic tools.

### Motor

- Possess psychomotor skills necessary to provide or assist in holistic clinical nutrition care and perform or assist with procedures and treatments.
- Practice in a safe manner and appropriately provide clinical nutrition care and assessment in emergencies and life support procedures and perform universal precautions against contamination.

### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors and all members of the health care team during practicum and other learning experiences.
- Accurately elicit information, including a medical history and other information to adequately and effectively evaluate a population's, client's or patient's condition.

### Intellectual Ability

- Measure, calculate, reason, analyze and synthesize data related to the diagnosis and treatment of patients and populations.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the clinical nutrition role.
- Synthesize information, problem-solve and think critically to judge the most appropriate theory, assessment or treatment strategy.

### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

### Character

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## Master of Science Clinical Nutrition - Dietetic Integrated Track: Curriculum

| First Year | | Credit Hours |
|---|---|---|
| **Fall Term** | | |
| CHS-610 | Research Methods in the Health Sciences | 2 |
| NTR-629 | Food Systems Management | 2 |
| NTR-629P | Practice in Food Systems Management | 5 |
| NTR-682 | Research Methods Application and Special Topics in Clinical Nutrition | 1 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| **Spring Term** | | |
| CHS-601 | Introduction to Biostatistics | 2 |
| NTR-621 | Regulation of Macronutrients and Energy Metabolism | 2 |
| NTR-625 | Fundamentals of Nutrition Care | 2 |
| NTR-625P | Practice in Fundamentals of Nutrition Care | 3 |
| NTR-683 | Clinical Nutrition Master's Research Project I | 1 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| **Summer Term** | | |
| NTR-628 | Community Nutrition | 2 |
| NTR-628P | Practice in Community Nutrition | 5 |
| NTR-684 | Clinical Nutrition Master's Research Project II | 1 |
| NTR-691 | Nutrition Epidemiology | 3 |
| **Credit Hours** | | |
| **Fall Term** | | |
| NTR-622 | Vitamins and Minerals | 2 |
| NTR-626 | Clinical Nutrition I | 2 |
| NTR-626P | Practice in Clinical Nutrition I | 4 |
| NTR-685 | Clinical Nutrition Master's Research Project III | 1 |
| **Spring Term** | | |
| NTR-627 | Clinical Nutrition II | 2 |
| NTR-627P | Practice in Clinical Nutrition II | 4 |
| NTR-686 | Clinical Nutrition Master's Research Project IV | 2 |
| | **Program Total:** | **48** |

# Health Sciences

## Doctor of Philosophy Health Sciences (PhD)

### Educational Philosophy

We believe our students will become future stewards of health sciences, worthy of being entrusted as guardians of the vitality, quality and integrity of their field. Toward that goal, we teach the highest levels of competence and integrity in education, leadership and research, and provide professional development and research mentoring by established scholars across the continuum of health sciences.

The underlying educational philosophy of the program is grounded in a triad of learner-centered thought: progressivism in which the learners' experiences, needs and interests are explored and fostered; reconstructionism in which the learners see their growth applied to real-world problems; and existentialism by which learners are challenged to own their future and become leaders in the evolution of health care.

### Mission

Our mission is to produce experienced health science professionals with a broad-based, interdisciplinary education who are prepared to lead, teach, practice clinically and perform research at the highest levels of competency and integrity.

### Vision

To become the highest quality PhD in health sciences program in the United States.

### Curricular Design

We offer a rigorous curriculum that emphasizes fundamentals and advanced concepts in leadership, education, research and professional development. We provide high quality, asynchronous online courses in leadership, education and research. The role of the curricular design is to provide a logical progression to learner growth.

The guiding principle of the curricular design is three-fold and presented in a continuum of foundations (theory), application (real-world problem resolution) and vision (synthesis and creative/critical forward thinking regarding the future trajectory of health care). The curricular design first establishes a foundation of past and current thinking (epistemological framework) and theory associated with leadership, education and research.

The curriculum challenges learners to address real-world applications through focused seminar courses and learner-centered projects. The curriculum progresses and challenges the learners' axiological considerations, encouraging the value of moving health care forward through research, demonstration projects, dissertation focus, ownership of learning and philosophical challenges to the status quo.

The program director provides general academic support and oversees the professional development courses. Transition to doctoral candidate occurs upon successfully completing most core courses, passing a comprehensive qualifying exam and passing a dissertation proposal presented to the dissertation committee.

Doctoral candidates conduct research and publish under the guidance and supervision of a research mentor. The dissertation committee consists of the research mentor, the program director and at least three additional qualified members. The dissertation committee ensures students are well-prepared to identify and fill important gaps in knowledge through the generation and dissemination of new knowledge and endorses the awarding of the PhD degree.

### Program Overview

The Doctor of Philosophy in Health Sciences program was launched by the College of Health Sciences in fall 2011. The program is designed to prepare health science professionals to assume major leadership, research and educational positions within their professions, as well as to foster career advancement opportunities.

The program provides a broad-based, interdisciplinary education that prepares graduates to teach, practice and perform research across the continuum of health care. The program prepares individuals for careers in research, education and leadership within allied health and, more broadly, within health care and higher education.

The program of study for the Doctor of Philosophy degree involves formal courses in leadership, education and research. It also involves mentored professional development within a health science specialty field. The publication of scholarly work in a peer-reviewed journal and the passing of a comprehensive oral examination are also required. In addition, students must complete and present a dissertation proposal that meets the approval of their advisory committee prior to beginning a dissertation research project that culminates in the writing and oral public defense of a dissertation.

The PhD degree demonstrates the capability for independent research and recognizes a unique contribution to scientific knowledge. The program may be taken on a part-time basis, however, in all cases must be completed in seven years or less.

The program consists of five major core areas: leadership (12 credits), education (9 credits), research (18 credits), professional development (3 credits) and dissertation research (12 credits minimum). The professional development courses are based on learning contracts that provide opportunities for advanced mentored learning and skill development in the health-related profession matching the students' interests. Student learning objectives have been developed for each major core area and are mapped to individual courses.

Students entering the program must have a master's degree in an area related to health sciences/health care administration or substantial professional experiences in a health-related field.

### Program Objectives

1. Produce scholars who will generate new knowledge and innovative applications through research
2. Produce scholars who will disseminate knowledge through education and publications
3. Produce scholars who will shape the future of health sciences through leadership and cooperation
4. Produce scholars who will uphold the highest ideals of health sciences

## Health Sciences (PhD): Admission Requirements

Applicants must have completed a master's degree or higher degree-such as an MD, AuD or OTD-from a regionally accredited college or university, provide official transcripts from each college or university attended and hold appropriate certification/licensure in their individual health profession by a major U.S. certification/licensing agency, as applicable. Degrees obtained outside the United States must be evaluated by Education Credentials Evaluators and must be judged equivalent to at least a master's degree by U.S. standards.

Additional applicant requirements include the following:

- Possess a minimum overall cumulative grade-point average of 3.0 on a 4.0 scale.
- Provide three letters of recommendations from people who are knowledgeable about the quality of the applicant's scholarly activities and/or work experiences.
- Prior health science experience is required for admission. Prior research experience will also be considered favorably.
- If your native language is not English, submit Test of English as a Foreign Language, or TOEFL, scores.
- Specific admission requirements may be waived by the College of Health Sciences admissions office. These will be addressed on a case-by-case basis.

Admission is on a competitive basis. The basis for inviting an applicant for an interview includes the applicant's academic performance represented by coursework grades, course load, trends and degree of course difficulty. In addition, the review includes consideration of the non-academic qualifications listed below in no particular order of preference or weight:

- Professional work experience.
- Positions of leadership held.
- Public/community service or volunteer-related activities.
- Volunteer activities in areas related to health care.
- Communication skills, as demonstrated in the essay and personal interview.
- Reference letters or recommendations.
- Research accomplishments.
- Applicant's future goals.

Once the College of Health Sciences admissions office has received all required documents, including the application fee, the application is forwarded to the program admission committee for review. If an applicant meets all the college and program admission criteria and, following an interview, the program admission committee agrees to admit the student, the College of Health Sciences admissions office writes the acceptance notification to the applicant.

For more information, please contact the program director:
Douglas Kuperman, PhD, RRT
PhD in Health Sciences Program Director
douglas_kuperman@rush.edu

### Admissions Applications

Application to the Rush University PhD in Health Sciences program must be completed online.

### Transfer of Credit

Credit for equivalent doctoral level courses may be transferred into the program using the petition to transfer credit form obtained from the Registrar. Only courses with grades of A or B are eligible. However, grades from courses transferred from another institution are not recorded on the student's academic record; the number of credits is recorded and added to the cumulative number of credits. Students must receive a minimum of 30 credit hours from Rush University to be eligible for the degree.

## Health Sciences (PhD): Technical Standards

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The following technical functions are required of all students enrolled in the PhD in Health Sciences program:



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- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval).
- Identify information presented in accessible images from paper, slides, videos with audio description and transparencies.

### Use and Interpret

- Use and interpret information from assessment techniques/maneuvers/procedures.
- Use and interpret information generated from diagnostic tools.

### Motor

- Possess psychomotor skills necessary to perform or assist with day-to-day responsibilities commensurate with the student's discipline.
- Practice in a safe manner and perform universal precautions against contamination.

### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors, employees, other professionals and all members of the health care team during practicum, internship and/or other learning experiences.

### Intellectual Ability

- Measure, calculate, reason, analyze and synthesize data related to diagnosis and treatment of patients and populations.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the PhD in health sciences role.
- Synthesize information, problem-solve and think critically to judge the most appropriate theory, assessment, management or treatment strategy.

### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

### Character

- Demonstrate concern for others.
- Integrity, accountability, interest and motivation are necessary personal qualities.
- Demonstrate intent and desire to follow the Rush University and PhD in Health Sciences program Code of Ethics.

The technical standards delineated above must be met with or without accommodation. Students who, after review of the technical standards, determine that require reasonable accommodation to fully engage in the program, should contact the Office of Student Accessibility Services to confidentially discuss their accommodations needs. Given the clinical nature of our programs, time may be needed to create and implement the accommodations.

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marie_lusk@rush.edu

## Health Sciences (PhD): Curriculum

### Student Learning Objectives

1. Demonstrate knowledge of foundational content and an understanding of the historical and contemporary theoretical frameworks of leadership and education through active discussion and written projects, including leadership needs assessments, organizational culture evaluations and self-assessment of learner's current leadership and educational operational basis with the development of individual action plans for improvement and growth.
2. Apply the foundational knowledge to real-world settings, as demonstrated by the successful completion of course projects, group activities, advanced critical thinking related to health science educational program and course design, development, implementation, administration and evaluation, critical discussions and publications.
3. Synthesize program content into a creative and unique forward-looking research project while applying current research ethics, theory and practice to influence the future of the health science professions

4. Integrate advanced skills and knowledge of composition, oral presentation, leadership, education and research into practice of the health science professions.

Student Learning Objective 1 maps to HSC 631, HSC 632, HSC 633, HSC 641 and HSC 643

Student Learning Objective 2 maps to HSC 631, HSC 634, HSC 641, HSC 642 and HSC 643

Student Learning Objective 3 maps to HSC 631, HSC 651, HSC 652, HSC 653, HSC 654, HSC 655, HSC 656 and HSC 699

Student Learning Objective 4 maps to HSC 631, HSC 661, HSC 662 and HSC 663

Prior to graduation, all students in the program will demonstrate achievement of the competencies described above in each of the core competency areas of education, research and leadership. Students will also demonstrate achievement of the required competencies by professional development in their individual professional disciplines.

| Leadership Core Courses | | Credits |
|---|---|---|
| HSC-631 | Composition for Effective Professional Writing | 3 |
| HSC-632 | Leadership Theory | 3 |
| HSC-633 | Leadership in Higher Education | 3 |
| HSC-634 | Issues and Trends in Health Care | 3 |
| **Education Core Courses** | | **Credits** |
| HSC-641 | Education Theory and Methods | 3 |
| HSC-642 | Curriculum and Instruction | 3 |
| HSC-643 | The Adult Learner | 3 |
| **Research Core Courses** | | **Credits** |
| HSC-652 | The Research Process I | 3 |
| HSC-653 | The Research Process II | 3 |
| HSC-654 | Grantsmanship | 3 |
| HSC-655 | Ethical Conduct in Research Settings | 3 |
| HSC-656 | The Dissertation Proposal | 3 |
| HSC-651 | Advanced Biostatistics | 3 |
| **Professional Development** | | **Credits** |
| HSC-661 | Professional Development I | 1 |
| HSC-662 | Professional Development II | 1 |
| HSC-663 | Professional Development III | 1 |
| **Independent Study** | | **Credits** |
| HSC-900 | Independent Study<br>*This variable credit course is optional.* | 1-12 |
| **Dissertation Research** | | **Credits** |
| HSC-699 | Dissertation Research<br>*This course will be repeated for a minimum of 12 credit hours.* | 3 |
| **Program Total:** | | **54** |

# Health Systems Management

## Master of Science
## Health Systems Management (MS)

### Philosophy

The Health Systems Management, or HSM, master's program, which started in 1979, educates students for highly successful careers in the rapidly growing field of health care management. We develop future leaders to transform health care in a professional program founded in research and evidence-based learning.

Students bring real-life experience to the classroom based on our internship model. Faculty bring real-life experience and teaching methods into the classroom based on our practitioner-teacher model and real-life applications.

Our program facilitates long-term involvement in the health care leadership profession as teachers, mentors and lifelong learners in the field. Application, innovation, excellence and leadership keep us on the cutting edge of experiential learning as we continue to evolve curriculum content based on industry trends.

### Mission

Our mission is to prepare individuals for roles of increasing leadership in the field of health care management, with the ultimate goal of transforming health care organizations to deliver the highest-quality patient care and improve the lives of patients, their families and the community.

### Vision

Through our practitioner-teacher model, our program will be recognized as the premier health administration graduate program in the nation.

### Values

Our program embraces the values of Rush University Medical Center, Rush University and the College of Health Sciences. These values include innovation, collaboration, accountability, respect, excellence, diversity, inclusion and accommodation.

## Health Systems Management (MS): Admission Requirements

Applicants must have a bachelor's degree from an accredited college or university or anticipate completing that degree prior to the start of the HSM degree program.

Coursework highlighting quantitative ability is highly recommended. Examples include courses in accounting, statistics and economics, among others.

Applicants must complete an online application through HAMPCAS, provide three letters of recommendation and submit official copies of their college/university transcripts from every college/university previously attended. International students must submit a credentialing evaluation of their international education, as well as the results from the Test of English as a Foreign Language, or TOEFL. At this time, the program will not be able to accept international students who require an F-1 Visa.

Qualified applicants are invited to a zoom interview with the HSM Admissions Committee.

## Health Systems Management: Academic Policies

### Enrollment

While the program is primarily designed for full-time study, students can enroll in the program either on a full- or part-time basis. Full-time students typically attend the program for four terms over two academic years, with a summer break. Part-time students typically take two to three courses per term. *The part-time program holds classes during traditional hours and does not offer evening or weekend classes at this time.*

The program must be completed within a five-year time limit unless the student is granted a waiver by program officials.

### Academic Progress

All students in the Department of Health Systems Management must achieve a grade-point average of 3.0 (A = 4.0) each term to maintain satisfactory academic status. A student is placed on academic probation when grades fall below a term or cumulative GPA of 3.0 or when a student receives a grade of F in any course. A student on academic probation remains on probation until meeting the requirements established by the program for removal from academic probation.

### Academic Advising

During orientation week, all students are assigned an academic adviser from among the core faculty. By the end of the first term, students are also assigned a career adviser from among Rush practitioner-teacher faculty.

### Graduation Requirements

To be eligible to graduate, a student must successfully complete all of the Department of Health Systems Management's academic requirements, which include earning a minimum of 58 term hours of credit and achieving a minimum cumulative grade point average of 3.0.

In addition, full-time students must complete a minimum of 440 hours of work in a health care management internship. Most students will complete this by working in a part-time student job during the academic program and registering for HSM 620 and 622. Part-time students complete a separate internship course, HSM 624 and 626. Please see course descriptions for more information.

Students need to have at least 16 documented contact hours of professional or community service.

### Faculty Work and Service Activities

Members of the faculty of the Department of Health Systems Management are actively involved in the operation of Rush University Medical Center as hospital administrators and health care planners, university administrators, financial managers, clinicians, attorneys, researcher and information services managers. They serve as consultants to hospitals, planning bodies and other organizations.

Faculty members hold leadership positions, participate in seminars and engage in other professional activities sponsored by the American College of Healthcare Executives, the American Hospital Association, the Chicago Health Executives Forum, the Healthcare Financial Management Association, the Association of University Programs in Health Administration, the Commission on Accreditation of Healthcare Management Education, the Healthcare Information Management Systems Society and the Illinois Hospital and Health Systems Association.

### Career Services

Health Systems Management students receive ongoing career mentoring, counseling and related services throughout their academic career. During the first academic year, full-time students are placed in part-time jobs throughout Rush University Medical Center. Job sites include Perioperative Services, Revenue Cycle Management, Human Resources, Rush University Medical Group, Community Health, Quality, Rush University Children's Hospital, Patient Relations, Emergency Management, Emergency Department, Population Health and Aging, Population Health, Supply Chain, Department of Surgery, Women's Leadership Center, College of Nursing Faculty Practice and Internal Medicine.

Please note, sites vary year to year. Incoming students will be given an up to date list of internship sites as they begin the program.

The jobs provide practical experience, reinforce the coursework, produce a more dynamic classroom experience and offer students a multifaceted perspective on the field of health care management. The student's manager also functions as a preceptor for the work experience. More information about internship onboarding will be given to students during their orientation week and applies to full-time students only.

Program faculty and staff help identify opportunities for summer internships and part-time work during the second academic year and counseling/assistance to secure postgraduate fellowships or jobs.

While students receive individualized input regarding their career goals, the program's Professional Seminar course provides systematic training, guidance and feedback in professional skills development and career planning.

## Health Systems Management: Technical Standards

Rush University is committed to diversity and to attracting and educating students who will serve diverse communities locally and nationally.

Our core values — ICARE (innovation, collaboration, accountability, respect and excellence) — translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and creates a respectful, accountable culture through our confidential and specialized disability support. Rush is committed to excellence in accessibility; we encourage students with disabilities to disclose and seek accommodations.

The following technical functions are required of all students enrolled in the Health Systems Management program:

### Acquire Information

- Acquire information from demonstrations and experiences in courses such as lecture, group and physical demonstrations.
- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval).
- Identify information presented in accessible images from paper, slides, videos with audio description and transparencies.

### Use and Interpret

- Use and interpret information from assessment techniques/maneuvers/procedures.
- Use and interpret information generated from diagnostic tools.

### Motor

- Possess psychomotor skills necessary to perform or assist with day-to-day responsibilities commensurate with the student's discipline.
- Practice in a safe manner and perform universal precautions against contamination.

### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors, employees, other professionals and all members of the health care team during practicum, internship and/or other learning experiences.

### Intellectual Ability

- Measure, calculate, reason, analyze and synthesize data related to the diagnosis and treatment of patients and populations.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the health systems management role.
- Synthesize information, problem-solve and think critically to judge the most appropriate theory, assessment, management or treatment strategy.

### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

### Character

- Demonstrate concern for others.
- Integrity, accountability, interest and motivation are necessary personal qualities.
- Demonstrate intent and desire to follow the Rush University and Health Systems Management Code of Ethics.

The technical standards delineated above must be met with or without accommodation. Students who, after review of the technical standards, determine they require reasonable accommodation to fully engage in the program, should contact the Office of Student Accessibility Services to confidentially discuss their accommodations needs.

Given the clinical nature of our programs, time may be needed to create and implement the accommodations. Accommodations are never retroactive; therefore, timely requests are essential and encouraged. Contact the Office of Student Accessibility Services to learn more about accommodations at Rush University:

Marie Lusk, MBA, MSW, LSW
Director, Office of Student Accessibility Services
Rush University
600 S. Paulina St., Suite 901
Chicago, IL 60612
(312) 942-5237
marie_lusk@rush.edu

## Health Systems Management (MS): Curriculum

The curriculum is designed to instruct students in the current theory and practice of health services management, including the study of organizational behavior, quantitative and analytical techniques, planning, finance and human resources management. The curriculum structure gives students the opportunity to apply managerial principles in real-world learning environments and design and conduct applied health-services research projects.

The curriculum content focuses on the following core content areas: professional development, operations and information systems, human resources and organizational design, health care business, finance, analytics and emerging content.

### Health Systems Management, Full-Time (MS)

| First Year | | Credits |
|---|---|---|
| **Fall Term** | | |
| HSM-606 | Health Care Organization | 2 |
| HSM-607 | Patient Experience Seminar | 1 |
| HSM-608 | Human Resources Management | 3 |
| HSM-610 | Professional Seminar | 3 |
| HSM-613 | Health Care Accounting | 2 |
| HSM-614 | Finance Fundamentals | 3 |
| HSM-620 | HSM Internship | 1 |
| **Spring Term** | | |
| CHS-601 | Introduction to Biostatistics | 2 |
| HSM-616 | Health Informatics | 3 |
| HSM-622 | HSM Internship | 1 |
| HSM-628 | Health Care Economics and Payment Systems | 3 |
| HSM-636 | Quality, Safety and Operational Improvement in Health Care | 4 |
| Select one Topics in Health Systems Management course. | | |
| **Second Year** | | **Credits** |
| **Fall Term** | | |
| HSM-640 | Health Care Planning and Marketing | 2 |
| HSM-644 | Health Care Managerial Finance and Seminar | 4 |
| HSM-648 | Health Law and Ethics for Health Care Managers | 3 |
| HSM-652 | Health Policy | 2 |
| HSM-656 | Master's Project I | 3 |
| **Spring Term** | | |
| HSM-660 | Master's Project II | 2 |
| HSM-664 | Leadership in the Changing Health System | 3 |
| HSM-668 | Managerial Epidemiology | 2 |
| HSM-672 | Capstone: Strategic Management of Health Care Organizations | 3 |
| Select one Topics in Health Systems Management course. | | |
| | **Program Total:** | **58** |

### Health Systems Management, Part-Time (MS)

| First Year | | Credits |
|---|---|---|
| **Fall Term** | | |
| HSM-606 | Health Care Organization | 2 |
| HSM-607 | Patient Experience Seminar | 1 |
| HSM-610 | Professional Seminar | 3 |
| **Spring Term** | | |
| CHS-601 | Introduction to Biostatistics | 2 |
| HSM-616 | Health Informatics | 3 |
| Select one Topics in Health Systems Management course. | | |
| **Second Year** | | **Credits** |
| **Fall Term** | | |
| HSM-608 | Human Resources Management | 3 |
| HSM-613 | Health Care Accounting | 2 |
| HSM-614 | Finance Fundamentals | 3 |
| **Spring Term** | | |
| HSM-628 | Health Care Economics and Payment Systems | 3 |
| HSM-636 | Quality, Safety and Operational Improvement in Health Care | 4 |
| **Third Year** | | **Credits** |
| **Fall Term** | | |
| HSM-640 | Health Care Planning and Marketing | 2 |
| HSM-644 | Health Care Managerial Finance and Seminar | 4 |
| HSM-652 | Health Policy | 2 |
| **Spring Term** | | |
| HSM-664 | Leadership in the Changing Health System | 3 |
| HSM-668 | Managerial Epidemiology | 2 |
| Select one Topics in Health Systems Management course. | | |
| **Fourth Year** | | **Credits** |
| **Fall Term** | | |
| HSM-648 | Health Law and Ethics for Health Care Managers | 3 |
| HSM-656 | Master's Project I | 3 |
| **Spring Term** | | |
| HSM-660 | Master's Project II | 2 |
| HSM-672 | Capstone: Strategic Management of Health Care Organizations | 3 |
| Select one Topics in Health Systems Management course. | | |
| **Internship Requirement** | | |
| All part-time students are required to register for two credits of part-time internship coursework. This can be taken in either the second, third or fourth year of the part-time program and requires approval from an academic adviser. | | |
| HSM-624 | HSM Part-Time Internship | 1-3 |
| HSM-626 | HSM Part-Time Internship | 1-3 |
| | **Program Total:** | **58** |

### Topics in Health Systems Management

Students will select three Topics in Health Systems Management courses to complete their program.

| | | |
|---|---|---|
| HSM-688A | Topics in Health Systems Management: Master's Project III: Writing for Publication | 2 |
| HSM-688B | Topics in Health Systems Management: Case Competition | 2 |
| HSM-688C | Topics in Health Systems Management: Student Fieldwork Experience | 2 |
| HSM-688D | Topics in Health Systems Management: Applications of Human-Centered Design to Planetary Health and Sustainability | 2 |
| HSM-688F | Topics in Health Systems Management: Managing Diversity | 2 |
| HSM- 688G | Topics in Health Systems Management: Health Equity and New Models of Care | 2 |
| HSM-688H | Topics in Health Systems Management: Move the Crowd: Five Strategies for Authentic Community Engagement | 2 |
| HSM-688I | Topics in Health Systems Management: Practice Management | 2 |
| HSM-688J | Topics in Health Systems Management: Academic Medicine Administration | 2 |
| HSM-688K | Topics in Health Systems Management: Consulting | 2 |
| HSM-688L | Topics in Health Systems Management: Introduction to Human-Centered Design | 2 |
| HSM-688M | Topics in Health Systems Management: Lean Six Sigma in Health Care | 2 |
| HSM-688N | Topics in Health Systems Management: Supply Chain Management in Health Care | 2 |
| HSM-688O | Topics in Health Systems Management: Revenue Cycle Management | 2 |

## Health Systems Management, Executive Track (MS)

The Executive Track within the Health Systems Management program is for professionals who have five or more years of relevant health care work experience. This two-year commitment stretches over six semesters and includes one onsite visit per semester. The courses feature online instruction and a modified block schedule that has students complete one course at a time before moving on to the next course.

The Rush teacher-practitioner model allows students to learn from executives, administrators and experts who actively work in their field. For those who have relevant health care work experience, obtaining their MS-HSM degree will help them to develop advanced leadership and operational skills and allow them to take their career to the next level.

### Admissions Requirements

To be considered for admissions into the Health Systems Management Executive Track program, you must have the following qualifications prior to enrolling in the program:

- Bachelor's degree from an accredited college or university.
- GPA of 3.0 or higher on a 4.0 scale.
- Coursework highlighting quantitative ability is highly recommended. Examples include courses in accounting, statistics, and economics among others.
- Five years of relevant health care career experience.

### Application for Admissions

Complete an application using the Healthcare Administration, Management and Policy Centralized Application Service www.aupha.org/resourcecenter/studentshampcas.

**Entry term:** Fall (September)

**Application cycle:** September - July

**Priority application deadline:** April 30

**Final application deadline:** July 31

Health Systems Management Executive Track | Master of Science in Health Systems Management | Rush University

You will also need the following ready to submit directly to HAMPCAS:

1. Official transcripts from every U.S. college or university attended. For coursework completed outside the United States, submit an international course evaluation.**
2. Name and email address of three references. HAMPCAS will contact each reference with instructions on how to complete an online evaluation.
3. Personal statement.
4. Resume.

If your native language is not English, submit **Test of English as a Foreign Language (TOEFL) scores**.

Qualified applicants are invited to a virtual interview with members of the admissions committee. Onsite visits are available to incoming students.

For inquiries about the Health Systems Management Executive track, please email: rush_hsm_executive@rush.edu.

At this time, the program will not be able to accept international students who require an F-1 Visa.

## Academic Progress

All students in the Department of Health Systems Management programs must achieve a grade-point average of 3.0 (A = 4.0) each term to maintain satisfactory academic status. A student is placed on academic probation when grades fall below a term or cumulative GPA of 3.0 or when a student receives a grade of F in any course. A student on academic probation remains on probation until meeting the requirements established by the program for removal from academic probation.

## Onsite Visits

Coursework is primarily completed via online instruction. The curriculum is structured in a modified block schedule that has students complete one course at a time before moving on to the next course. Mandatory onsite visits are scheduled for the second week of each semester, except for the last (Year 2, summer) semester. For the last (Year 2, summer) semester, the mandatory onsite visit will be scheduled during the last week of the term. Students will engage in discussions, case studies and more activities with their cohort during these onsite weeks. They also provide time for face-to-face networking with department faculty, instructors and guest speakers.

## Graduation Requirements

To be eligible for graduation, a student must successfully complete all of the Department of Health Systems Management's academic requirements, which include earning a minimum of 52 term hours of credit and achieving a minimum cumulative grade point average of 3.0.

# Health Systems Management: Technical Standards

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The following technical functions are required of all students enrolled in the Health Systems Management program:

### Acquire Information

- Acquire information from demonstrations and experiences in courses such as lecture, group and physical demonstrations.
- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval).
- Identify information presented in accessible images from paper, slides, videos with audio description and transparencies.

### Use and Interpret

- Use and interpret information from assessment techniques/maneuvers/procedures.
- Use and interpret information generated from diagnostic tools.

### Motor

- Possess psychomotor skills necessary to perform or assist with day-to-day responsibilities commensurate with the student's discipline.
- Practice in a safe manner and perform universal precautions against contamination.

### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors, employees, other professionals and all members of the health care team during practicum, internship and/or other learning experiences.

### Intellectual Ability

- Measure, calculate, reason, analyze and synthesize data related to the diagnosis and treatment of patients and populations.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the health systems management role.
- Synthesize information, problem-solve and think critically to judge the most appropriate theory, assessment, management or treatment strategy.

### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

### Character

- Demonstrate concern for others.
- Integrity, accountability, interest and motivation are necessary personal qualities.
- Demonstrate intent and desire to follow the Rush University and Health Systems Management Code of Ethics.

The technical standards delineated above must be met with or without accommodation. Students who, after review of the technical standards, determine they require reasonable accommodation to fully engage in the program, should contact the Office of Student Accessibility Services to confidentially discuss their accommodations needs.

Given the clinical nature of our programs, time may be needed to create and implement the accommodations. Accommodations are never retroactive; therefore, timely requests are essential and encouraged. Contact the Office of Student Accessibility Services to learn more about accommodations at Rush University:

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Rush University
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Chicago, IL 60612
(312) 942-5237
marie_lusk@rush.edu

## Health Systems Management Executive Track (MS) Curriculum

| First Year | | Credits |
|---|---|---|
| **Fall Term** | | |
| HSM-606 | Health Care Organization | 2 |
| HSM-607 | Patient Experience Seminar | 1 |
| HSM-610 | Professional Seminar | 3 |
| HSM-616 | Health Informatics | 3 |
| **Spring Term** | | |
| HSM-613 | Health Care Accounting | 2 |
| HSM-614 | Finance Fundamentals | 3 |
| HSM-628 | Health Care Economics and Payment Systems | 3 |
| **Summer Term** | | |
| CHS-601 | Introduction to Biostatistics | 2 |
| HSM-608 | Human Resources Management | 3 |
| HSM-636 | Quality, Safety & Operational Improvement in Health Care | 4 |
| **Second Year** | | **Credits** |
| **Fall Term** | | |
| HSM-644 | Health Care Managerial Finance and Seminar | 4 |
| HSM-648 | Health Law and Ethics for Health Care Managers | 3 |
| HSM-668 | Managerial Epidemiology | 2 |
| **Spring Term** | | |
| HSM-640 | Health Care Planning and Marketing | 2 |
| HSM-652 | Health Policy | 2 |
| HSM-656 | Master's Project I | 3 |
| HSM-688Y | Topics in Health Systems Management: Special Topics I | 1 |
| HSM-688Z | Topics in Health Systems Management: Special Topics II | 1 |
| **Summer Term** | | |
| HSM-660 | Master's Project II | 2 |
| HSM-664 | Leadership in the Changing Health System | 3 |
| HSM-672 | Capstone: Strategic Management of Health Care Organizations | 3 |
| | **Program Total:** | **52** |

# Medical Laboratory Science

## Medical Laboratory Science

The Department of Medical Laboratory Science currently offers two degree programs: the Master of Science in Medical Laboratory Science program and the Clinical Laboratory Management program. In addition, a Specialist in Blood Bank Technology certificate program is offered online.

### Philosophy

Our philosophy is that medicine requires today's medical laboratory scientist to be a highly qualified professional who is willing and able to expand and extend their theoretical knowledge and technical skills. The faculty of the Department of Medical Laboratory Science will provide students with the tools and resources necessary to attain the knowledge, skills and attitudes expected of laboratory professionals who work in a dynamic interprofessional environment. The medical laboratory scientist must maintain compassion and empathy and accept the patient's welfare as the highest priority.

## Certificate

## Specialist in Blood Bank Technology (CP)

### Program Overview

The online Specialist in Blood Bank, or SBB, Technology certificate program is intended to meet the needs of experienced medical laboratory scientists seeking advanced knowledge of immunohematology and its related disciplines. The SBB program is designed to prepare students for the SBB certification examination offered by the American Society for Clinical Pathology Board of Certification.

To align with the CAAHEP Committee on Accreditation of the Specialist in Blood Banking Technology and Transfusion Medicine Standards, the goal of the RUSH SBBT program is "To prepare competent entry-level Specialists in Blood Bank Technology/Transfusion Medicine (SBBT/TM) in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains."

### Mission Statement

Our mission is to prepare outstanding Specialist in Blood Bank Technology laboratory professionals who will have a spirit of inquiry, a commitment to lifelong learning and service, and who are dedicated to advance the quality and availability of safe blood donations and transfusions.

### Vision Statement

The Specialist in Blood Bank Technology certificate program will provide a high-quality, distance-learning program for blood banking and transfusion medicine laboratory professions that is recognized among the best in the United States.

### Student Learning Outcomes

At the completion of the Specialist in Blood Bank Technology program, the learner will be able to:

- Develop and evaluate blood bank and transfusion service protocols and procedures, including molecular testing and advanced technologies.
- Incorporate current regulations and standards set by various agencies for blood banks and transfusion services into the daily operation of a clinical laboratory.
- Identify and apply the most current theoretical principles, including molecular and serological methods to the practice, supervision and management of blood bank and transfusion services.
- Identify and resolve blood bank and transfusion questions, problems and clinical case studies through the application of theoretical principles, including molecular and serological methods.
- Engage in scientific investigations, questions and problems through applied research and appropriate use of resources, such as literature review, internet searches, and responsible artificial intelligence.
- Apply basic finance and accounting principles to prepare and analyze budgets and cost justifications.
- Develop technical and supervisory competencies in immunohematology, blood component manufacturing and transfusion medicine.
- Function as managers, educators, researchers or technical consultants and work as part of the health care team in providing care to patients.

### Program Accreditation

The Rush University SBB certificate program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org), upon the recommendation of the Committee on Accreditation of Specialist in Blood Bank Technology and Transfusion Medicine.

CAAHEP
9355 - 113th St. N, #7709
Seminole, FL 33775
(727) 210-2350



## Specialist in Blood Bank Technology (CP): Technical Standards

Rush University is committed to diversity and to attracting and educating students who will serve diverse communities locally and nationally.

Our core values — I CARE (innovation, collaboration, accountability, respect and excellence) — translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and creates a respectful, accountable culture through our confidential and specialized disability support. Rush is committed to excellence in accessibility; we encourage students with disabilities to disclose and seek accommodation.

The following technical functions are required of all students enrolled in the Specialist in Blood Bank Technology program:

### Acquire Information

- Acquire information from course discussions, case studies and various assignments.
- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval).
- Identify information presented in accessible images from paper, slides, videos with audio description and credible websites.

### Use and Interpret

- Use and interpret information from donor and patient scenarios and case studies.

### Communication

- Communicate effectively with faculty, preceptors, employees, other professionals and all members of the healthcare team during practicum and/or other learning experiences.

### Intellectual ability

- Measure, calculate reason, analyze and synthesize data related to diagnosis and treatment of patients and populations.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the role of a Specialist in Blood Bank Technology.
- Synthesize information, problem solve and think critically to judge the most appropriate theory, assessment, management or treatment strategy.

### Behavioral

- Maintain mature, sensitive, effective relationships with students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

### Character

- Demonstrate concern for others. Integrity, accountability, interest and motivation are necessary personal qualities.
- Demonstrate intent and desire to follow the Rush University and Specialist in Blood Bank Technology Program Code of Ethics.

The technical standards delineated above must be met with or without accommodation. Students who, after reviewing the technical standards, determine they require reasonable accommodation to fully engage in the program, should contact the Office of Student Accessibility Services to confidentially discuss their accommodations needs.

Given the clinical nature of our programs, time may be needed to implement the accommodation. Accommodation is never retroactive; therefore, timely requests are essential and encouraged. Contact the Office of Student Accessibility Services to learn more about accommodations at Rush University:

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Director, Office of Student Accessibility Services
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Chicago, IL 60612
(312) 942-5237
marie_lusk@rush.edu

## Specialist in Blood Bank Technology (CP): Admissions Requirements

- A baccalaureate degree from a regionally accredited U.S. college or university (The program will accept a BS/BA degree from a foreign institution for admission into the SBB program, with the following stipulations):
  - The foreign transcript must be evaluated by Educational Credentials Evaluators (ECE) or World Education Services (WES), and the evaluation must result in a determination that the student has earned a BS/ BA that is equivalent to a U.S. BS/BA
  - The applicant must satisfy the CHS policy for the Test of English as a Foreign Language, or TOEFL, exam
- A minimum GPA of 3.0 (on a scale of 4.0)
- Documentation of MLS (ASCP), BB (ASCP), or equivalent certification
- Two years of working experience in an accredited blood bank laboratory or transfusion service

- For non-native English speakers: TOEFL scores to satisfy the College of Health Sciences' policy on the TOEFL
- Official transcripts from each college or university attended
- Three reference letters
- An interview, either video or phone call

## Specialist in Blood Bank Technology (CP): Graduation Requirements

- Completion of all required coursework with a grade-point average of 2.75 or better
- Completion of all university requirements for graduation

## Specialist in Blood Bank Technology (CP): Curriculum

The SBB curriculum is a one-year program consisting of six courses. Students may complete the program in three terms, including a summer term. A part-time option is available.

The SBB curriculum consists of both online lecture/discussion and clinical experience components. Clinical experiences may be arranged at blood centers and hospitals near the student's home. In some cases, the student's place of employment may qualify. Students with prior clinical experience may be eligible to earn credit by proficiency based on a standardized departmental evaluation.

### Specialist in Blood Bank Technology (CP): Curriculum

| Fall Term | | Credit Hours |
|---|---|---|
| SBB-560 | Human Blood Group Systems and Principles & Methods of Antibody Identification | 4 |
| SBB-561 | Clinical Immunohematology and Transfusion | 3 |
| **Spring Term** | | |
| SBB-562 | Blood Procurement and Blood Product Manufacturing | 2 |
| SBB-563 | Blood Bank/Transfusion Service Operation | 3 |
| **Summer Term** | | |
| SBB-564 | SBB Project and Clinical Practicum | 3 |
| SBB-565 | Blood Bank Comprehensive Review | 2 |
| | **Program Total:** | **17** |

# Master of Science
# Clinical Laboratory Management (MS)

### Mission Statement

Our mission is to prepare highly qualified graduates equipped to perform as clinical laboratory managers in a collaborative, diverse and rapidly changing health care environment. Students will be active participants in learning and developing into a competent, effective and ethical manager. We prepare graduates who have a spirit of inquiry, a commitment to lifelong learning and service and are dedicated to advance the quality and availability of health care.

### Vision Statement

Our vision is to provide the highest quality clinical laboratory management graduate program that is recognized as the national leader for outstanding preparation of managers entering the clinical laboratories.

## Clinical Laboratory Management (MS): Program Overview

The online Master of Science degree program in Clinical Laboratory Management, or CLM, is designed for the practicing medical laboratory scientist who desires formal but flexibly delivered graduate education in management. The CLM program emphasizes the following: management principles and quality management, organizational structure and management functions, managerial decision-making and process improvement, human resource management, financial management, compliance and regulatory issues, health care informatics and legal issues in health care. This program provides a practical approach to managing the day-to-day aspects of the clinical laboratory.

Clinical laboratory managers are employable as supervisory personnel in a hospital, reference laboratory, clinical pathology, physician's office laboratory, industry, public health laboratory, clinical diagnostic company, educational institution or government agency. Students who successfully complete the CLM program and possess two years of full-time acceptable experience in clinical laboratory supervision or management within the last 10 years may apply to take the Diplomate in Laboratory Management certification exam from the American Society for Clinical Pathology Board of Certification. Students can attend on a part-time or full-time basis.

### Student Learning Outcomes

At the completion of the Clinical Laboratory Management program, the learner will be able to:

- Review policies and procedures to ensure compliance with all medical laboratory-related regulatory and accrediting organizations.
- Utilize the five steps that managers should take to make the best decisions ensuring that they are ethical, patient-focused and minimize conflict.
- Summarize the various aspects involved in the management of human resources, such as employee benefits, recruitment, termination and compensation, along with the laws and regulations that affect them.
- Prepare a strategic plan for a laboratory that is aligned with its corporate mission, vision and values based on a departmental SWOT (strengths, weaknesses, opportunities, threats) analysis to set goals that will help accomplish the strategic initiatives.
- Perform a cost/benefit analysis and justify the implementation of a new laboratory test, automation and/or information system.
- Compare and contrast the different forms of reimbursement that are currently used to pay for costs associated with health care with regards to their impact on the clinical laboratory.
- Utilize process improvement tools, such as the Plan-Do-Check-Act methodology, Six Sigma methodology, Lean and ISO quality systems.
- Apply evidence-based methods and comparative effectiveness tools with information technology to inform decisions that seek to optimize laboratory services and communicate with a multidisciplinary team to effect change.
- Develop a Quality Assessment plan that includes goals for preanalytic and postanalytic quality indicators.
- Conduct a research project with faculty/mentor guidance to include applying principles of research design, evaluation of published research studies, accurate interpretation of data and dissemination of results.

### Technical Standards

Rush University is committed to diversity and to attracting and educating students who will serve diverse communities locally and nationally.

Our core values — I CARE (innovation, collaboration, accountability, respect and excellence) — translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and creates a respectful, accountable culture through our confidential and specialized disability support. Rush is committed to excellence in accessibility; we encourage students with disabilities to disclose and seek accommodations.

The following technical functions are required of all students enrolled in the Clinical Laboratory Management program:

#### Acquire Information

- Acquire information from demonstrations and experiences in courses, such as lecture, group and physical demonstrations.
- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval).
- Identify information presented in accessible images from paper, slides, videos with audio description and transparencies.
- Recognize ad assess patient changes in mood, activity, cognition, verbal and non-verbal communication.

#### Use and Interpret

- Use and interpret information from assessment techniques/maneuvers.
- Use and interpret information related to physiologic phenomena generated from diagnostic tools.

#### Motor

- Possess psychomotor skills necessary to provide or assist in holistic clinical laboratory management care and perform or assist with procedures and treatments.
- Practice in a safe manner and appropriately provide clinical laboratory management care and assessment in emergencies and life support procedures and perform universal precautions against contamination.

#### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors and all members of the health care team during practicum and other learning experiences.

- Accurately elicit information, including a medical history and other information to adequately and effectively evaluate a population's, client's or patient's condition.

### Intellectual Ability

- Measure, calculate, reason, analyze and synthesize data related to the diagnosis and treatment of patients and populations.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the clinical laboratory management role.
- Synthesize information, problem-solve and think critically to judge the most appropriate theory, assessment or treatment strategy.

### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

### Character

- Demonstrate concern for others.
- Integrity, accountability, interest and motivation are necessary personal qualities.
- Demonstrate intent and desire to follow the Rush University and Clinical Laboratory Management code of ethics.

The technical standards delineated above must be met with or without accommodation. Students who, after review of the technical standards, determine they require reasonable accommodation to fully engage in the program, should contact the Office of Student Accessibility Services to confidentially discuss their accommodations needs.

Given the clinical nature of our programs, time may be needed to implement the accommodations. Accommodations are never retroactive; therefore, timely requests are essential and encouraged. Contact the Office of Student Accessibility Services to learn more about accommodations at Rush University

Marie Lusk, MBA, MSW, LSW
Director, Office of Student Accessibility Services
600 S. Paulina St., Suite 901
Chicago, IL 60612
(312) 942-5237
marie_lusk@rush.edu

## Clinical Laboratory Management (MS): Admission Requirements

- A baccalaureate degree from a regionally accredited U.S. college or university. The program will accept a BS/BA degree from a foreign institution for admission into the CLM MS and CLMB MS programs with the following stipulations:
  - The foreign transcript must be evaluated by Educational Credentials Evaluators (ECE) or World Education Services (WES), and the evaluation must result in a determination that the student has earned a BS/ BA that is equivalent to a U.S. BS/BA.
  - The applicant must satisfy the CHS policy for the Test of English as a Foreign Language, or TOEFL, exam
- A minimum GPA of 3.0 (on a scale of 4.0)
- Documentation of MLS (ASCP), MT (ASCP) or comparable certification
- Two years of working experience in an accredited laboratory (specifically blood bank if completing the SBB program)
- For non-native English speakers, Test of English as a Foreign Language, or TOEFL, scores to satisfy the College of Health Sciences' policy on the TOEFL
- Evaluation by the Educational Credential Evaluators or World Educations Services of coursework completed at a non-U.S. college or university
- Official transcripts from each college or university attended
- Three reference letters
- A phone interview

## Clinical Laboratory Management (MS): Academic Policies

### Academic Progression

High academic performance in required courses is expected. Students will be considered in good standing at Rush University unless placed on academic probation.

A cumulative grade-point average of at least 3.0 is required in the CLM program. Cumulative grade-point averages will be reviewed after each term. The faculty reserves the right to request the withdrawal of a student whose conduct, health or performance demonstrates lack of fitness for continuance in a health profession. Any such student not voluntarily withdrawing will be dismissed from the university.

### Academic Probation

Academic probation is assigned to any student who receives a term grade-point average below 3.0 or whose cumulative grade-point average falls below 3.0. Students placed on probation have two terms to regain the status of good standing as follows:

- In the term after being placed on probation, the student must attain a term grade-point average of at least 3.0.
- Two terms after being placed on probation, the student must have a cumulative grade-point average above 3.0.
- Failure to make the minimum term grade-point average one term after probation or the minimum cumulative grade-point average two terms after probation, will result in dismissal from the university.
- Note that the receipt of financial aid may also be impacted when the grade-point average falls below 3.0.

### C, D, F or N Grades

Students may not receive more than two grades of C or lower in the program. Students who receive a third grade of C or lower will be dismissed from the program. Students who receive a D, F or N grade in any course must repeat that course.

If a student is required to repeat a course that is a prerequisite for an advanced course, the advanced course may not be taken until the student successfully passes the prerequisite course. Thus, the student's progression in the program may be affected. Students who receive a second D or F grade will be dismissed from the program.

## Clinical Laboratory Management (MS): Curriculum

| First Year | | Credit Hours |
|---|---|---|
| **Fall Term** | | |
| CLM-501 | Evidence Based Research and Applied Statistics | 3 |
| CLM-508 | Health Care Informatics | 3 |
| **Spring Term** | | |
| CLM-503 | Method Comparison & Process Validation | 3 |
| CLM-505 | Health Care Finance | 3 |
| **Summer Term** | | |
| CLM-500 | Operational Leadership and Strategic Planning | 3 |
| CLM-506 | Management Project I | 2 |
| CLM-507 | Issues & Practices in Human Resource Management | 3 |
| **Second Year** | | **Credit Hours** |
| **Fall Term** | | |
| CLM-502 | Quality Systems and Regulatory Issues | 3 |
| CLM-509 | Management Project II | 2 |
| CLM-513 | Legal and Ethical Issues in Health Care | 3 |
| **Spring Term** | | |
| CHS-620 | Health Care in America | 2 |
| CLM-510 | Management Practicum | 2 |
| CLM-514 | Project Management | 3 |
| | **Program Total:** | **35** |

## Clinical Laboratory Management (MS) With Specialist in Blood Bank Certificate: Curriculum

Students who are interested in completing the Specialist in Blood Bank Technology (SBB) certificate program along with the Master of Science in Clinical Laboratory Management, (CLM), will start by taking courses in the SBB certificate program followed by CLM courses.

Graduates of a CAAHEP-accredited SBB program other than the Rush program, must have their transcript evaluated to determine the transferability of the SBB courses and assignment of credit. Such students may need to take additional credits to be awarded the Master of Science in CLM.

| First Year | | Credit Hours |
|---|---|---|
| **Fall Term** | | |
| SBB-560 | Human Blood Group Systems and Principles and Methods of Antibody Identification | 4 |
| SBB-561 | Clinical Immunohematology and Transfusion | 3 |
| **Spring Term** | | |
| SBB-562 | Blood Procurement and Blood Product Manufacturing | 2 |
| SBB-563 | Blood Bank/Transfusion Service Operation | 3 |
| **Summer Term** | | |
| SBB-564 | SBB Project and Clinical Practicum | 3 |
| SBB-565 | Blood Bank Comprehensive Review | 2 |
| **Second Year** | | **Credit Hours** |
| **Fall Term** | | |
| CLM-501 | Evidence Based Research and Applied Statistics | 3 |
| CLM-502 | Quality Systems and Regulatory Issues | 3 |
| **Spring Term** | | |
| CLM-503 | Method Comparison and Process Validation | 3 |
| CLM-505 | Health Care Finance | 3 |
| **Summer Term** | | |
| CLM-500 | Operational Leadership and Strategic Planning | 3 |
| CLM-507 | Human Resources and Staff Engagement | 3 |
| | **Program Total:** | **35** |

**NOTE:** For students completing an SBB from another program, an SBB Course Equivalency Evaluation is required. Professional credits may be granted after completion of this evaluation for students graduating from an AABB/CAAHEP-accredited SBB program outside of Rush University.



## Medical Laboratory Science (MS)

### Program Overview

Medical laboratory scientists are a vital part of the health care team; they perform laboratory tests to analyze body fluids, which aids in the diagnosis, treatment and monitoring of disease. Seventy percent of healthcare decisions are made based on the results from medical laboratory tests.

The Medical Laboratory Science (MS) degree program combines basic and advanced theoretical knowledge with clinical practice. The curriculum fosters problem-solving and diagnostic abilities. First-year students will learn basic theories and skills in the following areas:

- Clinical chemistry
- Clinical immunology
- Clinical microbiology
- Hematology
- Immunohematology
- Molecular diagnostics

Second-year students complete a clinical practicum at a laboratory within Rush University Medical Center or one of the following affiliated hospitals:

- Ann & Robert H. Lurie Children's Hospital of Chicago
- Northwestern Memorial Hospital
- The University of Chicago Medicine
- University of Illinois Hospital & Health Sciences System
- Advocate Aurora Health System
- Alverno Laboratories

### Mission

Our mission is to prepare highly qualified graduates equipped to perform as laboratory professionals in a collaborative, diverse and rapidly changing health care environment. Students will be active participants in learning and developing into a competent, ethical professional. We prepare graduates who have a spirit of inquiry, a commitment to lifelong learning and service, and who are dedicated to advance the quality and availability of health care.

### Vision

Our vision is to provide the highest quality Medical Laboratory Science programs and curricula that are recognized for excellence in preparation of diverse students who will be leaders in the laboratory profession.

### Student Learning Outcomes

Upon completion of the program, students will be able to conduct the following:

- Demonstrate entry-level competence in medical laboratory science.
  - Perform venipuncture with 80% success.
  - Identify tubes along with the correct order of draw for blood collection and label tubes with 100% accuracy.
  - Perform, with a high level of competence, analytical tests on body fluids, cells and blood products.
  - Identify possible sources of error in in preanalytical, analytical and postanalytical stages of laboratory testing.
  - Predict the effect of error in preanalytical, analytical and postanalytical stages of laboratory testing.
  - Prepare a written laboratory report with accurate laboratory test results.
- Practice principles of quality control related to laboratory practice.
  - Identify appropriate quality control for different laboratory tests.
  - Evaluate quality control data and follow a corrective action protocol if necessary.
- Apply all safety and governmental regulations and standards.
  - Follows established safety practices
- Demonstrate problem-solving and critical thinking skills.
  - Formulate a reasonable differential diagnosis from information contained in a patient case description.
  - Evaluate laboratory test results in order to determine their relevance to a case and determine if and what additional tests need to be ordered.
  - Demonstrate professional and effective oral and written communication skills.
    - Demonstrate effective oral communication skills in a thorough and creative presentation of a research article that engages the audience and relates the study to current clinical practice.
    - Deliver a clear and well-organized oral defense of the research project.
    - Compose a written manuscript for the research project that conforms to departmental specifications.
- Behave in an ethical, culturally sensitive and professional manner in a diverse environment.
  - Display courteous and respectful behavior of others.
  - Participate as a productive and positive member of a team.

- Describe and practice instructional techniques and terminology.
  - Develop and present a lecture to include learning objectives and evaluation.
- Conduct a research project with faculty/mentor guidance.
  - Assume a leadership role in conducting research in medical laboratory science.
- Create a professional plan which supports ongoing professional career development.
  - Construct a portfolio including evidence of professional service and continuing education.
  - Join a professional society as a student member.

The Medical Laboratory Science professional program consists of three parts: didactic (classroom learning), research and clinical (practice in the medical laboratory). After program completion, graduates should take a national certification examination.

## Medical Laboratory Science (MS): Technical Standards

Rush University is committed to diversity and to attracting and educating students who will serve diverse communities locally and nationally.

Our core values — I CARE (innovation, collaboration, accountability, respect and excellence) — translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and creates a respectful, accountable culture through our confidential and specialized disability support. Rush is committed to excellence in accessibility; we encourage students with disabilities to disclose and seek accommodations.

The following technical functions are required of all students enrolled in the Medical Laboratory Science program:

### Acquire Information

- Acquire information from demonstrations and experiences in courses, such as lecture, group and physical demonstrations.
- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval).
- Identify information presented in accessible images from paper, slides, videos with audio description and transparencies.

### Use and Interpret

- Use and interpret information from assessment techniques/maneuvers/procedures.
- Use and interpret information generated from diagnostic tools.

### Motor

- Possess psychomotor skills necessary to perform or assist with day-to-day responsibilities commensurate with the student's discipline.
- Practice in a safe manner and perform universal precautions against contamination.

### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors, employees, other professionals and all members of the health care team during practicum, internship and/or other learning experiences.

### Intellectual Ability

- Measure, calculate, reason, analyze and synthesize data related to the diagnosis and treatment of patients and populations.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the medical laboratory science role.
- Synthesize information, problem-solve and think critically to judge the most appropriate theory, assessment, management or treatment strategy.

### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

### Character

- Demonstrate concern for others.
- Integrity, accountability, interest and motivation are necessary personal qualities.
- Demonstrate intent and desire to follow the Rush University and Medical Laboratory Science code of ethics.



The technical standards delineated above must be met with or without accommodation. Students who, after review of the technical standards, determine they require reasonable accommodation to fully engage in the program, should contact the Office of Student Accessibility Services to confidentially discuss their accommodations needs.

Given the clinical nature of our programs, time may be needed to create and implement the accommodations. Accommodations are never retroactive; therefore, timely requests are essential and encouraged. Contact the Office of Student Accessibility Services to learn more about accommodations at Rush University:

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Director, Office of Student Accessibility Services
600 S. Paulina St., Suite 901
Chicago, IL 60612
(312) 942-5237
marie_lusk@rush.edu

### Accreditation

The Master of Science program in Medical Laboratory Science is accredited by the National Accrediting Agency for Clinical Laboratory Sciences, or NAACLS:

NAACLS
5600 N. River Road, Suite 720
Rosemont, IL 60018
(847) 939-3597 or (773) 714-8880
www.naacls.org

### State Licensure Requirements

Some states require medical laboratory scientists to be licensed in the state in order to work in the medical laboratory in that state. Illinois does not license medical laboratory scientists. The Medical Laboratory Science program at Rush University satisfies requirements for certification by the American Society for Clinical Pathology Board of Certification and complies with the standards of accreditation established by the National Accrediting Agency for Clinical Laboratory Sciences but may not satisfy the licensing requirements for some states. In particular, our program may not satisfy the requirement for clinical training set by the state of California.

Students who intend on moving to a state that has licensure after completion of the program are encouraged to check with the requirements for state licensure before starting the program to make sure the Rush University curriculum will satisfy the requirements for licensure in that state.

## Medical Laboratory Science (MS): Admission Requirements

Applicants must complete the preprofessional requirements prior to enrollment at Rush University. An overall GPA of 3.0 on a 4.0 scale is required. Three letters of recommendation must be submitted with the admission application. Students are accepted at the beginning of the fall term.

In addition to fulfillment of academic requirements, a personal interview conducted by members of the Admission Committee is required for admission. Interviews are behaviorally oriented and take about one hour.

Applications are ranked on the basis of grades in prerequisite courses, references, interview results and the written essay (if applicable). The following prerequisites are required for admission:

- A Bachelor of Science degree from an accredited United States college or university documented with official transcripts from each college or university attended. The program will accept a BS/BA degree from a foreign institution for admission with the following stipulations:
  - The foreign transcript must be evaluated by the Educational Credentials Evaluators (ECE) or World Education Services (WES), and the evaluation must result in a determination that the student has earned a BS/BA that is equivalent to a U.S. BS/BA
  - The applicant must satisfy the College of Health Sciences' policy for the TOEFL exam
- The following courses are required: 21 quarter/14 semester hours of chemistry (quantitative analysis or biochemistry recommended); 18 quarter/12 semester hours of biology (anatomy and physiology, microbiology and genetics recommended); and 4 quarter/3 semester hours of mathematics (algebra and statistics recommended).
  - An overall GPA of 3.0 on a 4.0 scale
  - Personal interview
  - Three letters of recommendation
  - TOEFL/TSE if English is not the applicant's first language

Students who have not completed all requirements for entry into the Master of Science program may petition the Department of Medical Laboratory Science for consideration for admission. Such requests are handled on a case-by-case basis.

### Hepatitis B Virus Vaccination

Before students are allowed to begin the program, they must have on file documentation that they have either begun or have finished the course of inoculations for the hepatitis B virus vaccine. This documentation must be sent directly to Castle Branch.

If the student has started but not yet finished the series of inoculations at the start of the program, documentation showing completion of the course of inoculations should be provided as soon as possible in order for the student to remain in the program. This information will be reviewed quarterly, and the student will be notified if not in compliance with this requirement.

Students who fail to complete the hepatitis B virus vaccination protocol in a timely manner will not be allowed to register for the following term until providing documentation of compliance. In addition, students must submit a hepatitis B virus titer as proof of immunity.

### Tuberculosis Testing

All students must provide the results from tuberculosis screening tests in order to begin the program. Students must be tested annually for tuberculosis and must submit the results to Castle Branch. Failure to comply with this policy can lead to dismissal from the program or prevention of attendance at the clinical site regardless of GPA.

In cases where the tuberculosis screen is positive or contraindicated, students must be screened annually by a physician for symptoms of active tuberculosis and submit documentation that they have been screened and are symptom-free.

### OSHA, HIPAA and Safety Training

Students are required to take all Rush University Medical Center training courses that apply to medical laboratory scientists. These courses must be taken annually and are available through Rush University's LEAP Online system. Students failing to remain current in these training areas will not be allowed in the clinical laboratories.

All students entering the Master of Science in Medical Laboratory Science program are required to have a criminal background check before matriculating. The student's ability to begin the clinical portion of the program and to complete certification and licensure requirements for entry into the profession may depend on documentation of such things as drug screening and a background check for a history of criminal offenses. A drug screen is required before entering the clinical practica.

## Medical Laboratory Science (MS): Academic Policies

### Midterm Warning Notices

Students not maintaining a passing-level grade at midterm time will be given a written warning notice. It is the student's responsibility to contact the course instructor immediately to ascertain how the grade can be improved.

### Academic Progression

High academic performance in required courses is expected. Students will be considered in good standing at Rush University unless placed on academic probation.

A cumulative grade-point average of at least 3.0 is required in the graduate programs. Cumulative grade-point averages will be reviewed after each term. No student will be permitted into the clinical rotation portion of the program unless they have the required GPA.

The faculty reserves the right to request the withdrawal of a student whose conduct, health or performance demonstrates lack of fitness for continuance in a health profession. Any such student not voluntarily withdrawing will be dismissed from the university.

### Academic Probation

Academic probation is assigned to any student who receives a term grade-point average below 3.0 or whose cumulative grade-point average falls below 3.0. Students placed on probation have two terms to regain the status of good standing as follows:

- In the next term after being placed on probation, the student must attain a term grade-point average of at least 3.0.
- Two terms after being placed on probation, the student must have a cumulative grade-point average above 3.0.
- Failure to make the minimum term grade-point average one term after probation or the minimum cumulative grade-point average two terms after probation, will result in dismissal from the university.
- Note that the receipt of financial aid may also be impacted when the grade-point average falls below 3.0.

### C, D, F or N Grades

Students may not receive more than two grades of C or lower in the program. Students who receive a third grade of C or lower will be dismissed from the program. Students who receive a D, F or N grade in any course must repeat that course. If that a student is required to repeat a course that is a prerequisite for an advanced course, the advanced course may not be taken until the student successfully passes the prerequisite course. Thus, the student's progression in the program may be affected. Students who receive a second D or F grade will be dismissed from the program.

All work in practicum courses must be at or above the B grade level. If a student earns a grade less than B in a clinical practicum course, the course must be repeated but may be repeated only once and must be taken within one year, with the new grade replacing the failing grade in the cumulative grade-point average. A second grade below B in any practicum course will result in dismissal from the program.

### Comprehensive Examination

All students must take and pass a comprehensive examination at the end of the second year in order to graduate from the Medical Laboratory Science program. Any student who fails the cumulative examination must retake the examination until passing. A diploma will not be given until the student has passed all sections of the comprehensive examination.

### Graduate Research Projects

See the Graduate Research Bulletin and Department of Medical Laboratory Science policy document for policies and procedures regarding graduate research projects. This document lists specific deadlines for each component of the research project. Failure to meet these deadlines will delay acceptance of the research project and graduation from the program.

### Certification

The comprehensive technical curriculum at Rush University prepares the student to enter the practice of medical laboratory science. Graduates are eligible to take the medical laboratory scientist's certification examination given by the American Society of Clinical Pathology Board of Certification.

### Service Work Policy

Service work is defined as performing the duties expected of an employee who is paid to perform those tasks as an unpaid student. Service work by students is not required nor permitted by the program. Students are present in the clinical laboratory to learn the operation of the clinical laboratory. While learning, and upon demonstrating proficiency, students may perform clinical tests under the supervision of an instructor who is a certified medical laboratory scientist. As such, students work on actual patient samples but at no time are they expected to, or allowed to, perform service work without pay.

There are numerous work-study jobs available to our students in the clinical laboratories as well as throughout the medical center and at our affiliate hospitals. Students are notified of openings as the faculty are informed. Students and supervisors at the clinical site must make a distinction between the student's time in the laboratory as a student learning and not being paid and when the student becomes an employee and is working in the laboratory for pay on tasks they have been specifically trained to perform. Students should not be treated as employees during rotation time, which is typically from 7 a.m. - 3:30 p.m. What students do outside the time at which they are expected to be learning in the clinical laboratory is beyond the scope of control of the program.

### Graduation Requirements

The Master of Science degree in Medical Laboratory Science requires a minimum of 75 term hours. Candidates for the Master of Science degree must earn a 3.0 cumulative grade-point average in all computed upper-division credits taken at Rush University. A minimum of 40 term hours of academic credit shall be earned as a graduate student in academic residence at Rush University. Students must pass IPE courses in order to graduate.

### Educational Activities

The faculty of the Department of Medical Laboratory Science are responsible for providing both the didactic coursework and the clinical experiences necessary for students to successfully complete all degree requirements.

### Research Activities

Faculty members in the Department of Medical Laboratory Science engage in technical and educational research. Areas include biochemistry, education, hematology, hospital administration, immunohematology, immunology, molecular oncology and microbiology. The Department of Medical Laboratory Science supports, and is involved in, the administration of the Continuing Education Program offered to the professional staff of Rush Medical Laboratories.

### Service Activities

The Department of Medical Laboratory Science operates on the practitioner-teacher model. Faculty members are actively involved in the medical laboratories of Rush University Medical Center, maintaining active research,

supervisory and clinical positions in their specialty areas. Several faculty members hold joint appointments in Rush Medical College. They provide the laboratory medicine courses for the Rush Medical College curriculum and the College of Nursing curriculum.

## Medical Laboratory Science (MS): Curriculum

The program is built around a core of basic and advanced theoretical knowledge and clinical practice. This combination of both theory and practice enhances the development of skilled, knowledgeable professionals whose flexibility allows them to function at the highest level within the various laboratory settings available to graduates of the program. These areas include primary health care facilities, as well as research, educational and commercial laboratory settings across the country and the world.

Students integrate the theory of medical science with the practice of medical laboratory procedures, learning basic theory and skills in hematology, clinical chemistry, immunology, immunohematology, molecular techniques and clinical microbiology in the first year. They then go on to more advanced courses in those areas in the second year along with courses in management, education and research to prepare students for supervisory, teaching and research positions.

Students apply basic concepts learned in the first year of the program as they rotate through the laboratories of Rush University Medical Center and affiliated hospitals. Currently, affiliate hospitals include the University of Chicago Medicine, Northwestern Memorial Hospital, Ann and Robert H. Lurie Children's Hospital of Chicago and the University of Illinois Hospital and Health Sciences System. It is the policy of the Rush University Department of Medical Laboratory Science that all students admitted into the program who complete all first-year didactic courses will be guaranteed an opportunity to complete the clinical practicum at one of our affiliated hospitals.

This rigorous program requires students to achieve a 3.0 GPA on a 4.0 scale in order to graduate. Students will receive hands-on experience in laboratory techniques and will develop a thorough knowledge base in medical laboratory science, providing a firm foundation for development and growth after graduation. The mission of the faculty is to do more than train technical health care personnel, but to also educate medical laboratory professionals who can meet the current and future demands of laboratory medicine. It is expected that students completing the Master of Science degree in Medical Laboratory Science will be the supervisors, managers and educators of the future.

Students in the Master of Science in Medical Laboratory Science program will complete a rigorous research project consisting of identification of the research problem and stating a hypothesis, designing and performing experiments to solve the research problem, interpreting and analyzing the data, as well as presenting the research study in written and oral formats, which may result in publication in a peer-reviewed journal or presentation at a professional society meeting, or both.

Graduates are eligible to take the medical laboratory scientist certification examination given by the American Society of Clinical Pathology Board of Certification. After passing this examination, students become certified as Medical Laboratory Scientists, or MLS (ASCP). Students are not eligible to take the national certification examination until all degree requirements are met. Verification of degree completion is required from the program director by the American Society of Clinical Pathology Board of Certification. Graduation from the program is not contingent on successfully passing a certification examination.



### Medical Laboratory Science (MS): Curriculum

| First Year | | Credits |
|---|---|---|
| **Fall Term** | | |
| MLS-504 | Clinical Chemistry I | 4 |
| MLS-514 | Hematology I | 6 |
| MLS-523 | Clinical Immunology | 3 |
| MLS-526 | Molecular Techniques | 3 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| **Spring Term** | | |
| MLS-505 | Clinical Chemistry II | 3 |
| MLS-524 | Clinical Immunohematology | 4 |
| MLS-534 | Clinical Microbiology I | 6 |
| MLS-541 | Research in MLS I | 2 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| **Summer Term** | | |
| MLS-515 | Hematology II | 3 |
| MLS-535 | Clinical Microbiology II | 3 |
| MLS-542 | Research in MLS II | 6 |
| CHS-620 | Health Care in America* | 2 |
| CHS-605 | Introduction to Ethics in Health Care* | 2 |
| **Second Year** | | **Credits** |
| **Fall Term** | | |
| MLS-589 | Clinical Laboratory Management | 2 |
| CLM-502 | Quality Systems & Regulatory Issues* Clinical Practica** | 3 |
| **Spring Term** | | |
| MLS-588 | Comprehensive Review | 2 |
| MLS-543 | Research in MLS III Clinical Practica ** | 2 |
| **Clinical Practica**** | | |
| MLS-586P | Patient Care Techniques | 1 |
| MLS-587P | Clinical Practicum-Microbiology | 6 |
| MLS-580P | Clinical Practicum-Chemistry | 3 |
| MLS-581P | Clinical Practicum-Hematology | 3 |
| MLS-584P | Clinical Practicum-Immunohematology | 3 |
| MLS-585P | Clinical Practicum-Education | 3 |
| | **Program Total:** | **75** |

* Courses offered online

** Clinical Practica schedule will be determined by program administration

# Occupational Therapy

## Occupational Therapy

### Mission

The Department of Occupational Therapy is committed to teach, investigate and provide the very best quality health care using a unique Practitioner-Teacher-Investigator model. The department promotes excellence in service and addressing diversity in our communities.

### Program Overview

The Occupational Therapy program is designed to provide students with an outstanding education in preparation for a career as an Occupational Therapist that is prepared to advance clinical practice. The program is an entry-level doctoral program that is eight, full-time, semesters in length. Students are provided with hands-on clinical opportunities every semester of the program in both traditional and emerging practice areas. Upon completion of the program requirements, graduates are granted an Occupational Therapy Doctorate Degree.

### Philosophy on Education

Occupational therapists understand that people are multifaceted individuals who engage in meaningful, complex and varied occupations within a range of environments (AOTA, 2020, AOTA, 2017). When an individual encounters challenges or when internal or external factors impact their occupational participation, occupational therapists work to support their engagement through diverse means. The field of occupational therapy encompasses persons, groups and populations, taking into consideration their unique wants, needs, strengths, contexts, limitations and occupational risks that influence their ability to perform daily activities (AOTA, 2020, AOTA, 2017). Occupational therapy interventions are designed to enhance occupational performance across the lifespan.

Rush University Department of Occupational Therapy faculty members fulfill roles as practitioners, teachers and investigators. This combination of roles infuses the curriculum with contemporary and scholarly perspectives to prepare students to meet society's occupational needs. Graduate courses and clinical experiences build on students' past knowledge and skills to encourage transformative and integrative learning. The critical self-reflection of the transformative learning process encourages examining, questioning, validating and revising prior knowledge so that new perceptions and meanings may evolve (Cranton, 2016).

Integrative learning expands this process by facilitating students' ability to connect ideas, concepts and experiences to better adapt to novel and complex issues (Huber & Hutchings, 2013). The result is a learner who is intellectually flexible to meet the needs of complex clients in a continually changing society. The Rush Doctor of Occupational Therapy (OTD) program is based on transformative and integrative learning, building on students' past, connecting to the present and anticipating a future in which they are competent and capable to respond to the ongoing needs of the profession and the clients we serve.

The curriculum aims to foster professional leadership in order to address the evolving demands of healthcare and the occupational therapy profession. Throughout the program, self-directed learning and critical thinking, emphasizing the use of evidence-based research and practice is emphasized. Faculty mentorship, problem-solving, collaborative activities, and critical inquiry are integrated into the classroom, clinical and community experiences to enhance students' performance at an entry-level.

The individualized doctoral experience establishes a trajectory that enables students to become an emerging leader in their professional practice. Rush occupational therapy graduates are not only well-prepared to work in both traditional and emerging practice settings but are also known for their ethical standards, adaptability, creativity, autonomy and commitment to being informed practitioner-teacher-investigators.

### Curriculum Design

In today's rapidly changing healthcare system, occupational therapy program graduates must possess adaptability, autonomy, comprehensive clinical and academic education, and leadership qualities. They should employ creative and professional reasoning effectively and efficiently to excel in delivering interprofessional client care. To meet these needs, the occupational therapy curriculum at Rush University is designed to build on and develop knowledge and skills at increasing levels of complexity, competence and integration.

The Practitioner-Teacher-Investigator (PTI) Model is the hallmark of Rush University. With this model in mind, the curriculum is encompassed by academic, clinical and community partnerships. These partnerships allow students to learn from faculty who are active in practice, clinicians in the field and service recipients as well as afford students opportunities to engage in clinical experiences throughout each semester of the curriculum. These immersive experiences empower integrative learning by applying classroom learning to occupational therapy practice (Huber & Hutchings, 2013).

**Curricular Threads:**

- Evidence-Based Practice – Focus throughout the curriculum is placed on the use of evidence to guide evaluation and intervention. Knowledge generation and knowledge translation through scholarship activities is stressed to contribute to the knowledgebase of the profession.
- Practice Immersion – Meaningful engagement in traditional and emerging practice settings is key to promote client-centered care in a changing healthcare landscape. To prepare entry-level occupational therapists to be emerging leaders within the profession, they must not only have knowledge of and exposure to the variety of practice settings they can practice in but also engage in transformative learning experiences every semester of the program to best deliver skilled services to foster clients' participation in everyday occupations and roles.
- Foundation of Occupation – Knowledge of occupation as both an intervention and an end goal, and the impact of occupation on health and wellness is stressed throughout the program.
- Professional Reasoning – In order to respond to the dynamic needs of the client (individuals, groups, communities, and populations), it is essential that the practitioner be grounded in professional reasoning. Development of this reasoning begins during the first semester of the program and continues throughout the program.

### Accreditation and Certification

The Rush University Occupational Therapy Doctorate program is fully accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at:

7501 Wisconsin Ave, Suite 510E
Bethesda, MD 20814
Phone: (301) 652-AOTA
https://www.nbcot.org/Educators-Folder/SchoolPerformance

Graduates will be eligible to sit for the national certification examination for the occupational therapist that is administered by the National Board for Certification in Occupational Therapy or NBCOT. For information regarding the OTD program's performance on the NBCOT exam, students can go to www.nbcot.org/educators-folder/schoolperformance

Additional information can be obtained from:
NBCOT
One Bank St. Suite 300
Gaithersburg, MD 20878
(301) 990-7979
www.nbcot.org/Educators-Folder/SchoolPerformance



Graduates of the program will be eligible to sit for the National Certification Examination for the Occupational Therapist, administered by the National Board for Certification in Occupational Therapy (NBCOT ). After successful completion of this exam, the graduate will be an Occupational Therapist, Registered (OTR). In addition, all states require licensure to practice; however, state licenses are usually based on the results of the NBCOT certification examination.  Felony convictions may affect a graduate's ability to sit for the NBCOT certification exam or attain state licensure.

## Occupational Therapy Doctorate Occupational Therapy (OTD)

### Admission Requirements

To be considered for admission into the entry-level occupational therapy doctoral program, you need the following:

- Complete a bachelor's degree from a regionally accredited institution. Applicants may apply with outstanding coursework if all coursework is completed, and a degree is conferred by matriculation (September).
- Complete the online application through the Occupational Therapy Centralized Application System (OTCAS) at otcas.liaisoncas.com. You can find a video walking you through OTCAS on our website.
  - Please ensure you thoroughly complete the experiences section in OTCAS. Academic and non-academic factors, including community service, work experience, research, and leadership, will be considered.
- Courses (with a letter grade of C or higher) completed before matriculation with the following content:
  - Human anatomy with lab (cadaver lab preferred) = total of 4 credit hours.
  - Human physiology (lab preferred) = total of at least 3 credit hours.
    - Anatomy and Physiology must be taken within five years before the start of the program. Two sequential courses in Human Anatomy and Physiology with labs will also satisfy the prerequisites. Virtual labs are acceptable.
- Statistics (including descriptive and inferential statistics).
- Sociology or Anthropology.
- Human growth and development across the lifespan (from birth through old age and dying).
- Abnormal Psychology.
- One Psychology course (in addition to Human Growth and Development and Abnormal Psychology).

Note: Exams testing out of coursework and AP coursework are not acceptable for prerequisite requirements. Pass/Fail classes will be accepted for any courses taken in the spring 2020 semester only.

The OTD program requires students to complete all required courses in the Rush University Department of OT plan of study. We do not allow credit for previous coursework and/or work experience.

- Achieve a minimum GPA of at least 3.0 on a 4.0 scale in the most recent two years of your education.
- Personal Statement demonstrating your understanding of the profession and what characteristics and experiences support you in becoming an occupational therapist.
- Two Letters of recommendation from individuals acquainted with the applicant's academic/professional aptitudes. OTCAS will contact each reference with instructions on how to complete an online evaluation.
- Experience with occupational therapy through 20 hours (minimum) observation of occupational therapy. Contact the department if you were unable to complete in person observation and need alternate options.
- Interview Session, selected applicants will be invited for a small group virtual interview session and must complete a Rush supplemental application, with a $40 fee.

Accepted applicants must complete a criminal background check and the required Health and Immunization History documentation. A felony conviction potentially negatively impacts a graduate's eligibility for certification and licensure.

All application materials will be evaluated, and the Occupational Therapy Admissions Committee will make decisions regarding the applicant's acceptability for the program.

## Rush University Occupational Therapy Admissions Mission

The Department of Occupational Therapy's Admissions Committee is committed to achieving a diverse and inclusive student body, embracing the differences that diversity contributes to the growth of our profession and the clients we serve. We seek to matriculate students with a commitment to learning, scholarship, service, and who demonstrate a passion for occupational therapy.

Note: Special consideration will be given to applicants who have the potential to help us achieve our mission. Please ensure all portions of your OTCAS application are completed thoroughly outlining all life experiences.

### Application Deadlines

Admission for the entry entry-level doctorate in Occupational Therapy program is granted for the fall term of each year, which begins early-September. Applications through the Occupational Therapy Centralized Application Service become available mid-July.

Completed applications will begin to be reviewed by the admissions committee beginning Oct. 15. The application deadline is Jan. 15. Interviews will be held during the months of November, December, January and February. Average class size is 36 students. Applicants are encouraged to apply as early as possible.

## Occupational Therapy (OTD): Program Requirements

### General Program Requirements

This program is delivered through a full-time hybrid delivery model, combining in-person instruction, and some distance education components.

Primarily, students are in classes Monday through Thursday in-person. Some additional Friday, evening or weekend hours may be required for the completion of academic and clinical assignments. Students are given ample notice of these required days.

In-person sessions are primarily held at Armour Academic Center at 600 S. Paulina, Chicago, IL 60612, which is accessible and designed to support an inclusive and engaging learning environment. Students are encouraged to review the accessibility features of both physical and virtual learning spaces to ensure their needs are met. For additional support or accommodation requests, please contact the Office of Student Accessibility Services at studentaccessibility@rush.edu.

Several of our courses have both asynchronous and synchronous sessions. Technology requirements for these courses and the entire program can be found below.

Collaborative strategies are commonly used in the curriculum, which means you need to work with your peers outside of scheduled class periods.

This comprehensive approach aligns with our commitment to excellence in occupational therapy education while providing students with the flexibility and resources needed to succeed.

Attendance and active participation are important aspects of professional education and are critical to your professional development. Students are therefore expected to be present for all class, lecture and clinical meetings and are fully responsible for all content presented to them. Excused absences must be requested prior to the class meeting time and must be validated by the instructor. Students must e-mail or call the instructor in case of an absence.

Valid excuses include illness, doctor's instruction, notice of death in family, religious obligations and other special circumstances. Extended time out of class may require documentation from a physician. Students that miss more than four days per semester are required to meet with their assigned adviser to discuss the need for a leave of absence. Multiple or extended absences may require a leave of absence to ensure course objectives and program requirements can be met.

Please see course syllabi for attendance policies and the impact on a course grade. If a student is ill, they are expected to stay home. In such instances, the student is responsible for obtaining class information after an absence and virtual options will not be available. Virtual options for in-person class content will only be provided for asymptomatic COVID-19 positive students that are currently in quarantine.

Business casual dress is required for the classroom and scrubs or business casual is required for clinical assignments. Caribbean blue scrubs are required for all practicum and fieldwork experiences that occur at Rush University Medical Center. On clinical placements outside of Rush, students will be required to follow each site's dress code.

Students enrolled in the OTD program at Rush University are expected to have the skills necessary to function as an occupational therapist or occupational therapy student in the classroom, laboratory, and clinical/fieldwork settings.



The technical standards required of all students enrolled in the OTD program can be found in the technical standards section.

### Graduation Requirements

Once admitted to the Occupational Therapy program, students embark on a journey that entails the accumulation of 107 term hours for graduation. In order to graduate and have the Occupational Therapy Doctorate conferred, students must meet the following:

- Successfully complete all didactic coursework and fieldwork
- Pass the Department of Occupational Therapy competency exam
- Successfully complete all requirements of the individual doctoral experience and capstone project
- Pass the Rush University Interprofessional Patient Care Teams course (IPE 502)
- Complete a minimum of 16 contact hours of approved professional or community service
- Complete implicit bias training

In order to be eligible to take the registration exam administered by the National Board for Certification of Occupational Therapists, students must have completed all graduation requirements as documented in official transcripts from Rush University. Students must complete all program requirements within 45 months from the time they begin the program. Students will have 15 months to complete Level II fieldwork after the final day of Semester 5 of the curriculum and 12 months to complete the doctoral experience/project after the last day of the final Level II fieldwork. Any student who expects to go beyond this timeframe must request an exception to the policy in writing to the program director.

### Scholarly Activities

Rush faculty are engaged members of the research community within the occupational therapy profession. Rush students have a variety of opportunities to participate in research during the curriculum. All students will participate in faculty-supervised research projects. Students are required to formally present their research projects, and many will submit to disseminate their work at local, state and national conferences, and/or publication in a professional journal identified by the faculty research adviser. Students are also required to independently complete a capstone project that will advance the knowledge of occupational therapy. A plan for dissemination of the project through presentation or publication is required.

### Technology: Required Software/Online Tools

**Technology:** Required Software/Online Tools

Students are recommended to use My Apps, which is a virtual desktop where Office software, Rush email, and secure storage is provided. Visit https://rushuportal.learning.rush.edu/faqfor more information about the My Apps virtual environment. Students are also able to log into RULearning from MyApps. Rush University utilizes the learning management system – Canvas.

**RULearning Login Page:** Students can log-in to Canvas through Canvas Information for Students | Rush University students are also able to access RULearning via the listed login page.

**Rush University Portal:** Students can log-in to the Rush University Portal through www.rushu.rush.edu/faculty-and-staff From this site students can access Canvas as well as get financial and financial aid information.

**Computer Requirements:** Students should have computers with audio/visual capabilities (including the ability to record presentation assignments) and that support learning management tools including but not limited to Respondus LockDown Browser and Monitor, Panapto and ExamSoft. Students will be required to download Respondus LockDown Browser to their computers and complete a practice test using Respondus LockDown Browser and Monitor within the first three weeks of Semester 1. A webcam will be required. If your computer does not have a built-in webcam, students will be required to purchase a plug-in camera for online test-taking. Instructions for downloading Respondus can be found in a separate document on this jump drive.

**Microsoft Office Suite:** Word, Excel and PowerPoint: If you do not already have the Microsoft Office software you can access the Suite through My Apps or download copy of the Microsoft Office suite at a reduced cost for Windows or Mac users: rush.onthehub.com

**Internet Browsers:** Studentsshould have access to more than one browser, such as Internet Explorer, Chrome, Firefox or Safari. All browsers should be the most up-to-date version available.

**Internet Requirements:** Students should have access to more than one browser, such as Internet Explorer, Chrome, Firefox or Safari. All browsers should be the most up-to-date version available.

**Internet Requirements:** Students must have access to a high-speed internet connection when working off campus.

**Adobe Acrobat Reader:** Students should have access to the most up-to-date Adobe Acrobat Reader.

## Occupational Therapy (OTD): Technical Standards

Rush University is committed to fostering a diverse and inclusive learning environment where all students can succeed. Guided by our core values: Innovation, Collaboration, Accountability, Respect, and Excellence (ICARE). We work to ensure accessibility and cultivate a supportive, respectful, and accountable culture through individualized and confidential support services.

The **Occupational Therapy Doctorate (OTD) Program** at Rush University prepares students to become skilled and compassionate providers of occupational therapy services. The following **technical standards** outline the essential skills, abilities, and behavioral characteristics required for successful participation and progression in the program. By upholding these technical standards, RUSH OTD program ensures that all students are prepared for the dynamic and demanding nature of occupational therapy practice while maintaining a commitment to diversity, accessibility, and academic excellence. Students may achieve these technical standards with or without reasonable accommodation. Reviewing these standards can help determine if accommodation is needed to fully access and successfully engage in the Rush OTD program.

Rush University is dedicated to ensuring that qualified students who identify as having disabilities have equal access to the Occupational Therapy Program through **reasonable accommodations** in accordance with the Americans with Disabilities Act (ADA). Students who require accommodation are encouraged to contact the **Office of Student Accessibility** Services as early as possible to discuss their access needs confidentially, and to allow adequate time for review and implementation. Accommodation is not retroactive, so timely requests are essential.

The following technical functions are required of all students enrolled in the Occupational Therapy program:

### Acquire Fundamental Knowledge

- Students will acquire information by some or all sensory modalities (e.g. tactile, visual, auditory, etc.), students will acquire information from material presented in courses, such as lectures, group discussions, and physical demonstrations.
- Students will acquire information by some or all sensory modalities (e.g. tactile, visual, auditory, etc.), students will acquire information from written documents and computer systems (e.g. literature searches, health record review, & data retrieval).
- Students will acquire information through the use of some or all sensory modalities (e.g. tactile, visual, auditory, etc.), students will identify relevant information presented across various formats (e.g. paper, presentations, audio, video).
- Students will acquire information through the use of some or all sensory modalities (e.g. tactile, visual, auditory, etc.), students will recognize and assess changes in client factors, performance skills, as well as occupational performance and participation.

### Interpreting Data and Information

- When presented with assessment information in a variety of formats (e.g. standardized assessment results, informal observations or findings, other assessment tools), students will interpret the information in the determination for services and/or use the findings for the development of a treatment plan.

### Collective Safety

- Possess psychomotor skills necessary to provide, assist in, and/or direct holistic occupational therapy care and perform or assist with procedures and treatments.
- When providing occupational therapy services, students will do so in a physically safe and appropriate manner for themselves and the client.
- When providing occupational therapy services students will use any and all necessary universal precautions based on practice setting.
- When presented with an emergency, students will support necessary emergency response intervention and/or activate the emergency response intervention system to ensure client safety.

### Communication Skills

- Draw from a variety of strategies to effectively and sensitively communicate with clients, families, and peers based on their own and needs of others.
- Provide and receive constructive feedback that promotes respectful professional and effective communication.
- Communicate effectively with faculty, educators, Rush University staff, and all members of the healthcare team during practicum, clinical, community, and other learning experiences.
- When conducting an evaluation, assessment, or treatment session with a client, students will accurately and appropriately elicit relevant information (e.g. medical/psychiatric history, occupational profile) required to effectively facilitate collaboration to effectively support clients.

### Clinical and Professional Judgement

- Throughout their education, students will measure, calculate, reason, analyze, and synthesize data through clinical decision making related to diagnosis and treatment of clients to determine qualification for services, develop treatment plans, assess progress toward goals, and determine termination of services.
- Throughout their education, students will exhibit professional reasoning across academic and practice, settings, according to the occupational therapy scope of practice.
- Throughout their education, students will demonstrate organizational skills to complete responsibilities within designated time frames or collaborate with involved parties when extensions or accommodation are required.
- Throughout their education, students will synthesize information, problem solve and think critically to determine the most appropriate theories, assessments, and/or interventions to utilize with a client.

### Developing Professional Interactions and Attitudes

- Students will work to build and maintain mature, sensitive, and effective relationships with clients, families, students, faculty, staff, educators, and other professionals.
- When presented with a conflict in a relationship, students will work to identify and utilize strategies to address the conflict and maintain effective, professional relationships.
- When presented with an unsafe professional relationship, students will identify and utilize policies and/or interpersonal strategies to protect the safety of themselves, clients, families, etc.
- Students will collaborate with the client and any additional parties involved, while following appropriate protocols, to advocate for client's needs.
- To manage stress and adapt to rapidly changing environments inherent to the academic and practice settings, students will use a variety of strategies, supports, and available resources to support their wellbeing.

### Integration of Ethical Principles

- In a variety of situations, students will demonstrate:
  - Integrity, through adherence to the Rush University Student Code of Conduct.
  - Accountability, through use of strategies such as collaboratively developing and adhering to an equitable participation in group projects, requesting support when needed, etc.
  - Concern for others, through use of strategies such as intentionally seeking and understanding others' ideas, checking in on the physical and mental wellbeing of others, identifying access barriers of others and attempting to find solutions, etc. based on the needs and desires of the individual.
- Throughout their education, students will demonstrate an understanding of professional ethical guidelines (e.g. Rush University Code of Conduct, AOTA Occupational Therapy Code of Ethics), including potential ethical conflicts.
- When presented with an ethical conflict, students will carefully consider the effects of each course of action and come to a professional decision based on best practices within the field, collaboration with other professionals, and/or their own personal/professional ideals.
- When presented with an ethical conflict, students will understand and utilize the appropriate reporting procedures and line of communication to discuss the issue and come to a resolution.

To learn more about accommodations at Rush University please contact:

www.rushu.rush.edu/office-student-accessibility-services

Email: studentaccessibility@rush.edu

## Occupational Therapy (OTD): Academic Policies

### Academic Progression

Students will progress through the program following the curriculum outline provided.

The faculty reserves the right to dismiss any student whose conduct, health or performance demonstrates lack of fitness for continuance in a health profession as identified by the faculty member and the Rush University Code of Conduct. Any such student not voluntarily withdrawing will be dismissed from the university.

Only grades of A, B, C, & P will fulfill degree requirements in all non-elective courses listed in the curriculum outline. Academic probation is assigned to any student who earns a semester grade point average of 2.99 and below. A student placed on academic probation three times will automatically be dismissed from the program.

A student receiving a grade D, F, or No Pass (N) in a required course must repeat the course at the next academic offering and earn at least a B (or Pass for Pass/No Pass courses) to remain in the program. Only one D, F, or No Pass is allowed for

the entire program. In the event a student receives a second D, F, or No Pass (N) at any other time in the program they will be dismissed from the program.

In summation, a student will be dismissed from the program if they:

- Are placed on probation three times
- Receive two or more D, F, or No Pass grades during a single semester
- Receive any D, F, or No Pass grades for more than one semester OR
- Receive a grade lower than B for a repeated class

Students placed on probation for the first time must meet with their Academic Advisor and establish an Action Plan at the start of the next academic term. The academic adviser may work with SPARC to best support the student through development of an Action Plan. If a student is placed on probation a second or third time, the student must petition and meet with the SPARC committee by contacting the SPARC committee chair in writing. Before the SPARC meeting, the student will be provided with resources to draft an Action Plan that outlines the steps the student intends to take to improve their academic performance in the upcoming academic term.

A student receiving a grade D, F or No Pass (N) in a required course must repeat the course at the next academic offering and earn at least a B (or Pass for Pass/No Pass courses) to remain in the program. Only one D, F or No Pass is allowed for the entire program. In the event a student receives a second D, F or No Pass (N) at any other time in the program they will be dismissed from the program.

Students must pass the occupational therapy competency exam (OCC 820 Capstone Competencies) prior to beginning the Independent Doctoral Experience course (OCC 825).

## Occupational Therapy (OTD): Curriculum

| First Year | | Credit Hours |
|---|---|---|
| **Fall Term** | | |
| OCC-600 | Introduction to Occupation, Health and Wellness | 3 |
| OCC-608 | Introduction to Clinical Practice | 2 |
| OCC-520 | Health Conditions | 4 |
| OCC-501 | Human Structure and Principles of Movement | 3 |
| OCC-501L | Functional Anatomy with Lab | 2 |
| OCC-510 | Self-Care and Professional | 1 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| **Spring Term** | | |
| OCC-620 | Foundational Theories in Occupational Therapy | 3 |
| OCC-576 | Sociocultural Aspects of Care | 2 |
| OCC-579 | Research Methods | 4 |
| OCC-609 | Occupational Performance and Ability | 3 |
| OCC-643 | Health Care Systems | 3 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| **Summer Term** | | |
| OCC-625 | Functional Neuroscience and Cognition | 4 |
| OCC-607 | Psychosocial Aspects of Care | 3 |
| OCC-610 | Occupational Therapy Process | 3 |
| OCC-615 | Developmental Disabilities I | 3 |
| OCC-617 | Clinical Practice Skills/Fieldwork 1-A | 2 |
| OCC-683 | Evidence-Based Practice Series I | 1 |



| Second Year | | Credit Hours |
|---|---|---|
| **Fall Term** | | |
| OCC-612 | Physical Disabilities I | 4 |
| OCC-614 | Mental Health Practice | 4 |
| OCC-618 | Clinical Practice Skills/Fieldwork 1-B | 2 |
| OCC-630 | Program Development | 2 |
| OCC-684 | Evidence-Based Practice Series II | 1 |
| **Spring Term** | | |
| OCC-685 | Evidence-Based Practice Series III | 2 |
| OCC-810 | Professional Reasoning and Doctorate Experience I | 2 |
| OCC-613 | Physical Disabilities II | 4 |
| OCC-616 | Developmental Disabilities II | 4 |
| **Summer Term** | | |
| OCC-644 | Leadership and Advocacy | 2 |
| OCC-795 | Advanced Fieldwork I | 9 |
| OCC-811 | Professional Reasoning and Doctorate Experience II | 1 |
| **Third Year** | | **Credit Hours** |
| **Fall Term** | | |
| OCC-820 | Capstone Competencies | 1 |
| OCC-797 | Advanced Fieldwork II | 9 |
| OCC-812 | Professional Reasoning and Doctorate Experience III | 1 |
| **Spring Term** | | |
| OCC-825 | Individualized Doctoral Experiences | 12 |
| OCC-828 | Capstone Dissemination | 1 |
| | **Program Total:** | **107** |

# Physician Assistant Studies

## Master of Science
## Physician Assistant Studies (MS)

### Program Overview

The Physician Assistant program is designed to provide students with an outstanding education in preparation for a career as a PA with a foundation for leadership and service. Graduates are granted a Master of Science in Physician Assistant Studies.

Our 30-month curriculum is innovative and unique, with enhanced rotations that maximize clinical training and patient care experiences. Rush University Medical Center offers extensive resources and settings to provide students with an excellent educational experience.

- The 12-month didactic phase uses lecture, case-based discussions and skills labs training to prepare students for clinical rotations.
- Our unique, 18-month clinical phase prepares students to practice as generalists, while providing a one-of-a-kind immersion in a specific area of clinical practice. Students complete 12 months of core rotations and then advance to six months of advanced rotations.
  - Current areas of advanced clinical training include cardiothoracic surgery, orthopedics, vascular surgery, emergency medicine, pediatrics, behavioral health, internal medicine, primary care, obstetrics and gynecology, pulmonary and critical care medicine, interventional radiology, urology, neurosurgery, geriatrics, and physical medicine and rehabilitation.

### Mission

The Rush University PA program mission is to prepare qualified PAs to practice evidence-based medicine with competence, professionalism, and compassion driven by academic excellence and service to diverse communities.

## Vision

The Rush University PA program strives to be a national leader in educating exceptionally qualified PAs to transform clinical and professional practice.

## Goals

The following are the goals of the Rush University PA program:

- Matriculate and retrain qualified students from diverse backgrounds.
- Prepare competent PAs with the medical knowledge, clinical skills and professional behaviors required for entry-level practice.
- Prepare graduates to work on interprofessional healthcare teams.
- Support the institution and community through student service activities.

# Physician Assistant Studies (MS): Admission Requirements

Admission to the PA program is extremely competitive. The program bases its admissions decisions on candidates' general and science course GPA type and quality of prior health care experience, experience working with or shadowing PAs, leadership and community service activities, professionalism, communication skills, letters of reference, and personal statement quality. The following are specific admissions requirements to keep in mind.

1. A bachelor's degree from an accredited college or university prior to matriculation into the program.
2. A minimum grade point average (GPA) of 3.0 on a 4.0 scale for both total and science GPA. The higher a candidate's GPA, the more competitive the application. GPAs of 3.3 or higher in both total and science GPA are competitive. GPAs of 3.5 or higher for both total and science GPA are highly competitive.
3. Documented hands-on, direct patient contact experience in a health care setting, accrued within seven years of application submission. A minimum of 1,000 hours of paid employment direct patient contact experience is required at the time of application submission. Having more than 1,500 hours is competitive and more than 2,500 hours is highly competitive. Experience collaborating with PAs, nurse practitioners or physicians is highly competitive.
4. A completed application submitted to the Central Application Service for Physician Assistants (CASPA). The following items will be submitted directly to CASPA:
   - **Official transcripts from every U.S. college or university attended**. For coursework completed outside the United States, candidates need to submit an international course evaluation from either World Education Services (WES, www.wes.org/) or Education Credential Evaluators (EEC, www.ece.org/)
   - **Letters of Reference**. We require three letters of reference. Refer to CASPA for instructions on completing the online evaluation. We recommend references be from educators, PAs, MDs or other health care professionals that candidates have worked with who can speak to medical skill, academic performance potential, commitment to service and leadership skills. At least one reference should be from a physician, PA or other health professionals, and one should be from a college or university instructor. Personal references from family and friends are not competitive for admission to the program.
   - **Personal statement.**
5. The following prerequisite courses must be completed with a grade of C or higher. Human Anatomy, Human Physiology, Microbiology and Biochemistry must be completed within seven years of planned program start date. See the section "Required Prerequisites" below for more information.
   - Human Anatomy
   - Human Physiology
   - Microbiology 2
   - Biochemistry
   - Psychology/Behavioral Science
   - Statistics
6. While not a requirement for admission, leadership and/or community service are highly valued and will contribute to the competitiveness of a candidate's application.
7. Final admissions decisions are based on an interview with members of the PA program faculty and other university faculty and leaders. Candidates who are invited for an admissions interview must complete a supplemental application and pay a $40 supplementary fee. Information regarding this supplement is provided with an interview invitation.
8. All applicants must meet the minimum requirements to perform the essential functions of a PA. See the Technical Standards on the following page.
9. Admission is contingent upon successful completion of a health assessment, criminal background check and drug screening processes before matriculation. Information regarding this requirement is discussed during interviews.
10. Applicants with coursework or a bachelor's degree conferred outside of the United States must submit a course equivalence evaluation by either World Education Services (WES) or Education Credentials Evaluators (ECE)
11. TOEFL scores-if English is not a candidate's native language, they are required to take the TOEFL before applying to the program. Please review the Rush College of Health Sciences policy on the TOEFL, at: rushu.rush.edu/college-health-sciences/about-college/information-applicants/toefl-international-applicants, for more information.

Due to the highly competitive nature of the application process, meeting posted admission criteria does not guarantee candidates a program interview.

The program admits one class per year. Attendance in the program is on a full-time basis only.

The program does not offer advanced standing, accept transfer credits or waive any prerequisite or other admission requirement, regardless of a candidate's previous professional or academic experience.

The PA program admits students into the class on a rolling basis, which means we accept candidates to the class at each interview session. Under a rolling admissions process, it is possible to fill all seats in the class before the admission cycle closes. It is to the applicant's advantage to fulfill and submit all application materials as early as possible.

## Additional Factors for Admissions Consideration

Rush University and the PA program are committed to creating a class environment that mirrors our diverse community and that supports access and inclusion among our students. While all candidates must meet posted minimum admissions criteria, candidates with any of the following factors indicated on their CASPA application are given priority consideration toward an admission interview and are reviewed on a case-by-case basis:

- Military veterans.
- Persons from economically disadvantaged backgrounds.
- First person to attend a higher education training program.
- Recommended graduates from the Rush Bachelor of Science in Health Sciences program.

## Program Application

**Completing An Application to the Rush University PA Program:**

The application cycle is open from April 29 to Oct. 1 of each year.

Applications must be submitted online via CASPA at caspa.liaisoncas.com/applicant-ux/#/login

CASPA application requires:

- Submission of official transcripts for all college coursework completed.
- Three letters of recommendation.
- A personal statement.
- Payment of an application fee as outlined by CASPA.

## Required Prerequisites

The following courses must be completed prior to matriculation into the program:

- Human anatomy and human physiology or a two-course sequence combined human anatomy and physiology course.
- Biochemistry.
- Microbiology (with lab preferred but not required).
- Psychology or equivalent course work in the behavioral sciences.
- Statistics.

Candidates must have four of the six prerequisite courses completed at the time of application to be eligible for review. If a candidate has outstanding prerequisites, they must be completed with a grade of C or higher before the start of the program.

The following prerequisite courses must be completed within seven years of matriculation:

- Human Anatomy
- Human Physiology
- Biochemistry
- Microbiology

Candidates must complete all course work with a minimum final grade of a C or higher by the program start date. Acceptance offers to candidates with outstanding prerequisites are conditional, pending successfully completing all course requirements. If a candidate does not complete all prerequisite courses before the program start date, they forfeit their seat in the class.

## Physician Assistant Studies (MS): Technical Standards

The following are the universal technical standards that apply to all clinical training students in the Rush University College of Health Sciences at Rush University. These standards apply to all students enrolled in the PA Program.

Rush University is committed to diversity and to attracting and educating students who will serve diverse communities locally and nationally.

Our core values — I CARE (innovation, collaboration, accountability, respect and excellence) — translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and creates a respectful, accountable culture through our confidential and specialized disability support. Rush is committed to excellence in accessibility; we encourage students with disabilities to disclose and seek accommodations.

### Acquire Information

- Acquire information from demonstrations and experiences in courses, such as lecture, group and physical demonstrations.
- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval).
- Identify information presented in accessible images from paper, slides, videos with audio description and transparencies.
- Recognize and assess patient changes in mood, activity, cognition, verbal and non-verbal communication.

### Use and Interpret

- Use and interpret information from assessment techniques/maneuvers .
- Use and interpret information related to physiologic phenomena generated from diagnostic tools.

### Motor

- Possess psychomotor skills necessary to provide or assist in holistic PA care and perform or assist with procedures and treatments.
- Practice in a safe manner and appropriately provide PA care and assessment in emergencies and life support procedures and perform universal precautions against contamination.

### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors and all members of the health care team during practicum and other learning experiences.
- Accurately elicit information, including a medical history and other information to adequately and effectively evaluate a population's, client's or patient's condition.

### Intellectual Ability

- Measure, calculate, reason, analyze and synthesize data related to diagnosis and treatment of patients and populations.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the PA role.
- Synthesize information, problem-solve and think critically to judge the most appropriate theory, assessment or treatment strategy.

### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

### Character

- Demonstration of concern for others, integrity, accountability, interest and motivation are necessary personal qualities.
- Demonstrate intent and desire to follow the Rush University and Physician Assistant code of ethics.

The technical standards delineated above must be met with or without accommodation. Students who, after review of the technical standards, determine they require accommodation to fully engage in the program, should contact the Office of Student Accessibility Services at (www.rushu.rush.edu/office-student-accessibility-services) to confidentially discuss their accommodations needs. Given the clinical nature of our programs, time may be needed to implement accommodations. Accommodations are never retroactive; therefore, timely requests are essential and encouraged.



## Physician Assistant Studies (MS): Curriculum

| Phase I: Coursework | | |
|---|---|---|
| **Summer Term** | | **Credits Hours** |
| PHA-510 | Human Physiology | 2 |
| PHA-511 | Human Anatomy | 4 |
| PHA-512 | History and Physical Examination | 3 |
| PHA-513 | Physician Assistant Professional Practice | 2 |
| PHA-514 | Clinical Medicine I | 5 |
| **Fall Term** | | **Credit Hours** |
| PHA-520 | Principles of Clinical Pharmacology I | 3 |
| PHA-521 | Research and Statistics | 2 |
| PHA-522 | Diagnostic Reasoning I | 2 |
| PHA-523 | Epidemiology and Public Health | 2 |
| PHA-524 | Clinical Medicine II | 6 |
| PHA-525 | Principles of Advanced Practice I | 2 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| **Spring Term** | | **Credit Hours** |
| CHS-605 | Introduction to Ethics in Health Care | 2 |
| PHA-530 | Principles of Clinical Pharmacology II | 3 |
| PHA-532 | Diagnostic Reasoning II | 2 |
| PHA-533 | Psychosocial Medicine | 2 |
| PHA-534 | Clinical Medicine III | 6 |
| PHA-535 | Principles of Advanced Practice II | 2 |
| PHA-536 | Emergency & Surgical Medicine | 2 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |

| Phase II: Clinical Rotation Courses | | |
|---|---|---|
| PHA-581 | Family Medicine | 4 |
| PHA-582 | Internal Medicine I | 4 |
| PHA-583 | Internal Medicine II | 4 |
| PHA-584 | General Surgery I | 4 |
| PHA-585 | General Surgery II | 4 |
| PHA-586 | Obstetrics and Gynecology | 4 |
| PHA-587 | Pediatrics | 4 |
| PHA-588 | Behavioral Health | 4 |
| PHA-589 | Long-Term Care/Geriatrics | 4 |
| PHA-590 | Emergency Medicine | 4 |
| PHA-591 | Elective I | 4 |
| PHA-592 | Elective II | 4 |
| **Phase III: Advanced Clinical Rotation Courses** | | |
| **Summer Term** | | **Credits Hours** |
| PHA-593 | Advanced Clinical Practice I | 15 |
| PHA-595 | Master's Research Project I | 1 |
| **Fall Term** | | **Credit Hours** |
| PHA-594 | Advanced Clinical Practice II | 15 |
| PHA-596 | Master's Research Project II | 1 |
| | **Program Total:** | **132** |

# Bachelor of Science Health Sciences (BS)

## Philosophy

The Bachelor of Science in Health Sciences program prepares students for advanced learning by providing immersive and interprofessional experiences in a diverse setting.

We believe our students have strong desires to improve the health of their communities. We are committed to creating an environment where students can develop the skills to become critical thinkers, creative problem-solvers and self-directed learners. These tenets are woven throughout the BS in Health Sciences curriculum and educational experiences.

## Mission

The mission of the Bachelor of Science in Health Sciences program is to prepare highly qualified, diverse graduates interested in pursuing health care careers that require advanced levels of professional education. The program seeks to create a bridge for students from a variety of backgrounds in order to improve the cultural humility of health care professionals.

## Vision

The BS in Health Sciences program will be a recognized leader in providing pathways for diverse students into the health professions.

# Health Sciences (BS): Admission Requirements

## Admissions Requirements

Admission to the program is on a competitive basis. We select students based on a number of factors, including the following:

- Overall grade-point average.
- Prerequisite grade point average.
- Coursework completed prior to application.
- Interpersonal skills.

Please note: An associate degree is not required for admission.

The following are required to be considered for admission into the Bachelor of Science in health sciences program:

1. A minimum of 60 semester (90 quarter) credit hours of lower division (100- or 200- level courses) undergraduate coursework from a regionally accredited college or university prior to matriculation.

2. A recommended minimum cumulative and science GPA of 2.75 on a 4.0 scale.

3. Completion of the prerequisite courses with a grade of C or better.

## Application for Admission

**Entry term:** Fall (September)

**Application cycle:** Continuous

**Recommended application deadline:** Aug. 1

**Complete these steps to apply to the Bachelor of Science in health sciences program:**

1. Apply using the Allied Health Centralized Application Service, or AHCAS.
2. You will also need to submit the following through AHCAS:

   A. Official transcripts from every U.S. college or university attended.

   B. International course evaluations for all courses and degrees completed at a college or university outside the United States.

   C. Three professional recommendations. References should be current or former academic advisers, professors, managers or supervisors.

   We will not accept evaluations from coworkers, colleagues, friends or family members.

   D. Personal statement.
3. If your native language is not English, submit Test of English as a Foreign Language (TOEFL) scores.
4. Participate in a personal interview with program faculty.



## Prerequisites

All entering students must complete the following core general education requirements in order to be eligible for the Bachelor of Science degree in the Health Sciences program.

| Requirements | Semester Hours | Quarter Hours |
|---|---|---|
| Two courses in communications (English composition) | 6 | 9 |
| One course in mathematics (college algebra or higher) | 3 | 4 |
| Two courses in life sciences (For example: anatomy, biology, microbiology, pathophysiology, or physiology) | 6 | 9 |
| One course in physical sciences (For example: earth science, astronomy, chemistry, or physics) | 3 | 4 |
| One course in social sciences (For example: government, history, political science, psychology, or sociology) | 3 | 4 |
| One course in humanities (For example: ethics, fine arts, literature, or philosophy) Note: Performance courses do not meet this requirement | 3 | 4 |
| Approximately 12 elective courses in communications, computer science, ethics, fine arts, humanities, life sciences, literature, philosophy, physical sciences, or social sciences | 36 | 56 |
| **Total Hours of Required and Elective Courses:** | **60** | **90** |

# Health Sciences (BS): Technical Standards

Rush University is committed to diversity and to attracting and educating students who will serve diverse communities locally and nationally.

Our core values — I CARE (innovation, collaboration, accountability, respect and excellence) — translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and creates a respectful, accountable culture through our confidential and specialized disability support. Rush is committed to excellence in accessibility; we encourage students with disabilities to disclose and seek accommodations.

The following technical functions are required of all students enrolled in the Bachelor of Health Sciences program:

### Acquire Information

- Acquire information from demonstrations and experiences in courses, such as lecture, group and physical demonstrations.
- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval).
- Identify information presented in accessible images from paper, slides, videos with audio description and transparencies.

### Use and Interpret

- Use and interpret information from assessment techniques/maneuvers/procedures.
- Use and interpret information generated from diagnostic tools.

### Motor

- Possess psychomotor skills necessary to perform or assist with day-to-day responsibilities commensurate with the student's discipline.
- Practice in a safe manner and perform universal precautions against contamination.

### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors, employees, other professionals and all members of the health care team during practicum, internship and/or other learning experiences.

### Intellectual Ability

- Measure, calculate, reason, analyze and synthesize data related to the diagnosis and treatment of patients and populations.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the health sciences role.

- Synthesize information, problem-solve and think critically to judge the most appropriate theory, assessment, management or treatment strategy.

### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

### Character

- Demonstrate concern for others.
- Integrity, accountability, interest and motivation are necessary personal qualities.
- Demonstrate intent and desire to follow the Rush University and Health Sciences code of ethics.

The technical standards delineated above must be met with or without accommodation. Students who, after review of the technical standards, determine they require reasonable accommodation to fully engage in the program, should contact the Office of Student Accessibility Services to confidentially discuss their accommodations needs.

Given the clinical nature of our programs, time may be needed to create and implement the accommodations. Accommodations are never retroactive; therefore, timely requests are essential and encouraged. Contact the Office of Student Accessibility Services to learn more about accommodations at Rush University:

Marie Lusk, MBA, MSW, LSW
Director, Office of Student Accessibility Services
Rush University
600 S. Paulina St., Suite 901
Chicago, IL 60612
(312) 942-5237
marie_lusk@rush.edu

## Health Sciences (BS): Academic Policies

### Academic Progression

High academic performance in all courses is expected. Students will be considered in good standing at Rush University unless placed on academic probation. A cumulative grade-point average of at least 2.0 is required to be considered in good standing and to be eligible to continue in the baccalaureate program. Cumulative grade-point averages will be reviewed after each term.

The faculty reserves the right to request the withdrawal of a student whose conduct, health or performance demonstrates lack of fitness for continuance in a health profession. Any such student not voluntarily withdrawing will be dismissed from the university, regardless of grade-point average.

### Academic Probation

Academic probation is assigned to any student who receives a term grade point-average below 2.0 or whose cumulative grade-point average falls below 2.0. Students placed on probation have two terms to regain the status of good standing as follows:

- The student must attain a grade-point average of at least 2.0 in the term following the term when probation was assigned.
- Two terms after being placed on probation, the student must have a cumulative grade-point average above 2.0.

Failure to make the minimum term grade-point average one term after probation regardless of the cumulative grade-point average or failure to make the minimum cumulative grade-point average two terms after probation will result in dismissal from the university.

### D, F or N Grades in the Bachelor of Science in Health Sciences Program

Undergraduate students who receive a D, F or N grade in any course may repeat that course, with the F or N grade being replaced by the grade earned upon repeating the course. In the event that a student is required to repeat a course that is a prerequisite for an advanced course, the advanced course may not be taken until the student successfully passes the prerequisite course. Thus, the student's progression in the program may be affected. Refer to the academic probation policy for further details.

### Residency Requirement

Students must complete 36 credit hours of course work in-residence at Rush University in order to graduate.



## Health Sciences (BS): Curriculum

### Upper-Division Course Work

Rush University provides two years of upper-division coursework to complete the requirements for the Bachelor of Science in Health Sciences program. Upper-division course work consists of core courses required of all students and elective courses. Rush offers two organized concentrations though students are not required to choose a specific concentration to complete this degree program:

- Medical sciences
- Leadership and community wellness

Students must complete a minimum of 60 credit hours of upper-division coursework including a minimum of 30 credit hours in the required core and at least 30 credit hours of elective courses approved by their academic adviser. Students must also complete 16 hours of community service and Professional Roadmaps to Opportunities (PRO) Seminar series as outlined in the student's program handbook.

### Core Courses Required of All Students

| Course | | Credits |
|---|---|---|
| HSC-352 | Professional Writing | 3 |
| HSC-354 | Introduction to Health Professions | 3 |
| HSC-448 | Health Care Ethics | 2 |
| Or | | |
| IS-454 | Health Care Ethics and Cultural Competence | 4 |
| CHS-364 | Health Care Systems and Policies | 1 |
| HSC-488 | Research Methods | 3 |
| Or | | |
| IS-463 | Research and Statistical Methods | 3 |
| HSC-358 | Global Health | 3 |
| HSC-425 | Health Care Informatics | 3 |
| HSC-462 | Practicum | 9 |
| HSC-464 | Capstone | 3 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |

### Electives

*Elective courses can be taken from either concentration. The courses must be approved by the student's academic adviser and the program director and correspond with the student's career goals.* **Individualized plans of study are developed for each student based on their future academic goals with their adviser.**

### Medical Sciences Electives

| Course | | Credits |
|---|---|---|
| HSC-350 | Medical Physiology | 4 |
| HSC-360 | Human Anatomy/Lab | 4 |
| HSC-362 | Clinical Immunology | 3 |
| HSC-368 | Genetics | 3 |
| HSC-372 | Medical Terminology | 1 |
| HSC-414 | Patient Assessment | 3 |
| HSC-445 | Fundamentals of Neuroscience | 3 |
| HSC-454 | Principles of Biochemistry | 4 |
| HSC-455 | Pathophysiology | 3 |
| HSC-458 | Microbiology | 3 |
| HSC-459 | Pharmacology | 3 |
| IS-307 | Introduction to Patient Care | 3 |
| IS-310 | Sectional Anatomy and Pathology | 5 |
| IS-318 | Patient Assessment | 3 |
| IS-325 | Pharmacology and Radiologic Contrast Agents | 3 |
| IS-340 | MRI Safety | 3 |
| VAS-310 | Patient Care | 2 |
| VAS-370 | General Pathophysiology | 3 |

### Leadership and Community Wellness Electives

| Course | | Credits |
|---|---|---|
| HSC-371 | Health Education | 3 |
| HSC-400 | Independent Study | 1-12 |
| HSC-435 | Nutrition | 3 |
| HSC-460 | Management Principles | 3 |
| HSC-461 | Leadership Theory and Practice | 3 |
| HSC-467 | Issues and Trends in Health Care | 3 |
| HSC-468 | Human Growth and Development Across the Life Span | 3 |
| HSC-447 | Epidemiology | 3 |
| HSC-480 | Principles and Health and Wellness | 3 |
| HSC-483 | Community Health | 3 |
| IS-305 | Intro to Imaging Sciences | 3 |
| VAS-390 | Introduction to Research | 2 |

### Transfer of Credit

Students who desire to complete other elective courses, either offered at Rush University or at another regionally accredited college or university, may request to do so. These electives may be incorporated into the student's program plan with the approval of the program director.

# Bachelor of Science Imaging Sciences (BS)

## About the Profession

Radiologic imaging science (also known as radiologic technology or medical imaging) is a specialized allied health profession dedicated to diagnostic and interventional imaging.

Imaging science professionals perform medical imaging procedures independently within their scope of practice or under physician supervision to produce high-quality diagnostic images that assist in patient diagnosis and treatment.

## Program Overview

The Rush University Bachelor of Science in Imaging Sciences program provides registered radiologic technologists with an opportunity to advance their education and professional expertise by obtaining a bachelor's degree. This degree enhances career prospects, opens pathways to graduate education, and strengthens clinical and technical competencies in medical imaging. Additionally, the program offers a pathway for highly qualified, unlicensed individuals to train and prepare for a career as an MRI technologist.

The program prepares imaging professionals for career advancement in specialized imaging fields, leadership roles, education and research. Graduates will gain the knowledge, skills and professional competencies necessary to perform advanced-level imaging in specialized areas such as computed tomography (CT), magnetic resonance imaging (MRI), cardiac-interventional (CI), vascular-interventional (VI) and other advanced imaging modalities.

The Bachelor of Science in Imaging Sciences consists of upper-division undergraduate level imaging sciences coursework and clinical fieldwork at completed at Rush University and its affiliated clinical sites.

Dedicated to academic and clinical excellence, the program includes 1,000 hours of in-hospital clinical practice. Students will develop an individualized course plan in collaboration with the program director. The program provides the clinical training necessary for eligibility in the post primary certification pathway for advanced imaging modalities computed tomography, magnetic resonance imaging, cardiac-interventional or vascular-interventional offered by the American Registry of Radiologic Technologists.

# Imaging Sciences (BS): Admission Requirements

Requirements for admission to the professional phase of the Imaging Sciences program include the following:

- Completion of 60 semesters or 90 quarter hours of college or university credit at a regionally accredited college or university.
- Minimum overall GPA of at least 2.5 out of 4.0 in all college/university coursework.
- Prerequisite courses include English composition, college algebra or higher, life sciences (one of which is human anatomy and physiology), physical science, social science, humanities and elective courses.
- Successful completion of program prerequisites with a grade of at least "C" or higher from a regionally accredited college or university.
- Associate degree in medical radiography or nuclear medicine technology (not applicable if applying to the entry-level MRI track) from a program accredited by the Joint Review Committee on Education in Radiologic Technology (or the Joint Review Committee on Educational Programs in Nuclear Medicine Technology. Applicants who have successfully completed an accredited hospital-based program should contact the program director to determine if they may be admitted on this basis.
- Licensure or eligibility for accreditation in the practice of medical radiation technology by the Illinois Emergency Management Agency (not applicable if applying to the entry-level MRI track).
- Completed application to the program and submission of official transcripts for all college coursework completed.
- An interview is scheduled for selected applicants following review of the application materials.
- Ability to perform the essential functions of the job.
- All applicants whose native language is not English must present evidence of proficiency in English by satisfactorily completing the Test of English as a Foreign Language examination (TOEFL). More information about this policy is in the main College of Health Sciences section of this catalog.



### Prerequisite Courses

| General Education Courses | Semester Hours | Quarter Hours |
|---|---|---|
| **Two courses in communications** (English composition is required) | 6 | 9 |
| **One course in mathematics** (college algebra or higher-level math) | 3 | 4 |
| **Two courses in life sciences** (human anatomy and physiology is required and two semesters are highly recommended. Second course may be in anatomy, biology, microbiology, pathophysiology, physiology or other life science topic.) | 8 | 12 |
| **One course in physical sciences** (general physics is highly recommended) | 3 | 4 |
| **One course in social sciences** (i.e., government, history, political science, psychology, sociology) | 3 | 4 |
| **One course in humanities** (i.e., ethics, fine arts, literature, philosophy. Performance courses do not meet this requirement.) | 3 | 4 |
| **Elective courses** (Courses in communications, computer science, ethics, fine arts, humanities, life sciences, literature, philosophy, physical sciences or social sciences.) | 34 | 53 |
| **Total** | **60** | **90** |

# Imaging Sciences (BS): Technical Standards

Rush University is committed to diversity and to attracting and educating students who will serve diverse communities locally and nationally.

Our core values — I CARE (innovation, collaboration, accountability, respect and excellence) — translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and creates a respectful, accountable culture through our confidential and specialized disability support. Rush is committed to excellence in accessibility; we encourage students with disabilities to disclose and seek accommodations.

The following technical functions are required of all students enrolled in the Imaging Sciences program:

### Acquire Information

- Acquire information from demonstrations and experiences in courses, such as lecture, group and physical demonstrations.
- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval).
- Identify information presented in accessible images from paper, slides, videos with audio description and transparencies.
- Recognize and assess patient changes in mood, activity, cognition, verbal and non-verbal communication.

### Use and Interpret

- Use and interpret information from assessment techniques/maneuvers.
- Use and interpret information related to physiologic phenomena generated from diagnostic tools.

### Motor

- Possess psychomotor skills necessary to provide or assist in holistic imaging sciences care and perform or assist with procedures and treatments.
- Practice in a safe manner and appropriately provide imaging sciences care and assessment in emergencies and life support procedures and perform universal precautions against contamination.

### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors and all members of the health care team during practicum and other learning experiences.
- Accurately elicit information including a medical history and other information to adequately and effectively evaluate a population's, client's or patient's condition.

### Intellectual Ability

- Measure, calculate, reason, analyze and synthesize data related to diagnosis and treatment of patients and populations.
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the imaging sciences role.
- Synthesize information, problem-solve and think critically to judge the most appropriate theory, assessment or treatment strategy.

### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

### Character

- Demonstrate concern for others.
- Integrity, accountability, interest and motivation are necessary personal qualities.
- Demonstrate intent and desire to follow the Rush University and Imaging Sciences Code of Ethics.

The technical standards delineated above must be met with or without accommodation. Students who, after review of the technical standards, determine they require reasonable accommodation to fully engage in the program, should contact the Office of Student Accessibility Services to confidentially discuss their accommodations needs.

Given the clinical nature of our programs, time may be needed to implement the accommodations. Accommodations are never retroactive; therefore, timely requests are essential and encouraged. Contact the Office of Student Accessibility Services to learn more about accommodations at Rush University:

Marie Lusk, MBA, MSW, LSW
Director, Office of Student Accessibility Services
600 S. Paulina St., Suite 901
Chicago, IL 60612
(312) 942-5237
marie_lusk@rush.edu

## Imaging Sciences (BS): Academic Policies

### Good Academic Standing

High academic performance is expected in required courses. If a student earns grades lower than C or their cumulative GPA falls below a 2.5, the student may not be permitted to register for subsequent courses and may be subject to dismissal from the program. Students who withdraw or who have been dismissed from the program must reapply and will be considered as a new applicant. Students requesting readmission must submit a letter to Admissions.

### Academic Probation

During the program, if a student's performance is unsatisfactory (GPA less than 2.5 or a letter grade of less than C), they may not be permitted to register for subsequent classes. The student will be subject to dismissal from the program. If the student wishes to reenter the program, they must reapply and will be considered on the same basis as any new applicant.

Students who voluntarily withdraw from the program, either passing or failing, have no guarantee of reinstatement to the program. Students requesting readmission to the program should submit a letter to that effect to the Committee on Progress and Promotion for Imaging Sciences.

### Clinical Work

Students must maintain a cumulative GPA in the program of at least 2.5 unless otherwise described in each course syllabus, the minimum satisfactory grade for course credit is 75% (a letter grade of C), and all stipulated segments of a course must be passed by this standard. Students must demonstrate proficiency in all clinical skills presented to pass clinical courses. For all clinical courses, the final exam must be passed at the designated cut score and a grade of C or better must be maintained to successfully complete each clinical practice to continue in the program.

### Grievance Policy — Student Appeals

Normal communication regarding course or program policy should be first directed to the instructor assigned to the course or clinical section involved. If the student is unable to satisfy an inquiry or request at that level, the matter should be referred to either the clinical director (in the case of clinical practice) or the department chairperson (in the case of academic coursework or policy).

If the matter in question cannot be resolved at that level, it should be directed to the Committee on Progress and Promotions for Imaging Sciences. This committee will either resolve the matter in question to the student's satisfaction or instruct the student on available mechanisms for appeal as described in the university catalog and university student handbook.

### Comprehensive Examination

At the end of the program, the student will complete an end-of-program competency assessment examination, as well as meet graduation and program completion requirements (see Graduation Requirements). Students who do not successfully complete the examination will receive an Incomplete for the third clinical rotation and will retake the examination prior to the beginning of the next semester.

Those failing the examination twice will be enrolled in a directed Independent Study during the next term for remediation. Those failing the examination on the third attempt will be subject to dismissal from the program. Those students may reapply to the program (see Procedures for Readmission).

### Residency Requirement

Students in the Bachelor of Science in Imaging Sciences must complete their final 36 credit hours of course work in-residence at Rush University in order to graduate.

## Imaging Sciences (BS): Graduation Requirements

Degree requirements that must be met include the following:

- Satisfactory completion of all general education coursework as listed.
- Completion of each required Imaging Sciences professional course with a grade of C or better.
- Cumulative GPA of 2.5 or better.
- Successfully complete a comprehensive end-of-program competency assessment.
- Completion of 16 hours of community service.
- Successful completion of the Professional Roadmaps to Opportunities (PRO) Seminar series as outlined in the student's program handbook.

## Imaging Sciences (BS): Curriculum

### Core Courses Required of All Students

| | | |
|---|---|---|
| CHS-364 | Health Care Systems & Policies | 1 |
| HSC-425 | Informatics | 3 |
| IS-310 | Sectional Anatomy & Pathology | 5 |
| IS-314 | Pathophysiology | 4 |
| IS-318 | Patient Assessment Credit | 3 |
| IS-325 | Pharmacology and Radiologic Contrast Agents | 3 |
| IS-447P | Clinical Practicum I | 6 |
| IS-448 | Clinical Seminar I | 3 |
| IS-449 | Clinical Seminar II | 3 |
| IS-457P | Clinical Practicum II | 6 |
| IS-463 | Research & Statistical Methods | 3 |
| IS-467P | Clinical Practicum III | 6 |
| IS-468 | Clinical Seminar III | 3 |
| IS-454 | Health Care Ethics & Cultural Competence | 4 |
| OR | | |
| HSC-448 | Health Care Ethics | 2 |
| **Subtotal** | | **48-50** |

### Elective Courses

Students must complete 6-8 credits of electives, depending on which ethics course they choose.

| | | |
|---|---|---|
| HSC-352 | Professional Writing | 3 |
| HSC-372 | Medical Terminology | 1 |
| HSC-425 | Health Care Informatics | 3 |
| HSC-435 | Nutrition | 3 |
| HSC-447 | Epidemiology | 3 |
| HSC-460 | Management Principles | 3 |
| HSC-467 | Issue and Trends in Health Care | 3 |
| HSC-480 | Principles of Health & Wellness | 3 |
| HSC-483 | Community Health | 3 |
| IS-318 | Patient Assessment Credit | 3 |
| IS-331 | Education | 3 |
| IS-458 | Leadership | 3 |
| **Subtotal** | | **6-8** |

## Imaging Sciences (BS): Computed Tomography (CT)

### Core Courses Required for Imaging Sciences (BS): Computed Tomography (CT) Track

| | | |
|---|---|---|
| IS-453 | Computed Tomography Positioning and Protocols | 3 |
| IS-337 | Computed Tomography Physics | 3 |
| IS-338 | Advanced Radiation Biology | 3 |
| **Rush Credit Hour Total:** | | **65** |

## Imaging Sciences (BS): Interventional Radiography (VI/CI)

### Core Courses Required for Imaging Sciences (BS): Interventional Radiography (VI/CI) Track

| | | |
|---|---|---|
| IS-328 | Vascular Interventional Technology | 6 |
| IS-338 | Advanced Radiation Biology | 3 |
| **Rush Credit Hour Total:** | | **65** |

## Imaging Sciences (BS): Magnetic Resonance Imaging (MRI) Track

### Core Courses Required for Imaging Sciences (BS): Magnetic Resonance Imaging (MRI) Track

| | | |
|---|---|---|
| IS-305 | Introduction to Imaging Sciences | 3 |
| IS-307 | Introduction to Patient Care | 3 |
| IS-336 | MRI Physics | 5 |
| IS-340 | MRI Safety | 3 |
| IS-444 | MRI Positioning and Protocols | 4 |
| **Rush Credit Hour Total:** | | **74** |

## Imaging Sciences: ARRT Advanced Standing (IS)

### Prgram Overview

The Advanced Standing Track in Imaging Sciences provides an opportunity for radiologic technologists and nuclear technologists who hold advanced certifications in specialized imaging modalities-such as interventional radiography, computed tomography (CT), nuclear medicine, magnetic resonance imaging (MRI) and vascular interventional radiography to complete the bachelor's degree component of the program.

This track recognizes the expertise and credentials of experienced imaging professionals, granting them academic credit for prior learning and professional achievements. Students in this program will complete the necessary coursework to earn a Bachelor of Science in Imaging Sciences while enhancing their skills and career advancement opportunities.

All students graduating from the Imaging Sciences program must meet the same standards for graduation. The awarding of advanced standing does not signify a lesser quality education but serves to exempt students from coursework in areas where they have proven expertise through certification and professional experience.

### Definition

Advanced standing is defined as a special and individually determined status granted to a student in a formal educational setting, who has already gained through other sources or through non academic experiences, knowledge, skills and professional attitudes taught in the program courses.

### Purpose of Advanced Standing Procedures

The purpose of the advanced standing procedures is to recognize and give formal educational credit for knowledge and/or ability gained through previous training or experience.

### Methods of Granting Advanced Standing

1. Advanced standing can be awarded through transfer credit.
2. Advanced standing can be awarded as credit for successful completion of national certification or registry examinations.

### Who is Eligible For Advanced Standing?

1. Transfer students (who have been accepted into the Rush University Imaging Sciences Program) may receive transfer credit for equivalent courses within the Imaging Sciences Program curriculum.
2. The Credentialed Imaging Professional Students who hold an advanced certification in CT, MRI, interventional radiography, cardiac interventional radiography, or nuclear medicine awarded by the ARRT (or another recognized credentialing agency) may receive credit for specific coursework within the program.

## ARRT Advanced Standing (IS): Curriculum

### Credit Based on the Advanced Credential

Individuals providing documentation that they hold the advanced credential may receive credit for several required courses in the imaging sciences curriculum. Students in the Bachelor of Science in Imaging Sciences must complete their final 36 credit hours of coursework in-residence at Rush University in order to graduate.

All students holding ARRT Advanced Standing must complete a minimum of the following courses. Please note that students are evaluated at an individual level based on their academic and professional history. This may not be a complete listing of the courses that are required for a specific student.

| | | |
|---|---|---|
| CHS-364 | Health Care Systems and Policies | 1 |
| HSC-425 | Health Care Informatics | 3 |
| IS-310 | Sectional Anatomy and Pathology | 5 |
| IS-314 | Pathophysiology | 4 |
| IS-325 | Pharmacology and Radiologic Contrast Agents | 3 |
| IS-448 | Clinical Seminar I | 3 |
| IS-463 | Research and Statistical Methods | 3 |
| *Students must select from the Elective Courses to bring their total credits up to the required minimum.* | | |
| **Rush Credit Hour Total:** | | **36** |

## Vascular Ultrasound and Technology (BS)

### Description of the Profession

The vascular sonographer plays a vital role in the diagnosis and treatment of patients with disorders of arteries and veins. These include atherosclerosis that may result in strokes or gangrene of the extremities, blood clots in veins that may break off and travel to the lungs and possibly cause death, aneurysms that may burst and many other pathologies of the circulatory system.

A vascular sonographer is responsible for taking the patient's history, performing the appropriate test using high-tech, noninvasive equipment such as ultrasound, documenting and analyzing the data and images, and preparing a preliminary report for the physician to interpret. The sonographer has extensive, direct interaction with patients, physicians, coworkers and other hospital personnel. The work requires physical, intellectual and communication skills.

## Vascular Ultrasound and Technology (BS): Overview

### Program Description

Students in the Vascular Ultrasound and Technology program are taught by vascular sonographers and physicians who are experienced practitioner-teachers in the field. The basic program is full-time and consists of 20 months (five terms) of study.

The first two terms consist of classroom instruction, student laboratory practice with models and observation of patient examinations. Second-year students primarily perform the vascular examinations learned during the first year on patients under the direction of credentialed and experienced vascular sonographers at two or more vascular laboratories during the year. The clinical sites include university hospitals in Chicago, as well as some community hospitals and out-of-state sites.

During the second year, students also participate in senior lectures and patient case presentations. Students earn a Bachelor of Science degree and are eligible to take the certification examination to become a registered vascular technologist, or RVT, before graduation due to the program's status as an accredited ultrasound program through the Commission on Accreditation of Allied Health Educational Programs.

### Program Accreditation

The program is accredited by the Commission on Accreditation of Allied Health Educational Programs (CAAHEP), through the Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS). CAAHEP information: 9355 - 13the St. N, #7709, Seminole, FL 33775, www.caahep. org or (727) 210-2350.

## Vascular Ultrasound and Technology (BS): Admission Requirements

- A minimum of 60 semester (90 quarter) hours earned at an accredited college or university is required.
- The minimum cumulative GPA is 2.5 on a 4.0 scale.
- Effective Jan. 1, 2009, all entering students must complete the core general education requirements below with a minimum grade of C in order to be eligible for the Bachelor of Science degree awarded by Rush University.
- Required courses must be completed within the last 10 years.
- Applicants who have taken their prerequisite coursework at a university outside the United States must have their coursework evaluated by the Education Credential Evaluators.
- Three recommendations are required on the recommendation forms provided in the application. These recommendations should be from previous instructors and employers (preferably from two instructors and one employer).

Please email the College of Health Sciences admissions office at chs_admissions@rush.edu if you have a question about which particular courses from your college will cover these prerequisites.

| Requirements | Semester Credit Hours | Quarter Credit Hours |
|---|---|---|
| **Two courses in communications.** English composition is required. The second course may be in composition, speech or other communication topic. | 6 | 9 |
| **One course in mathematics.** College algebra or higher-level math is required. Additional math courses are highly recommended. | 3 | 4 |
| **Two courses in life sciences.** Human anatomy and physiology is required (two semesters are highly recommended). The second course may be in anatomy, biology, microbiology, pathophysiology, physiology or other life science topic. | 6 | 9 |
| **One course in physical sciences.** General physics is required. Chemistry is highly recommended. Please be sure to fulfill this requirement by taking a physics course that is for science majors. | 3 | 4 |
| **One course in social sciences.** (i.e., government, history, political science, psychology, sociology) | 3 | 4 |
| **One course in humanities.** (i.e. ethics, fine arts, literature, philosophy) Ethics is highly recommended. Performance courses do not meet this requirement. | 3 | 4 |
| **Elective courses.** Courses in communications, computer science, ethics, fine arts, humanities, life sciences, literature, philosophy, physical sciences or social sciences to total 36 semester (56 quarter) hours. | 36 | 56 |
| **Total** | **60** | **90** |



### Advanced Placement

Admitted students who have passed the American Registry for Diagnostic Medical Sonography, or ARDMS, Sonography Principles and Instrumentation, or SPI, exam or earned the Registered Vascular Technologist, or RVT, credential may request advanced placement status after acceptance in the program. With proof of passing these credentialing exams, students can qualify to receive credits according to the advanced placement description on the Vascular Ultrasound program webpage: www.rushu.rush.edu/vastech.

## Vascular Ultrasound and Technology (BS): Technical Standards

Rush University is committed to diversity and to attracting and educating students who will serve diverse communities locally and nationally.

Our core values — I CARE (innovation, collaboration, accountability, respect and excellence) — translate into our work with all students, including those with disabilities. Rush actively collaborates with students to develop innovative ways to ensure accessibility and creates a respectful, accountable culture through our confidential and specialized disability support. Rush is committed to excellence in accessibility; we encourage students with disabilities to disclose and seek accommodations.

The following technical functions are required of all students enrolled in the Vascular Ultrasound and Technology program:

### Acquire Information

- Acquire information from demonstrations and experiences in courses, such as lecture, group and physical demonstrations.
- Acquire information from written documents and computer systems (e.g., literature searches and data retrieval)
- Identify information presented in accessible images from paper, slides, videos with audio description and transparencies.
- Recognize and assess patient changes in mood, activity, cognition, verbal and non-verbal communication.

### Use and Interpret

- Use and interpret information from assessment techniques/maneuvers.
- Use and interpret information related to physiologic phenomena generated from diagnostic tools.

### Motor

- Possess psychomotor skills necessary to provide or assist in holistic vascular ultrasound and technology care and perform or assist with procedures and treatments.
- Practice in a safe manner and appropriately provide vascular ultrasound and technology care and assessment in emergencies, and life support procedures and perform universal precautions against contamination.

### Communication

- Communicate effectively and sensitively with patients and families.
- Communicate effectively with faculty, preceptors and all members of the health care team during practicum and other learning experiences.
- Accurately elicit information, including a medical history and other information to adequately and effectively evaluate a population's, client's or patient's condition.

### Intellectual Ability

- Measure, calculate, reason, analyze and synthesize data related to the diagnosis and treatment of patients and populations
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the vascular ultrasound and technology role
- Synthesize information, problem-solve and think critically to judge the most appropriate theory, assessment or treatment strategy

### Behavioral

- Maintain mature, sensitive, effective relationships with clients/patients, families, students, faculty, staff, preceptors and other professionals under all circumstances.
- Exercise skills of diplomacy to advocate for patients in need.
- Possess emotional stability to function under stress and adapt to rapidly changing environments inherent to the classroom and practice settings.

### Character

- Demonstrate concern for others.
- Integrity, accountability, interest and motivation are necessary personal qualities.
- Demonstrate intent and desire to follow the Rush University and Vascular Ultrasound and Technology Code of Ethics.

The technical standards delineated above must be met with or without accommodation. Students who, after review of the technical standards, determine they require reasonable accommodation to fully engage in the program, should contact the Office of Student Accessibility Services to confidentially discuss their accommodations needs.

Given the clinical nature of our programs, time may be needed to implement the accommodations. Accommodations are never retroactive; therefore, timely requests are essential and encouraged. Contact the Office of Student Accessibility Services to learn more about accommodations at Rush University:

Marie Lusk, MBA, MSW, LSW
Director, Office of Student Accessibility Services
600 S. Paulina St., Suite 901
Chicago, IL 60612
(312) 942-5237
marie_lusk@rush.edu

# Vascular Ultrasound and Technology (BS): Academic Policies

## Good Academic Standing

High academic performance is expected in required courses. Students will be considered in good standing unless placed on academic probation. An annual cumulative grade-point average of at least 2.0 is required to be eligible to continue in the program. A grade of C or higher in the required courses is necessary to be eligible to continue in the program; a grade of D or F may result in dismissal from the program.

The faculty reserves the right to request the withdrawal of a student whose conduct, health or performance demonstrates lack of fitness for continuance in a health profession. Any such student not voluntarily withdrawing will be dismissed from the university.

## Academic Probation

Academic probation is assigned to any student who receives a term grade-point average below 2.0, or whose cumulative GPA falls below 2.0. Students placed on probation have one term to regain good standing. Failure to do so may result in dismissal from the university.

## Clinical Work

A student may not be paid as an employee during clinical credit hours. Also, a student may not count any paid work as an employee for clinical credit hours in the program.

## Blood-Borne Pathogen and Communicable Disease Policy

If a student is exposed to a blood-borne pathogen or communicable disease, he or she should report to the emergency room for care.

## Residency Requirement

Students in the Bachelor of Science in Vascular Ultrasound and Technology must complete their final 36 credit hours of course work in-residence at Rush University in order to graduate.

# Vascular Ultrasound and Technology (BS): Curriculum

**1 credit hour compared to contact hours**

1 class credit hour = 1 hour/week = 50 minutes

1 lab credit hour = 2 hours/week = 100 minutes

1 clinical credit hour = 40 hours/week

| First Year | | Credit Hours |
|---|---|---|
| **Fall Term** | | |
| VAS-305 | Vascular Anatomy, Physiology and Pathophysiology | 2 |
| VAS-310 | Patient Care | 2 |
| VAS-320 | Ultrasound Physics and Physical Principles I | 2 |
| VAS-320L | Physics and Instrumentation Lab | 1 |
| VAS-330 | Venous Ultrasound Procedures | 2 |
| VAS-330L | Venous Ultrasound Procedure Lab | 1 |
| VAS-340 | Arterial Physiologic and Duplex Procedures | 2 |
| VAS-340L | Arterial Physiologic Procedures Lab | 1 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| **Spring Term** | | |
| VAS-325 | Ultrasound Physics and Physical Principles II | 2 |
| VAS-345L | Advanced Duplex Ultrasound Procedures Lab | 1 |
| VAS-350 | Cerebrovascular Procedures | 2 |
| VAS-350L | Cerebrovascular Procedures Lab | 1 |
| VAS-360 | Abdominal Vascular Procedures Class and Lab | 2 |
| VAS-370 | General Pathophysiology | 3 |
| VAS-380 | Professional Practices in Ultrasound | 3 |
| VAS-390 | Introduction to Research | 2 |
| IPE-502 | Interprofessional Person Centered Teams | 0 |
| **Second Year** | | **Credit Hours** |
| **Summer Term** | | |
| VAS-411 | Clinical Skills in Vascular Ultrasound I | 11 |
| VAS-421 | Professional Skills I | 1 |
| VAS-441 | Senior Topics/Cases I | 1 |
| **Fall Term** | | |
| VAS-412 | Clinical Skills Vascular Ultrasound II | 7 |
| VAS-422 | Professional Skills II | 1 |
| VAS-451 | Cumulative Clinical Skills in Vascular Ultrasound I | 4 |
| VAS-442 | Senior Topics/Cases II | 1 |
| **Spring Term** | | |
| VAS-413 | Clinical Skills-Vascular Ultrasound III | 8 |
| VAS-423 | Professional Skills III | 1 |
| VAS-452 | Cumulative Clinical Skills in Vascular Ultrasound II | 4 |
| VAS-443 | Senior Topics III/Comprehensive Review Comprehensive Review | 1 |
| | **Program Total** | **69** |

Students must also complete 16 hours of community service and Professional Roadmaps to Opportunities (PRO) Seminar series as outlined in the student's program handbook.


# Rush University
# Course Descriptions

# Rush University Course Descriptions

**ANA - 7EI Basic Science Individualized Elective**
Students may receive credit for an individually arranged elective with a Rush faculty member. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter stating the student's activities, responsibilities, amount of supervision and specific dates of the rotation. The sponsoring faculty member must complete an evaluation of the student's performance at the conclusion of the elective. Students must submit a proposal to the Office of Clinical Curriculum for approval at least eight weeks before the rotation and must have written approval from the assistant dean of Clinical Curriculum before beginning the rotation. Students may receive four weeks of credit for an individually arranged elective. Credit for a maximum of only one individually arranged elective will count toward graduation requirements. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 4

**ANA - 500 Neuroscience for Basic and Clinical Applications**
This course is a survey of the nervous system integrating information and topics from the disciplines of anatomy, histology, neurobiology and neurology. The course integrates the structure, function and organization of nervous tissue from the cellular through gross anatomic aspects, including central, peripheral and autonomic portions of the system. The course includes a series of clinical correlation lectures designed to support and augment the basic science content. Beyond an understanding of the normal structure and function of these systems, students will study the development and growth of these components as well as the changes noted in maturation and aging processes within these systems. Control mechanisms will be considered as the study during this course moves into the specific clinical scenarios. The basic knowledge of the structure and function of the components of the nervous system will then be applied to the abnormal functions that are the basis for disorders and diseases of this system. The course objectives below represent the content of this course. Individual learning objectives for each lecture as well as for the lab and small group sessions are contained within the educational materials for these sessions. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**ANA - 781 Research in Anatomy**
Students will complete an individual research activity in collaboration with faculty at Rush. The student must develop a proposal that includes the student's activities, responsibilities, amount of supervision and expected time commitment. The proposal must be signed by the faculty supervisor and submitted to the Office of Integrated Medical Education for approval at least four weeks before the start of term. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**ANA - 791 Surgical Anatomy**
The surgical anatomy elective is designed for 4th-year medical students with an interest in surgical specialties. Students will review and receive advanced training in anatomy and surgical skills through cadaveric dissections, teaching assistantships, online modules and independent study. In-person/on-campus teaching is required. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**ANA - 793 Advanced Histology/Cell Biology**
The program will focus on in-depth study of histology/cell biology of regions designated by the participant and agreed upon by the course director. The program will incorporate didactic material with special emphasis on independent study and presentations on topics of interest at the forefront of the designated field. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2

**AUD - 592 Grand Rounds**
Scientific, clinical and professional issues in audiology are examined through student case presentations in a clinical rounds format. Oral presentation skills as well as analytical and clinical problem-solving skills are highlighted. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 1

**AUD - 602 Anatomy and Physiology of Hearing and Balance**
This course examines anatomy and physiology of the auditory system: outer, middle and inner ear and central auditory pathways. Anatomy and physiology of the vestibular system and speech production is also included. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**AUD - 606 Introduction to Neuroscience**
Central and peripheral nervous system structures that form the neurologic foundation for speech, hearing and language are presented. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**AUD - 607 Pathophysiology of the Auditory System**
Students discuss risk factors, symptoms and pathogenesis of various ear diseases and auditory system disorders. Audiologic assessment as well as medical/surgical treatments are explained. Students will also be introduced to concepts related to tinnitus, including the origins, clinical assessment and treatment efficacy. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**AUD - 611 Embryology and Genetics of the Auditory System**
After reviewing basic biology, this course presents basic patterns of biological inheritance and basic human genetics terminology. Embryologic development of the auditory, vestibular and craniofacial systems is presented and related to Auditory/speech/balance function following birth. Focus is on genetics and hearing loss. Topics include gene therapy and hearing loss, syndromic and nonsyndromic hearing loss and consideration of pharmacogenomics. The importance of genetic counseling, family history and beliefs, prevention and ethical/legal issues are discussed. Offered: summer. Retake Counts for Credit: No. Credit(s): 1

**AUD - 613 Acoustics and Psychoacoustics**
This course describes the basic principles in acoustics regarding sound production, measurement, analysis and perception of sound. Psychoacoustic principles, theories of auditory perception and their relationship to normal hearing are presented. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**AUD - 614 Acoustic Phonetics and Speech Perception**
This course examines the roles of major acoustic, phonetic, linguistic and cognitive factors in speech perception and considers relevant theoretical models. Consideration is also given to cultural, cross-language, developmental and lifespan aspects of speech perception. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**AUD - 615 Pharmacology**
The general principles of drug action related to hearing and balance function will be presented. Emphasis will be on activity, mode of action, side effects, toxicity and drug interactions relevant to the practice of audiology. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**AUD - 621 Clinical Methods in Audiology**
This lab course teaches key clinical protocols, methods, procedures and audiologic assessment techniques necessary for clinical practicum experience. The course includes practice with instrumentation, case history, otoscopy, standard audiometric techniques and lab exercises to promote skill development. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**AUD - 622 Clinical Observation in Audiology**
Students learn to identify and apply key elements necessary for introduction to clinical practice, including relevant policies and procedures, infection control, electronic medical records, ethics, privacy and multicultural issues. Students also observe diagnostic and rehabilitative audiologic and speech and language procedures with infants, children, adults and geriatrics in outpatient, inpatient and short-term care settings. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**AUD - 623 Audiologic Assessment**
This course presents behavioral tests of the auditory system that provide a differential diagnosis of auditory function, emphasizing a test battery approach. Pre or Corequisite: AUD-621. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**AUD - 630 Electrophysiologic Assessment I**
This course introduces principles and practices of electrophysiologic methods in audiologic assessment through both didactic coverage and hands-on practicum. Emphasis is on the auditory brainstem response (ABR) and its contributions to neurodiagnostic assessment of the auditory system and objective estimation of hearing sensitivity. Electrocochleography (ECOG) and electroneuronography (ENOG) are also considered. Prerequisite: AUD-602. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**AUD - 637 Electrophysiologic Assessment II**
This course builds on the content presented in AUD 630. Topics include advanced concepts in ABR and OAEs, visual and somatosensory responses and intraoperative monitoring. Theoretic bases and clinical applications are considered for ASSR and late potentials. Prerequisite: AUD-630. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**AUD - 640 Basic Amplification**
This course introduces the hearing aid fitting process, including candidacy, selection, verification, orientation and validation. Students learn about the components of personal amplification devices and their role in signal processing strategies. Students obtain hands-on experience, including making earmold impressions, conducting electroacoustic analyses on and troubleshooting hearing aids and measuring real-ear responses. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**AUD - 641 Adult Amplification**
This course expands upon basic hearing instrument technology presented in AUD 640 Basic Amplification. Selection, verification and validation issues surrounding hearing aid fittings with adults are presented. Emphasis is on advanced concepts and practices as well as current research and trends. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**AUD - 642 Amplification Seminar**
This seminar focuses on contemporary, innovative, evidence-based fitting and rehabilitation issues related to personal amplification systems. Prerequisite: AUD-640. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**AUD - 645 Adult and Geriatric Rehabilitative Audiology**
Examination of adult audiologic rehabilitation includes the use of visual, auditory and bisensory stimuli in communication. Assessment of communicative function, auditory training, speechreading, amplification, assistive listening devices, rehabilitative strategies and the psychosocial aspects of adult hearing impairment are examined. Focus is on patient-centered care of adults with hearing loss and incorporating communication partners. Treatment outcome measurement is emphasized. The geriatric population and working-age adults are considered as separate rehabilitative challenges. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**AUD - 650 Vestibular Assessment and Rehabilitation**
Anatomy and physiology of the vestibular and oculomotor systems is reviewed. Emphasis is on videonystagmography and electronystagmography test battery components, delivery and interpretation with both didactic coverage and hands-on practicum. Central- and peripheral-based pathologies are discussed and emphasized through interactive case studies. Additional specialized vestibular tests, including SVV, cVEMP, oVEMP, rotary chair and posturography are also considered. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**AUD - 651 Vestibular Seminar**
This seminar expands upon concepts and test techniques presented in AUD 650. Advanced concepts, including unilateral peripheral vestibular differentiation, bedside tests of assessment of VOR and VSR, ENG and VNG, rotational test techniques, VEMP testing, posturography, fall risk assessment and measurement of dizziness handicap are presented via lecture and hands-on practicum, with additional emphasis on vestibular function and dysfunction in pediatric patients and older adults. Prerequisite: AUD-650. Offered: summer. Retake Counts for Credit: No. Credit(s): 1

**AUD - 660 Pediatric Audiology**
Topics in this course include an overview of cognitive, motor and language development; pediatric auditory behaviors; the impact of hearing loss on speech/language development; and age-appropriate procedures for the audiologic evaluation of children. Issues related to audiologic intervention, multiculturalism and interprofessionalism using team approaches to case management and family counseling are presented. Offered: summer. Retake Counts for Credit: No. Credit(s): 2

**AUD - 663 Pediatric Amplification and Habilitation**
Students learn about strategies involved in the management of children with hearing impairment and deafness. Topics include the pediatric fitting process for infants and children, assistive listening devices for classroom and home, communication modalities, auditory skills development and case management. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**AUD - 664 Educational Audiology**
The broad-based practice of audiology in the school setting involves special issues and considerations. This course covers federal legislation, identification and assessment practices, case management, IEP development and the effects of hearing loss on educational programming. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**AUD - 665 Auditory Implants**
This course describes and compares various types of brainstem, cochlear, middle ear and osseointegrated implant technologies. Appropriate assessment, treatment and management options for implant patients are described. Principles of speech processing and psychoacoustics are related to the cochlear, middle ear and osseointegrated implant technologies. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**AUD - 667 Auditory Processing**
Students learn the neurophysiologic bases of central auditory processing. The course includes consideration of screening and diagnostic test batteries, results interpretation and implications and management approaches to central auditory processing disorders. Offered: summer. Retake Counts for Credit: No. Credit(s): 2

**AUD - 670 Seminar in Hearing Conservation**
This course includes an introduction to the effects of noise on hearing, sound measurement, noise descriptors, testing and follow-up. Prevention, hearing conservation procedures and protective devices are presented. Federal, state and local regulations; workers' compensation; and litigation are discussed. This course incorporates practical clinical laboratory components that enable students to acquire the knowledge and skills needed to reduce or prevent hearing impairment and conserve the hearing ability of their patients throughout the life span. Offered: summer. Retake Counts for Credit: No. Credit(s): 1

**AUD - 671 Seminar in Supervision and Mentorship**
This course addresses key elements of supervision and mentorship, focusing on students. Components include processes that contribute to the goals and various forms of supervision and mentorship; knowledge and skills needed by supervisors and mentors; research and outcome issues in supervision; leadership and supervision; challenges to effective supervision; and other related topics. Offered: summer. Retake Counts for Credit: No. Credit(s): 1

**AUD - 672 Seminar in Current Professional Issues**
This course includes exploration, discussion and analysis of 21st century professional issues facing the audiology profession. Technological, political, legal, legislative and societal changes impacting the practice of contemporary audiology are examined. Topics will reflect current issues and may include career planning and development, credentialing, specialty certification and licensure, cultural competence, scope of practice and the use of technology in clinical practice. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**AUD - 673 Practice Management Across Settings**
Service delivery models, including private practice, clinics, medical centers, non-profit agencies, industry, government and other settings are introduced. Issues associated with clinical operations and practice management include business plan development, private practice orientation, trends in health care, marketing, cost-benefit ratios and financial and accounting considerations. Personnel issues, conflict management and strategic planning are discussed. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**AUD - 682 Investigative Project Planning Seminar**
This course will prepare students for conducting an investigative project. In consultation with the course director and other departmental faculty, students will generate potential research topics for their investigative projects; evaluate their merits; review methods and regulatory requirements for conducting experimental, clinically focused and evidence-based review projects; perform initial literature review; and determine the appropriate research design. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**AUD - 683 Investigative Project**
In this directed course, the student will select and analyze a specific clinical or research question. Completion of the project includes a professionally written paper and a presentation. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**AUD - 690 Clinical Practicum I**
Students are involved in supervised clinical experience with patients of all ages displaying various hearing and balance impairments. Practicum experiences focus on development of specific skills and competencies in the areas of clinical writing, diagnostic evaluation, case history, counseling and treatment techniques for patients from diverse cultural backgrounds. The relationship of audiology to other health care professions is also examined. Prerequisites: AUD-621 and AUD-622. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**AUD - 691 Clinical Practicum II**
Students are involved in supervised clinical experience with patients of all ages displaying various hearing impairments. Practicum experiences focus on development of specific skills and competencies in the areas of clinical writing, diagnostic evaluation, case history, counseling and treatment techniques for patients from diverse cultural background. The relationship of audiology to other health care professions is also examined. Increasing knowledge and skill are expected with each subsequent practicum experience. Prerequisite: AUD-690. Offered: summer. Retake Counts for Credit: No. Credit(s): 1

**AUD - 692 Clinical Practicum III**
Students are involved in supervised clinical experience with patients of all ages displaying various hearing impairments. Practicum experiences focus on development of specific skills and competencies in the areas of clinical writing, diagnostic evaluation, case history, counseling and treatment techniques for patients from diverse cultural backgrounds. The relationship of audiology to other health care professions is also examined. Increasing knowledge and skill are expected with each subsequent practicum experience. Prerequisite: AUD-691. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**AUD - 800 Internship I**
A four-semester sequence of supervised audiologic patient care in a variety of sites on and off campus. Student clinicians assume increasing responsibility for the full range of basic and intermediate level audiologic diagnostic procedures and interpretation and rehabilitative follow-up. Student clinicians assume caseload management under supervision and develop increased critical thinking skills. Students also experience administrative and practice management activities. The internship experience includes patients across the life span and from diverse cultural backgrounds. Prerequisite: AUD-692. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**AUD - 801 Internship II**
A four-semester sequence of supervised audiologic patient care in a variety of sites on and off campus. Student clinicians assume increasing responsibility for the full range of basic and intermediate level audiologic diagnostic procedures and interpretation and rehabilitative follow-up. Student clinicians assume caseload management under supervision and develop increased critical thinking skills. Students also experience administrative and practice management activities that are consistent with their clinical progress. The internship experience includes patients across the life span and from diverse cultural backgrounds. Prerequisite: AUD-800. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**AUD - 802 Internship III**
A four-semester sequence of supervised audiologic patient care in a variety of sites on and off campus. Student clinicians assume increasing responsibility for the full range of basic and intermediate level audiologic diagnostic procedures and interpretation and rehabilitative follow-up. Student clinicians assume caseload management under supervision and develop increased critical thinking skills. Students also experience administrative and practice management activities that are consistent with their clinical progress. The internship experience includes patients across the life span and from diverse cultural backgrounds. Prerequisite: AUD-801. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**AUD - 803 Internship IV**
A four-semester sequence of supervised audiologic patient care in a variety of sites on and off campus. Student clinicians assume increasing responsibility for the full range of basic and intermediate level audiologic diagnostic procedures and interpretation and rehabilitative follow-up. Student clinicians assume caseload management under supervision and develop increased critical thinking skills. Students also experience administrative and practice management activities that are consistent with their clinical progress. The internship experience includes patients across the life span and from diverse cultural backgrounds. Prerequisite: AUD-802. Offered: spring. Retake Counts for Credit: No. Credit(s): 5

**AUD - 850 Externship I**
This externship sequence is a full-time advanced audiologic clinical placement under the direction of the audiology clinical education coordinator and preceptor. Externship is off campus and emphasizes increasing independence with clinical practice as well as participation in clinical operations, administrative and professional activities. Student demonstrates skill levels commensurate with Externship competencies. The Externship experience includes patients across the life span and from diverse cultural backgrounds. Prerequisite: AUD-803. Offered: summer. Retake Counts for Credit: No. Credit(s): 7

**AUD - 851 Externship II**
This externship sequence is a full-time advanced audiologic clinical placement under the direction of the audiology clinical education coordinator and preceptor. Externship is off campus and emphasizes increasing independence with clinical practice as well as participation in clinical operations, administrative and professional activities. Student demonstrates skill levels commensurate with Externship competencies. The Externship experience includes patients across the life span and from diverse cultural backgrounds. Prerequisite: AUD-850. Offered: fall. Retake Counts for Credit: No. Credit(s): 7

**AUD - 852 Externship III**
This externship sequence is a full-time advanced audiologic clinical placement under the direction of the audiology clinical education coordinator and preceptor. Externship is off campus and emphasizes increasing independence with clinical practice as well as participation in clinical operations, administrative and professional activities. Student demonstrates skill levels commensurate with Externship competencies. The Externship experience includes patients across the life span and from diverse cultural backgrounds. Prerequisite: AUD-851. Offered: spring. Retake Counts for Credit: No. Credit(s): 7

**AUD - 999 Continuous Enrollment**
The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1

**BHV - 751 Sleep Disorders**
Fourth year medical students will learn the outpatient practice of sleep disorders medicine in this two-week elective clerkship. This includes standardized intake evaluation and evidence-based treatment and follow-up of patients with common sleep disorders including, obstructive sleep apnea, insomnia, circadian rhythm sleep-wake disorders and hypersomnia disorders. Students will learn alongside other trainees (residents, fellows and sleep medicine fellows), under the supervision of sleep attendings (physicians specializing in sleep medicine and health psychologists specializing in behavioral sleep medicine.) Readings, recorded boot camp lectures, case rounds, journal clubs and sleep grand rounds enhance the learning experience. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**BTN - 523 Career Planning**
The landscape of the job market for biomedical graduates has changed over the past decade in that a wider range of career paths are being pursued. This alteration in the job market requires not only more individualized career planning for each student, but also practical adjustments to the traditional course offerings in graduate school to enable our graduates to be more competitive for post training careers. This course will expose students to essential information that will complement their other didactic and laboratory-based training and help them identify their strengths to use them to help develop a concrete and effective goal-oriented individualized plan for their career development. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**BTN - 525 Experimental Design and Disease Modeling**
This course will study the role of experimental models in research. The various aspects of experimental models, computer (in silico) to animal models, will be discussed building on principles of experimental design. This course requires the student to critically evaluate published work and develop their model for a given disease. Research problems posed by faculty will be understood, developed and solved by students in a cooperative, interactive application of computer and library resources. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**BTN - 531 Advanced Cell Biology Technologies**
This is a lab-based course designed to give students experience in some basic cell culture techniques as well as safety, working with buffers, media and solutions, data interpretation and scientific writing. Each group will conduct experiments over the course of the semester that will involve different techniques that will include culturing cells, analyzing protein expression in cells and some different signaling pathways within cells and cell cycle profiles. Data obtained by the students will be arranged into figures and the students will submit an abstract write-up at the end of the semester along with data figures and figure legends. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**BTN - 532 Advanced Molecular Biology Techniques and Applications**
Basic and extended molecular biology techniques; DNA and RNA work, cloning and protein expression techniques. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**BTN - 533 Advanced Histology and Immunofluorescence Techniques**
This course has been created to provide students with the necessary laboratory skills needed to start work in biotechnology laboratories in either academic or industrial settings where cytochemistry, immunolabeling, histology and light/fluorescent microscopy are routinely used. Students will also be introduced to virtual histology, image processing and data presentation. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**BTN - 534 Laboratory Animal Procedures and Techniques**
Animal husbandry, experimental procedures and techniques. Prerequisites: BTN-531 and BTN-532. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**BTN - 537 Biotechnology Research Capstone**
This course is a capstone research experience. Students will conduct independent, mentored research, within the context of a larger research project. Offered: fall and spring. Retake Counts for Credit: Yes. Credit(s): 4

**BTN - 538 Advanced Experimental Techniques in Biomedical Research**
This course introduces students to a diverse range of sophisticated methodologies used in contemporary

biomedical research. The course covers advanced imaging techniques, complex instrumentation and specialized experimental procedures, including an introduction to animal husbandry and preclinical research models. Through hands-on laboratory sessions and critical analysis of experimental design, students will gain practical skills and theoretical knowledge to apply cutting-edge techniques, preparing them for careers in biomedical science and translational research. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**BTN - 540 Experiential Learning: Proficiency in Targeted Science Techniques**

This course provides learning opportunities for graduate students in multiple aspects of biotechnology and research and their application in multiple professions. This course develops skills to enter a field of interest related to their training. The course introduces students to the real world settings of biomedical sciences, biotechnology and related fields and provides skill development for valuable experiences and networking opportunities, thereby providing a competitive advantage to all students who are aiming for a career in biomedical sciences, biotechnology or clinical research. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**BTN - 541 Pre-Professional Preparation for Career Advancement**

This course is designed for students who plan to apply to a professional school in health care (i.e., medical, dental, veterinary medicine, optometry, physical therapy, pharmaceutical, etc.), PhD programs or work in biotech or pharmaceutical companies. This course will expose students to a wide range of topics and essential information as well as develop skills to prepare students for entry to their profession. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**BTN - 550 Introduction to Forensic Science**

This course is designed for students who are interested in working with law enforcement, a forensic science laboratory, a toxicology laboratory or in the criminal justice system. This course focuses on some of the techniques and practices used by forensic scientists during a crime scene investigation. Students will learn about fingerprints, blood spatter, DNA fingerprinting, autopsy, ballistics and tool marks. Students will learn how clues and data are recorded and preserved. The student will follow evidence trails and examine how various elements of the crime scene are analyzed and processed. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**BTN - 999 Continuous Enrollment**

The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**CDS - 576 Issues in Counseling**

The major focus is on understanding the process of the helping relationship in counseling individuals with communication disorders and their families. Students will consider the impact of cultural and age-related issues, and they will develop skills and competencies needed to influence effectiveness as a communicator. Knowledge of selected counseling theory as it integrates into practice will be acquired. Course may be audited by thesis-track students. Offered: summer. Retake Counts for Credit: No. Credit(s): 2

**CDS - 900 Independent Study**

Independent study courses give students a unique opportunity to pursue a course of study not commonly included in the curriculum. If you are interested in pursuing an independent study, meet with the faculty member you want to work with to define the coursework and expectations. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-12

**CHS - TRN External Course Credit-CHS**

This course is used if the content of such courses applies directly to the student's program of study in the college. Courses used can be from another accredited college or university, if approved by the college. A grade of B or better must have been received. Retake Counts for Credit: No. Credit(s): 1-15

**CHS - TRNR Internal Transfer Credit-CHS**

Rush University recognizes that courses delivered within the colleges in different programs may lead to essentially the same learning outcomes. With the department assigning an equivalency status to courses, this course allows students to receive an internal transfer of credit for identical or equivalent courses when entering another program of study. Retake Counts for Credit: No. Credit(s): 1-15



**CHS - 364 Health Care Systems and Policies**

This course is designed to inform students of the present structure and design of the health care system. This course discusses the organization and delivery of health services, the economics and financing of health care, the nation's health care workforce, access to and quality of health services. The course explores topics that address current issues in America's health care system. The student will understand what is prompting reform and the significant changes in health care reform legislation. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 1

**CHS - 601 Introduction to Biostatistics**

This course is designed to develop knowledge of the application of statistics for the health care professional. Material covered in this course includes an understanding of basic descriptive statistics, normality, parametric and non-parametric hypothesis testing and simple linear regression. The focus of the course is to develop a familiarity with statistical concepts and use basic statistics to help with decision making. The course will also provide a basic framework of statistical knowledge, should the student be interested in pursuing additional coursework later in their careers. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 2

**CHS - 605 Introduction to Ethics in Health Care**

This interprofessional course will introduce students to the foundational theories and common language of health care ethics. Through review of major ethical issues in health care, students will explore the distinction between law and ethics, the development of professionalism in health care, the clinician-patient relationship, the conceptual and practical challenges of informed consent and the challenges of distributive and social justice for health policy and clinical practice. This course is highly interactive and divided equally between the classroom and the internet. The classroom portion of the course is a 50-minute weekly lecture covering the assigned readings and objectives, followed by a 50-minute case-based discussion section. The online portion of the course is a webinar and includes weekly lesson activities and related online discussion. The readings for each week are available through the course website and will bridge the classroom and online contents of the course. The course is open to students in the College of Health Sciences. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 2

**CHS - 610 Research Methods in Health Sciences**

This course introduces basic, clinical and translational research methods. It emphasizes the development of skills to enable the health science student evaluate research articles and participate in clinical research activities. Quantitative research designs, sampling techniques, measurement and interpretation of common statistical findings are also reviewed. Principles of evidence-based practice are incorporated. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 2

**CHS - 620 Health Care in America**

Health Care in America is designed to provide an interdisciplinary overview of the health care system for students entering a health profession. Contemporary issues in America's health care system are addressed to include the organization, delivery, economics and financing of health care; the national's health care workforce; major public health issues to include acute and chronic disease management; issues related to health care disparities, cultural competency and diversity; biomedical ethics; health policy; global health and future directions of the health care system. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**CHS - 999 Continuous Enrollment**

The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**CLM - 500 Operational Leadership and Strategic Planning**

Health care is ever-changing. The clinical laboratory is evolving to develop strategic management initiatives that support the organization through these changes. This course will provide both the working knowledge and tools to create solutions to the challenges facing laboratory management. The topics covered in this course include laboratory operations, leadership styles, process design, staffing to volume, cost of quality, human resource functions, budget variance reporting, strategy, informatics, strategic

planning and test utilization to improve outcomes. Students will participate in online interactive sessions designed to help them understand the important concepts of laboratory management. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**CLM - 501 Evidence-Based Research and Applied Statistics**

Introduction to research methods within the context of health care outcomes is the focus of this course. Emphasis on conceptual understanding of scientific reasoning, research design, data collection methods, analysis, interpretation and ethical standards in research. Distance learning format. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**CLM - 502 Quality Systems and Regulatory Issues**

The complexity of operating a clinical laboratory requires an in depth knowledge of quality systems as well as knowledge of the regulatory requirements at both national and local levels. Laboratory managers will need to understand the principles of the quality system essentials (QSEs) and be able to implement a quality management system (QMS). This course is designed to provide a web-based learning approach to teaching laboratory regulations and the principles of quality management. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**CLM - 503 Method Comparison and Process Validation**

This course is designed to prepare laboratory professionals to understand the principles and procedures used to verify manufacturer's claims of analytical performance for in vitro diagnostic products. Determining if total allowable error is exceeded will be emphasized. Topics include compliance with proficiency testing requirements, validation of reference ranges, determination of decision cut-off points and both quantitative and qualitative method evaluation. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**CLM - 504 Scientific and Technical Writing**

This course is designed to develop your scientific and technical writing. It emphasizes a systematic approach to enable you to produce a scientific paper in a well-presented, clear, concise style. You will review basic writing skills and the effective use of library resources to help you comprehend the flow of scientific information. This course will prepare you to write and submit a paper to a journal of your choice. It should also help to prepare you to write your final management research paper required for graduation Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**CLM - 505 Health Care Finance**

This course is designed to provide students with a strong foundation in financial management. Successful managers must be able to analyze financial information such as budgets, income statements and cash flows. Students will be introduced to general financial topics, including financial accounting, budgets, capital equipment acquisition, billing and collection, reimbursement issues, contract negotiations and materials management. This course employs a web-based learning approach for students to gather information through book chapters, PowerPoint presentations and additional readings and internet resources. Knowledge will be demonstrated through online discussions, homework assignments and online examinations. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**CLM - 506 Management Project I**

This course represents the first step to complete a Management Research project for the successful completion of the Master of Science in Clinical Laboratory Management. The student establishes a topic, performs a literature search and submits a formal proposal for their management research project. It is customary for the student to consult their immediate administrator/supervisor to see if there is a project that would benefit the institution. The student will choose a targeted journal and follow the guidelines in preparing their proposal established by the department. The project approval form is submitted to the course director for final approval from the department. Offered: summer. Retake Counts for Credit: No. Credit(s): 2

**CLM - 507 Human Resources and Staff Engagement**

This course will include an overview of the operational and strategic role that human resource management plays in health care institutions. Readings, case studies and website resources will permit the learner to acquire advanced and current information in human resource management, recruitment and hiring, training and development, compensation and benefits, labor relations (both union and non-union) and health and safety. The importance of staff engagement in the workplace will also be covered along with strategies to increase engagement. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**CLM - 508 Health Care Informatics**

This course will include an overview of health care informatics. It is designed to provide a web-based learning approach to teaching the principles of laboratory information systems management and the review processes for selection, installation, building test dictionaries, validation, training and integration with electronic health records. Readings, articles from professional journals, internet references and website resources will permit the learner to acquire advanced and current information in each of the major topic area. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**CLM - 509 Management Project II**

This course is the continuation of CLM 506 Management Research Project I and involves completing the project identified in CLM 506 and composing the final paper. The final manuscript should be of publishable quality for submission to the department and to a clinical laboratory management-related journal chosen by the student with the advice of the faculty. Prerequisites: CLM-501 and CLM-506. Pre or Corequisite: CLM-503. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**CLM - 510 Management Practicum**

The management practicum is designed to provide exposure to the skills necessary to perform successfully in a laboratory management role. Current practice requires laboratory managers to take decisive actions in areas of operational, fiscal and human resource management. This practicum will provide students with training in the various practices of laboratory management, including planning, organizing, controlling, staffing and evaluation. Special emphasis will be placed upon laboratory operations, personnel administration, regulations and operating budgets. The practicum prepares the graduate student to assume the duties of a laboratory manager. This course is essential for all management professionals who pursue a career in health care management. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**CLM - 511 SBB Management Research Project**

This course represents the Management Research Project for the successful completion of the Master of Science in Clinical Laboratory Management. Specialist in Blood Bank student projects are designed in various areas of the clinical laboratories and focus on clinical testing, management and supervision issues. In this course, the topic is established, and a proposal is submitted to the course director for final approval from the department. The approved management research project is completed and the final paper is submitted, which should be of publishable quality for submission to a journal of the student's choice. It is customary for the student to consult their immediate administrator/supervisor to see if there is a project that would benefit the institution. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 4

**CLM - 513 Legal and Ethical Issues in Health Care**

The rapidly changing legal and ethical environment of health care affects all clinical laboratories. Laboratory managers must have a working knowledge of the legal system, including statutes, regulations, ethical issues and case law that affects them. This course provides a web-based approach to learning the essential legal and ethical issues, including application of the core principles of bioethics (autonomy, beneficence, nonmaleficence and justice) to medical and health care decisions affecting laboratory management. Learning units are organized to cover an introduction to the American legal system, health care system organization, relationship between the patient and the laboratory, health care information and privacy, civil tort liability of the laboratory, criminal liability and penalties and protection of intellectual property. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**CLM - 514 Project Management**

Project management is a critical tool for a successful laboratory leader. This course will focus on all the concepts of project management, from development and implementation of a successful project plan with the resources on hand. The student will choose a laboratory section project, with the help of the instructor, define the scope, resources, time and cost of the project and apply all those tools and steps toward a project management timeline. Since projects involve working with other laboratorians, team building skills will also be included in the course. The course will also cover LEAN Six Sigma tools and project management techniques for reducing waste and/or reducing process variation. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**CLM - 900 Independent Study**

Independent study courses give students a unique opportunity to pursue a course of study not commonly included in the curriculum. If you are interested in pursuing an independent study, meet with the faculty member you want to work with to define the coursework and expectations. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-12

**CLM - 999 Continuous Enrollment**

The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain

Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate-level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**CON - TRN External Transfer Credit - CON**

This course is used if the content of such courses applies directly to the student's program of study in the college. Courses used can be from another accredited college or university, if approved by the college. A grade of B or better must have been received. Retake Counts for Credit: No. Credit(s): 1-15

**CON - TRNR Internal Transfer Credit - CON**

Rush University recognizes that courses delivered within the colleges in different programs may lead to essentially the same learning outcomes. With the department assigning an equivalency status to courses, this course allows students to receive an internal transfer of credit for identical or equivalent courses when entering another program of study. Retake Counts for Credit: No. Credit(s): 1-15

**CRE - 500 Clinical Research in Practice**

The overall goal of the course is to nurture the development of clinical research (especially, clinical trial) day-to-day knowledge, attitudes and skills in students in the Master of Science Clinical Research program. Through a process of guided, active adult-learning, this course will result in the learner developing a better understanding of the theoretical framework for clinical trial operations and then apply knowledge in a real-world situation. Course learning objectives include the key concepts evaluated in the certification examinations by the Association of Clinical Research Professionals: scientific concepts and research design, ethical and participant safety considerations, product development and regulation, clinical trials operations (Good Clinical Practices), study and site management and data management and informatics. Growth will be demonstrated through having an apprenticeship role on an active clinical trial (research) team at Rush University. The immersion on an active clinical trial (research team) will reinforce the practical applications of these key learning objectives and will be supported through weekly group seminars to review key articles pertinent to the learning objectives, participation in workforce development sessions for clinical trial professionals at Rush and attendance at national and regional clinical trial professional society educational events. Clinical Research in Practice will focus on Bloom's taxonomy levels of knowledge, comprehension, application and analysis. Pre or Corequisite: GCC-551. Offered: spring. Retake Counts for Credit: Yes. Credit(s): 3

**CRE - 551 Human Subject Research and the Institutional Review Board (IRB)**

This course provides the framework around which clinical research projects are based in terms of the Institutional Review Board (IRB). The course includes didactic lectures on the legal requirements of informed consent, regulatory processes, intellectual property, the role of the Office of Research Integrity and required participation on IRB review panels inside the university. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**CRE - 556 Clinical Research Design**

This course will describe and review examples of, and engage in, problem-solving for clinical trials at levels of detail and theory that will qualify students to participate in clinical trials research leadership. Fundamentals of clinical trials (e.g. target population, recruitment, randomization, intervention, blinding, outcome ascertainment, statistical design, informed consent and ethical concerns) are addressed in the context of the congruity of clinical trials with other epidemiology research. We go beyond the simple ability to criticize clinical trial manuscripts. Controversies in the conduct and interpretation of clinical trials are addressed in terms of the trade-offs that must be balanced for those to which there are several possible resolutions that are neither ideal nor unacceptable and in terms of insisting on the single correct approach for those to which there is only one acceptable resolution. A primary goal is to integrate principles of biostatistics, ethics, computer science and medical practice. Leading clinical trials experts present examples of their work to the class. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**CRE - 560 Health Care Outcomes**

Improving patient, community and populations health outcomes is the common overarching goal for all clinicians, researchers, health care administrators, leaders and health care systems. Understanding of what health outcomes are, why we need to study and evaluate them and what role they can play in improving our knowledge is pivotal toward potentially leveraging this knowledge to improve health outcomes at all levels. This is especially important for all those planning to undertake a future career involving patient care and clinical research. This insight is also important for clinicians in provision of patient care, shared decision making, communication and tracking of the outcomes of any health intervention. It forms the basis of evidence-based medicine, value-based care, patient safety, quality improvement, accountability and making knowledgeable market decisions and marketing in health care. Health outcomes assessments allow (a) patients to better understand their health and take an active part in their own medical care decisions, (b) the clinicians in gauging their patients' health status, develop patient centered care management strategies and shared decision making, (c) health care systems to streamline their efforts to effectively and efficiently meet the health care demands of the patients and the larger community and lastly, (d) health care policy and resource allocation at the macro level. Put another way, health outcomes not only add to our medical knowledge base but also support quality improvement, accountability, making knowledgeable market decisions and marketing. Health outcomes are determined by varied factors. Students versed in this subject will understand and support clinical research and initiatives that impact daily patient care and may extend to applications in health disparities, health resource allocation and health policy. The objectives of this course are to: (1) Discuss why measurement of health outcomes in important in health care settings. (2) Describe various health outcomes routinely evaluated in medical literature. (3) Conceptualize measurement properties of tools used to evaluate health outcomes. (4) Critically appraise select Health outcomes papers from medical Journals. Offered: spring. Retake Counts for Credit: No. Credit(s): 4

**CRE - 561 Principles of Epidemiology**

This course is designed to introduce the theories and concepts of epidemiology. It will provide a comprehensive and accessible introduction to epidemiological methods. Specifically, the course will focus on the application of these theories and concepts to the practice of public health. Topics to be discussed include epidemiological terminology, measurement of disease, disability and health in population groups, vital statistics and reportable disease mechanisms, procedures for infectious and chronic disease control. Course Objectives: 1. Define epidemiology as the study of the determinants of health and illness in populations and the examination of factors contributing to health promotion, 2. Disease prevention and the use of health services. 3. Describe the major epidemiological research study designs and their advantages and limitations. 4. Understand the basic terms and methods used in: (i) outbreak investigation and infectious disease epidemiology, (ii) chronic disease epidemiology, (iii) evaluation of screening tests and (iv) disease prevention and treatment trials. 5. Identify public and private data resources available for epidemiological studies and evaluate the quality, integrity and comparability of various data sources; and 6. Understand and apply descriptive epidemiology principles. 7. Apply ethical principles and cultural sensitivity when accessing, collecting, analyzing, using, maintaining and disseminating epidemiological data and information. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**CRE - 562 Epidemiologic Study Design and Analysis**

This course explores advanced epidemiological techniques that will build upon the epidemiological knowledge and skills taught in CRE 561 Principles of Epidemiology. The course achieves its aims through lectures, tutorials and assessments. The focus of this is on epidemiological methods with an emphasis on causality in epidemiologic research, theoretical considerations and interpretations of findings. Objectives: 1. Demonstrate an understanding of epidemiological theory and its application in health science. 2. Critically assess the epidemiological quality of research in a range of studies outlining the basis of methodological approach and criteria for determining the quality of the research. 3. Demonstrate sophisticated interpretation and application of epidemiological methods and principles and explain their relevance to specific study designs. 4. Analyze epidemiological data using statistical analytical software 5. Examine basic concepts of epidemiology as tools to promote the complexity of health care systems 6. Evaluate biomarker prognostic studies and multivariate prediction models. Prerequisite: CRE-561. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**CRE - 597 Thesis Research**

For a students in the Master of Science in Clinical Research program to undertake thesis research. Participation requires a research mentor. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-9

**CRE - 999 Continuous Enrollment**

The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate-level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish

their graduate work. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**CVP - 605 Cardiopulmonary Anatomy and Physiology**
This course introduces cardiac and pulmonary anatomy, hemodynamic function and electrophysiology. Students will focus on gas laws and how they apply both to human lung function as well as artificial lung function. In addition, the students will focus on the anatomy and physiology of the human heart and vascular system. Emphasis is placed on the application of these areas as it applies to cardiovascular surgery and perfusion technology. Retake Counts for Credit: No. Credit(s): 3

**CVP - 606 Acid Base Physiology**
This course provides the perfusion student with a comprehensive review of the structural, functional and integrative aspects of the kidney and urinary system. The course will focus on theory, application and interpretation of blood gas analysis and associated clinical cardiopulmonary physiologic mechanisms that underpin renal function. Prerequisite: CVP-605. Retake Counts for Credit: No. Credit(s): 2

**CVP - 611 Cardiovascular Perfusion Technology I**
This course introduces the perfusion student to the historical development of both cardiac surgery and perfusion technology. In addition, the students will learn about the basic components of the heart lung machine and their principles of function. Students will also learn the principles of aseptic technique as practiced in the operating rooms and related departments of the hospital. Retake Counts for Credit: No. Credit(s): 3

**CVP - 612 Instrumentation in Cardiovascular Perfusion**
This course introduces the student to the various types of electronic monitoring equipment required for open heart surgery and related procedures. Instructional design includes didactic presentation of operational theory with practical operating room experience, simulated scenarios and laboratory study. Topics of study include electrical circuitry, pressure transducers, thermistors, cardiac output devices, fluid dynamics and physiologic monitoring devices. Retake Counts for Credit: No. Credit(s): 3

**CVP - 615 Cardiovascular Perfusion Technology II**
This course will focus on adult cardiac and thoraco-aortic surgery. Lectures will focus on acquired adult cardiac and aortic disease states and appropriate equipment, circuits and ancillary equipment used by the perfusionist. Students will practice perfusion setups and provide presentations on current perfusion practices related to adult cardiac diseases. Prerequisites: CVP-611 and CVP-612. Retake Counts for Credit: No. Credit(s): 3

**CVP - 620 Evaluation of the Cardiac Surgery Patient**
This course introduces the basic diagnostic principles involved in determining the nature and extent of the disease necessitating surgical intervention. Factors that are important in determining perioperative morbidity and intraoperative perfusion management (e.g., patient medical history, laboratory results, diagnostic tests, etc.) will be discussed. Course work will include class time and observations within the clinical arena. Retake Counts for Credit: No. Credit(s): 3

**CVP - 621 Seminar I**
This course is designed to give students a basic understanding of medical terminology, aseptic technique, patient safety issues, professionalism and medical ethics. Students will be introduced to ethical principles often encountered in the health professions. Retake Counts for Credit: No. Credit(s): 3

**CVP - 622 Pathophysiology and Perfusion Techniques**
This course is designed to provide the perfusion student with an opportunity to explore the association of anatomy, physiology and pathophysiology and the application of perfusion practice. The course will provide the detailed foundation and skills necessary to understand the interplay between the science of extracorporeal technology and the pathophysiologic considerations. Identifying and applying these principles in a systematic and integrated manner is required for evidence-based clinical practice. Prerequisites: CVP-611 and CVP-612. Retake Counts for Credit: No. Credit(s): 5

**CVP - 623 Adult and Pediatric Congenital Heart Disease**
This course introduces the student to the cardiovascular physiology, pathophysiology and anatomical differences associated with pediatric and adult congenital heart patients. Through lectures and discussion, the students will be prepared to understand these defects as well as how a Perfusionist manages the heart lung machine during these complex congenital procedures. Prerequisite: CVP-605. Retake Counts for Credit: No. Credit(s): 2

**CVP - 624 Mechanical Circulatory Support**
This course introduces the student to the advance practice guidelines for the care of patients treated with cardiac assist devices. Device selection based on patient issues, implantation, operation and monitoring of various devices will be discussed. These devices, including cell savers, ventricular assist devices, extracorporeal membrane oxygenation, balloon pumps, etc. will be reviewed to give the students an understanding of the devices they will be encountering in the field. Prerequisite: CVP-622. Retake Counts for Credit: No. Credit(s): 2

**CVP - 632 Principles of Pharmacology**
Students will learn the fundamental principles and concepts of pharmacology. Discussions will focus on the principles of drug absorption, distribution and metabolism, drug receptor activities and the therapeutic uses and mechanism of action of drugs in each major drug group. Prerequisite: CVP-620. Retake Counts for Credit: No. Credit(s): 3

**CVP - 640 Principles and Practices of Cardiopulmonary Bypass with Simulation**
This course prepares the student for their perfusion practicum courses. The principles of extracorporeal circulation will be presented in lecture and applied during simulation and laboratory experiences. Students will prepare specific care plans for patient bypass procedures. Performance standards evaluated include prebypass assessment of the patient's hemodynamics and readiness for bypass, the institution and management of cardiopulmonary bypass, anticoagulation status, system and patient monitoring, as well as procedural awareness. Each experience will conclude with a de-briefing to allow progress thru the stages of learning. Prerequisite: CVP-622. Retake Counts for Credit: No. Credit(s): 4

**CVP - 641 Perfusion Practicum I**
This is the first clinical rotation the student will have during their course of study. The students will continue to review the diagnostic work up procedures and apply their knowledge to develop a perfusion management plan for the patient undergoing cardiac surgery. The student will begin to assist in the operation and management plan for the patient. During this rotation students will be tested on competencies required to prepare them for Perfusion Practicum II through simulation, oral exams and a written exam. Prerequisites: CVP-622 and CVP-632. Retake Counts for Credit: No. Credit(s): 4

**CVP - 642 Perfusion Practicum II**
This is the second clinical practicum experience for the student. Each course builds on the skills in the previous clinical and didactic courses. The overarching goal of the practicum series is that the student shows steady progression toward the goal of independent practice while under the watchful eye of the clinical instructor. Prerequisite: CVP-641. Retake Counts for Credit: No. Credit(s): 12

**CVP - 645 Perfusion Practicum III**
The principal goal of this final practicum experience is that the student will be capable of performing perfusion related duties supervised, but without instructor intervention. Prerequisites: CVP-641 and CVP-642. Retake Counts for Credit: No. Credit(s): 12

**CVP - 661 Master's Project I**
The purpose of this course is to provide the perfusion student with the ability to perform research. The student will be introduced to the concepts of the IRB approval process and learn how to complete a literature review, collect data, complete a statistical analysis and write a final paper on their research as applicable to their projects. In the CVP 661-662-663 course series, students will complete a research project. Prerequisites: CHS-601 and CHS-610. Retake Counts for Credit: No. Credit(s): 2

**CVP - 662 Master's Project II**
The goal of this course is to integrate qualitative methods with perfusion technology knowledge and skills to test a hypothesis that addresses a current issue that is important to management of perfusion technology related to health care. Prerequisites: CHS-601, CHS-610 and CVP-661. Retake Counts for Credit: No. Credit(s): 2

**CVP - 664 Master's Project III**
This course will focus on completion of the research project for satisfaction of the graduation requirement. The student will be required to present the progress and findings of their research. Prerequisites: CHS-601, CHS-610, CVP-661 and CVP-662. Retake Counts for Credit: No. Credit(s): 2

**CVP - 680 Organizational Leadership**
The Organizational Leadership class will focus on the tools and strategies necessary to become an effective leader. While the focus will be on how these strategies can be used within a large or small perfusion group their origin is based in effective management and leadership within any organization of any size. Upon completion of this class the student will have been exposed to the leadership skills that will prepare them as a future leader in the profession. Retake Counts for Credit: No. Credit(s): 2

**CVP - 681 Health Care Quality and Operations Management**
The Health Care Quality and Operations Management class is designed to expose the student to principles that foster continuous improvement within an organization through Continuous Quality Improvements (QCI) and Quality Assurance (QA) initiatives. QA has become a mandatory

component of every profession in the business of delivering patient health care and it is critical that all future leaders have been exposed to these principles. Upon completion of this course the student will have a solid understanding of how to ensure evidence-based medicine is being delivered. Prerequisite: CVP-680. Retake Counts for Credit: No. Credit(s): 2

**CVP - 999 Continuous Enrollment**

The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate-level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Retake Counts for Credit: Yes. Credit(s): 1

**DRM - 7EI Dermatology Individualized Elective**

Students may receive credit for an individually arranged elective with a Rush faculty member. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter stating the student's activities, responsibilities, level of supervision and specific dates of the rotation. The sponsoring faculty member must complete an evaluation of the student's performance at the conclusion of the elective. Students must submit a proposal to the Office of Clinical Curriculum for approval at least eight weeks before the rotation and must have written approval from the assistant dean of Clinical Curriculum before beginning the rotation. Students may receive four weeks of credit for an individually arranged elective. Credit for a maximum of only one individually arranged elective will count toward graduation requirements. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**DRM - 716 Dermatology**

This is an elective course available to third- and fourth-year medical students. Dermatologic disorders are studied under the direct supervision of the departmental faculty and dermatology residents. Students have the opportunity to see and learn from patients with a variety of medical and procedural dermatological needs, in both the outpatient and inpatient setting. Some of the opportunities include, working in the general dermatology clinic, dermatological surgery clinic, cutaneous lymphoma clinic and working with faculty leaders in autoimmune blistering disease, hidradenitis, psoriasis, oncodermatology and cosmetic dermatology. Participation in weekly dermatological didactics is available, and many students have opportunities to author case reports or other manuscripts in collaboration with Rush Dermatology. Students interested in applying to dermatology residency will be encouraged to give a 5- to 10-minute presentation on a topic of their choice in Dermatology. Topics can include interesting presentations or emerging diseases, cases seen during the rotation, novel treatment options for diseases or a dermatology topic with interdisciplinary overlap. Final grade (honors, high pass, pass and fail) will be based on performance evaluations by dermatology residents and attendings, as well as the quality of your final presentation, if given. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**DRM - 717 Advanced Dermatology**

This course offers an opportunity to explore beyond clinical dermatology into the complex areas of inpatient (consultative) dermatology, bullous diseases, oncodermatology and cutaneous lymphomas. The rotation will be a mixture time spent in outpatient clinics (20-30%) and on the inpatient consult service (70-80%). Additionally, students will develop a case presentation of a patient seen on the rotation which will be presented to faculty and residents. Prerequisite: DRM-716. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**DRM - 781 Research in Dermatology**

Students will complete an individual research activity in collaboration with faculty at Rush. The student must develop a proposal that includes the student's activities, responsibilities, amount of supervision and expected time commitment. The proposal must be signed by the faculty supervisor and submitted to Office of Integrated Medical Education for approval at least four weeks before the start of term. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**DTS - 500 Advanced Musculoskeletal Biology**

Provides the fundamental elements of the biology of musculoskeletal tissues. Topics include bone, intervertebral disk, articular cartilage, meniscus, muscle and tendon and ligament structure, function, cells, development and basic biomechanics. Offered: spring. Retake Counts for Credit: No. Credit(s): 3



**DTS - 502 Advanced Cell Biology**

This course in cell biology is designed to equip students with the foundational knowledge needed to understand complex biological processes. Its goal is to help students better understand the underlying cell biological mechanisms of emerging diseases. In addition to traditional didactic lectures, the course emphasizes interactive learning through breakout discussions to reinforce key concepts. Key topics covered include, cell structure and function, tissue organization, extracellular matrix, cytoskeleton, cell-cell adhesion, organelles, cellular processes (such as endocytosis, exocytosis and membrane transport), stem cells, signal transduction, cell motility and cell proliferation regulation. Readings and assignments will be made available on Canvas and students are expected to generate discussion questions based on the material. This design ensures students are well-prepared for specialized areas in both PhD and MS programs. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**DTS - 503 Advanced Molecular Biology and Gene Regulation**

This course encompasses the areas of molecular biology, including a theoretical framework of conceptual and technical molecular biology and of gene regulation. In addition to classroom didactic lecture sessions, this course will reinforce basic concepts of molecular biological processes through break-out discussions. Topics of the course are selected and arranged in such a way that after completion of the course, students will be ready to continue in any of the specific areas of the PhD and MS programs. The approach of the proposed course includes the introduction of cellular regulation at a molecular level in health and disease. Readings and other assignments will be provided on Canvas. The students will review material and generate questions that will be the focus of interactive small group sessions. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**DTS - 506 Biomedical Ethics**

The major issues of honesty and fairness as practiced in the scholarly pursuit of new knowledge will be reviewed. Topics include equal opportunity and non-discrimination, abusive relationships, student-faculty relationships, responsibilities of students, faculty, chairpersons and administrators, honesty in writing, authorship and ownership of data. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**DTS - 507 Advanced Immunology and Immune System Dynamics**

This is an overview course in immunology for graduate students interested in beginning a career in immunology. The focus will be the components of the immune system and mechanisms of immune cell action in the context of both healthy and disease states. It is a lecture, discussion and paper review-based course. The goal is to provide an overview of basic immunology from which students can begin to derive their own questions in the field. This course will cover components of both the innate and adaptive immune systems. Topics include but are not limited to innate immune responses, T and B cell development and activation, antigen presentation, allergy, autoimmunity, transplantation, vaccination and immunodeficiency. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**DTS - 508 Techniques in Orthopedic Biomechanics**

Orthopedic material testing methods with focus on fatigue testing, corrosion and tribological testing, sensing and measuring techniques in orthopedics, testing methods for hard and soft tissues, motion measurements in Gait Lab, regulatory aspects of orthopedic implants, use of biomedical imaging in Orthopedic Biomechanics and modeling of human joints. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**DTS - 519 Advanced Neurobiology**

This course will provide students with an understanding of basic graduate neuroscience topics. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**DTS - 520 Biomedical Science Journal Club: Critical Analyses and Discussions**

This course will teach and train students how to critically read scientific research publications and generate formal presentations from published research articles. Students will participate in a series of meetings in which an elected presenter will discuss research paper findings to a group of colleagues. The elected presenter will be required to present current, peer-reviewed primary research articles and summarize the findings in an original, visually-oriented presentation. Each presenter will choose their meeting materials. After presenter's selected research article must be pre-approved by the research mentor. It is expected that students participate in any laboratory and or departmental academic activities like data or journal clubs. Offered: fall and spring. Retake Counts for Credit: Yes. Credit(s): 1

**DTS - 525 Biomedical Informatics: Genomics and Microbiome**

This course introduces bioinformatics techniques with a focus on microbial sequence data analysis. Students will gain practical skills in sequence data analysis, data visualization, statistical analysis and data interpretation of next-generation

sequencing (NGS) data sets, including bacterial whole genome sequence data and 16S ribosomal RNA gene amplicon data. The course will cover analyses performed in the computing environment R. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**DTS - 546 Principles of Biostatistics I: Descriptive Methods and Introduction to Statistical Inference**

This course covers statistical issues in clinical trial design. This includes blinding, randomization, bias and intent to treat. Use of descriptive statistics and graphical techniques to explore patterns in data. A review of the basic properties of probability and the characteristics of the normal and binomial distributions. One and two sample inference and hypothesis testing for proportions, means and medians, one way analysis of variance and simple linear regression, including diagnostics based on residuals and confidence intervals for regression coefficients are covered. Hypotheses testing for cross-classified data are also discussed. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**DTS - 547 Principles of Biostatistics II: Multivariable Regression and Prediction Methods for Diverse Outcomes**

This course covers multifactor analysis of variance, multiple regression, logistic regression, including Hosmer-Lemeshow goodness-of-fit and receiver-operating curves. Survival analysis, including log rank tests, Kaplan-Meier curves and Cox regression, are covered. Additionally, statistical software packages are discussed. Prerequisite: DTS-546. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**DTS - 548 Biomedical Informatics I: Public Health and Clinical Research Informatics**

This course provides a practical, broad-based foundation in biomedical informatics. Topics in acquisition, analysis and storage of information in health care, biomedical research and public health will be presented. The course will primarily use a problem-oriented interactive format to illustrate meaningful applications of information technology. Large data sets and tools will be used to teach basic techniques in data collection and queries, visual presentation of data and translational bioinformatics. No computer programming skills are required. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**DTS - 549 Biomedical Informatics II: Clinical Data Analytics and the Electronic Health Record**

This course will enable students to use datasets for informatics or epidemiologic research. Prerequisite: DTS-548. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**DTS - 594 Fundamentals of Grant Writing for Scientific Research**

This course will use selected readings in basic, translational and clinical research as a basis to critically consider research design, data presentation and persuasive writing. Course materials (lecture slides, written text, links to resources, etc.) are posted weekly. Alternating weeks, students will either present and discuss a project proposal based on relevant literature or write a portion of a grant proposal on a topic of their choice that they will then peer review in a mock study section format. Students will also receive feedback on their writing from faculty. In place of a final exam, students will submit a completed grant proposal (Specific Aims and Research Strategy) and give a ten-minute oral presentation of their proposal. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**DTS - 595 Fundamentals of Scientific Manuscript Writing**

This course will equip graduate students with the essential skills needed to write scientific manuscripts. Participants will learn the structure and components of a scientific paper, including the title, abstract, introduction, methods, results, discussion and references. Students will also discuss appropriate citation practices and issues surrounding ethical publishing. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**DTS - 598 Pre-Thesis Research**

This course provides credit for the preliminary research that ultimately forms the basis of the research thesis. The student performs the research in the mentor's/adviser's laboratory and prepares for proposing thesis research. The mentor assesses the research and evaluates student progress. The course spans two or more terms until the mentor approves the work for delivering the thesis proposal. Students may register for this course repeatedly and may take the course in different laboratories in the first year of their studies. This course may only be taken before successfully passing the proposal for thesis research. Thereafter, students register for the thesis research course. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-9

**DTS - 599 Thesis Research**

This course provides credit for the research that forms the basis for scientific presentation, possible publications and ultimately the master's thesis. The student performs the research in the mentor's/adviser's laboratory and is involved with proposing, planning and the execution of the master's research. The mentor and the thesis committee assess the research and evaluate student progress in research, research collaboration and the scientific communication of research. Registration requires approval of a mentor by the program director of the Integrated Biomedical Sciences program. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-9

**DTS - 611 Advanced Cancer Biology and Therapeutic Mechanisms**

This class will delve into the underlying molecular mechanisms and cellular biology involved in carcinogenesis, tumor growth and metastasis, with an emphasis on the hallmarks of cancer and how they manifest. Topics will include oncogenes and tumor suppressors, viruses and cancer, angiogenesis, metabolism, DNA repair, tumor immunology and others. Each week will include a lecture on a topic and discussion of a related scientific article. The course will provide students with a solid background in general cancer biology with knowledge of the latest concepts in signal transduction, metabolic reprogramming of tumor cells, cell cycle control and cancer therapeutics as well as a general appreciation of the rapid advances made recently in the area of cancer research. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**DTS - 620 Microbial Pathogenesis**

This graduate-level course explores the fundamental concepts of microbial pathogenesis emphasizing the common strategies employed by bacteria, viruses and parasites to colonize hosts, evade the immune system and cause disease. Key themes include host-pathogen interactions, virulence factors, microbial adaptation, immune evasion and therapeutic strategies. The course integrates bacteriology, virology and parasitology, providing students with a comprehensive understanding of the molecular mechanisms of pathogenesis and host defense across different types of pathogens. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**DTS - 698 Pre-Dissertation Research**

This course provides credit for the preliminary research that ultimately forms the basis of the doctoral dissertation. The student performs the research in the mentor's/adviser's laboratory and prepares for proposing the dissertation research. The mentor assesses the research and evaluates student progress. The course spans several terms until the mentor approves the work for delivering the research proposal. Students may register for this course repeatedly and may take the course in three different laboratories in the first year of their studies. This course may only be taken before successfully passing the qualifying examination and entering candidacy. Thereafter, students register for the dissertation research course. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-9

**DTS - 699 Dissertation Research**

This course provides credit for the research that forms the basis for scientific presentation, publications and ultimately the doctoral dissertation. The student performs the research in the mentor's/adviser's laboratory and is involved with proposing, planning and the execution of the dissertation research. The mentor and the dissertation committee assess the research and evaluate student progress in research, research collaboration and the scientific communication of research. The course spans several terms until the dissertation committee approves the dissertation. Students may register for this course only after they pass their qualifying exam. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-9

**DTS - 900 Independent Study**

Independent study courses give students a unique opportunity to pursue a course of study not commonly included in the curriculum. Students interested in pursuing an independent study should meet with the faculty member they are seeking to work under to define the coursework and expectations. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1-9

**DTS - 999 Continuous Enrollment**

The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate-level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**EMD - EXM Emergency Medicine Exam Remediation**

Remediation of course examination. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**EMD - REM Emergency Medicine Clinical Remediation**

Remediation of clinical weeks. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**EMD - 703 Core Clerkship: Emergency Medicine**
Students are primarily responsible for the clinical management and documentation of patients, including performing an initial and any subsequent assessments, ordering and interpreting any diagnostic workup, discussing the case with any consultants or admitting teams. Emphasis is placed on the student learning how to perform a focused evaluation of an undifferentiated patient, particularly the formation of a differential diagnosis and strengthening clinical decision making skills. Prerequisites: MED-703, NEU-701, OBG-703, PED-701, PSY-701, RMD-701 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**EMD - 716 Emergency Medicine**
Students evaluate adult and pediatric patients in the Emergency Room under the supervision of an attending physician. Fourteen eight-hour shifts are required over the four-week block. There will be at least two weekend shifts, two night shifts and two evening shifts (actual scheduling will take place at orientation). Grading is based on clinical performance, participation in didactic sessions, a presentation at the end of the rotation and an oral exam. Prerequisites: MED-703, NEU-701, OBG-703, PED-701, PSY-701, RMD-701 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**EMD - 717 Disaster Medicine**
In this course, students are exposed to the concepts of managing a disaster scene (triage, incident command structure and performing a hazard vulnerability analysis). Activities are conducted through the use of web-based study modules, discussion forums and internet chat. Students complete a hazard vulnerability analysis project (through a discussion forum). Fundamental disaster medicine concepts regarding chemical, biological, radiological, nuclear, explosive (CBRNE injuries), in addition to natural disasters and psycho-behavioral implications of such events, are also completed online. Each module will be followed by a short quiz to test comprehension. A final exam including a specific disaster scenario (presented online), will also be administered. Upon completion of this rotation, the student will be able to: 1. Describe the fundamental concepts of the hospital incident command system (HICS) 2. Differentiate the various categories underlying triage in disaster situations 3. Apply the concepts of Hazard Vulnerability Analysis 4. Describe the essential elements behind chemical, biological, radiological, nuclear, explosive (CBRNE) and natural disasters 5. Explain the essential psycho-behavioral implications of disasters. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2

**EMD - 720 Emergency Medicine Ultrasound**
The Rush Emergency Ultrasound Elective is designed to provide students with the opportunity to learn foundational knowledge in using an ultrasound examination in clinical care through didactic learning and hands-on practice with real patients. At the end of the course, students will be able to: describe the clinical applications of ultrasound in the emergency setting; successfully perform a variety of ultrasound examinations including FAST exams, aorta, cardiac, lung, MSK, DVT, pregnancy, ocular and more. Schedule dependent on resident ultrasound schedule. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2

**EMD - 722 Pediatric Emergency Medicine**
Students evaluate pediatric patients in the emergency room under the supervision of an attending physician. Evening and weekend shifts are included. The student is required to attend teaching conferences in the Emergency Department and to present an informal lecture on a pediatric emergency medicine topic. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**EMD - 725 Emergency Psychiatry**
This course is designed to expose fourth-year medical students to emergency psychiatry and equip them with the knowledge, skills and sensitivity required to assess and manage patients experiencing acute psychiatric crises. Students will work with the emergency psychiatry service team, seeing new consults as well as rounding on previous shift patients who remain in the ED. Emphasis will be placed on the identification and management of acute agitation/anxiety, primary psychosis, intoxication/withdrawal, suicidal/homicidal ideation and other commonly encountered psychiatric conditions in the emergency setting. Students will be responsible for history taking, clinical synthesis, documentation and participate in management planning and disposition. Students will be directly supervised by residents and faculty, attend sign-outs and transition of care, interact and communicate with consultants and primary teams in the emergency department. Students will also read articles to supplement their clinical work. Students will be assessed on their clinical skills and will give an end-of-rotation EBM presentation on an article addressing a clinical problem of one of their patients. Prerequisite: PSY-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4



**EMD - 740 Medical Toxicology**
Medical toxicology is the study of all types of poisons and their impact on human health. Clinical toxicologists assess patients who may be suffering from the effects of medication overdoses, drugs of abuse, venomous animals, poisonous plants, chemicals, bioterrorism, mass casualty events, adverse drug events, radiation, medication errors, occupational toxins or withdrawal syndromes. Toxicology touches all medical specialties and toxicology consultants operate in a wide range of contexts. Toxicologists have a unique approach to pathophysiology and differential diagnoses and are often tasked with solving puzzling clinical presentations. Every toxin has its own method of management, and antidotes occasionally play a role as well. This elective will include in-person lectures, bedside evaluation of toxicology patients, interactive skills labs, mystery cases, field trips, participation in Toxikon rounds where the most interesting Illinois Poison Center cases are discussed and time shadowing at the Illinois Poison Center. Lecture content is designed specifically for medical students and will include high-yield core toxicology topics as well as coverage of important historical toxicologic disasters and famous poisonings. Didactics will be tailored in part by the specific interests of each group of student rotators and their choice of specialties. This elective is distinct from the one offered through Cook County, is offered only once per year as an immersive two-week experience and is run by Rush medical toxicology faculty. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**EMD - 750 Sexual Assault Forensic Exam Training and Education**
The Sexual Assault Forensic Exam Training and Education (SAFETE) course begins with online training modules that provide background information about forensic principles, the medical forensic exam to survivors of sexual violence, evidence collection and trauma-informed care. Following the online training, students will participate in three, in-person sessions. The first session will be a hands-on practice of medical forensic documentation, photography, exam and evidence collection using mannequins and an update on Illinois specific law. The second session will concentrate on trauma informed care and legal aspects of the investigation and, if possible to arrange, will include a tour of the Illinois State Police Forensic Science Laboratory (the lab availability may change). The third session will include debriefing, feedback, Q&A session and any other supplemental activities necessary. After completion of the elective, students have an option to shadow a Sexual Assault Nurse Examiner (SANE) during the exams on an on-call basis over the following several months. Prerequisite: OBG-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2

**EMD - 781 Research in Emergency Medicine**
Students will complete an individual research activity in collaboration with faculty at Rush. The student must develop a proposal that includes the student's activities, responsibilities, amount of supervision and expected time commitment. The proposal must be signed by the faculty supervisor and submitted to Office of Integrated Medical Education for approval at least four weeks before the start of term. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**EMD - 830 Medical Toxicology/Poison Control**
This course introduces the student to the nature and scope of poisoning. The Illinois Poison Center covers the entire state of Illinois and handles 90,000-100,000 calls per year from individuals and health care facilities. The goal for the medical student is to develop a basic understanding on acute poisonings. In addition, the student will be knowledgeable about the public health role of the poison control center and medical toxicologists in managing poisons throughout the state and its interface with the public and health care facilities. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**EMD - 831 Emergency Ultrasound**
This course provides students with an introduction to emergency ultrasound as well as an inside look into emergency medicine. Students are evaluated across core competencies based on interactions with patients, total number of scans, accuracy and participate in didactics, journal clubs, image review sessions and research meetings. Students determine when an emergency ultrasound exam is indicated, discuss the examination with the patients and obtain informed consent, obtain US images, interpret US images and work with primary clinical staff to integrate US findings into patient management. Prerequisites: MED-703, NEU-701, OBG-703, PED-701, PSY-701, RMD-701 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2

**EMD - 910 Individualized Elective in Emergency Medicine**
This elective offers students the opportunity to design a personalized learning experience tailored to their specific interests and career goals within Emergency Medicine. Under the guidance of a faculty mentor, students will develop a customized curriculum that may include clinical experiences, research projects, case studies and/or

academic readings. This flexible course structure allows students to explore areas of interest in depth, enhance specific skills and gain insights into potential career paths. The elective is ideal for students seeking to expand their expertise or explore niche areas within their field of study. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**FAM - 7EI Family Medicine Individualized Elective**
Students may receive credit for an individually arranged elective with a Rush faculty member. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter stating the student's activities, responsibilities, amount of supervision and specific dates of the rotation. The sponsoring faculty member must complete an evaluation of the student's performance at the conclusion of the elective. Students must submit a proposal to the Office of Clinical Curriculum for approval at least eight weeks before the rotation and must have written approval from the assistant dean of Clinical Education before beginning the rotation. Students may receive four weeks of credit for an individually arranged elective. Credit for a maximum of only one individually arranged elective will count toward graduation requirements. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**FAM - 705 Family Medicine Leadership Program (FMLP)**
The Family Medicine Leadership Program (FMLP) is a longitudinal curriculum designed to meet the health needs of the population by training a select group of primary care focused medical students to become family medicine clinicians, mentors and leaders. The curriculum emphasizes patient-centered, community-based, interdisciplinary and experiential learning, with leadership development throughout the student's participation in the program. Students work with family medicine faculty mentors and become an integral part of the community-based clinical care team, gaining an appreciation for continuity of care by following their own panel of patients over time, observing the course of illness and recovery. The students participate in extracurricular learning activities that emphasize the patient-centered medical home, promote community service and scholarly pursuits, require independent study and self-directed learning and allow for significant personal and professional growth. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**FAM - 710 Subinternship: Family Medicine**
An intensive inpatient primary care experience at Rush Copley Medical Center. The subintern will function in a capacity similar to an intern, with supervision by a senior Family Medicine resident and faculty physician. Prerequisites: MED-703, NEU-701, OBG-703, PED-701, PSY-701, RMD-701 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**FAM - 725 Alcohol/Chemical Dependency**
In this course students develop skills in interviewing and managing alcoholic and other chemically dependent patients. A longitudinal interdisciplinary experience is stressed, emphasizing detoxification, rehabilitation and outpatient treatment. Can be taken for either two or four weeks. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**FAM - 735 Primary Care Sports Medicine**
The focus of this course is on outpatient management of acute and chronic sports and exercise-related injuries and medical issues pertinent to athletes in a multidisciplinary setting. Emphasis will be placed on the diagnosis and treatment of musculoskeletal problems common to athletes. In the context of sports medicine, the student will get exposure and improve proficiency in musculoskeletal physical examination, imaging (such as plain films, MRIs and bone scans); biomechanics; physical therapy, physiology and metabolism; nutrition; and sports psychology. In addition to the clinical issues, the philosophy of primary care sports medicine is explored and the aspects of prevention in sports medicine is highlighted. Prerequisites: MED-703, PED-701 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**FAM - 741 Urban Primary Care**
An advanced preceptorship with family physicians and nurse practitioners in an urban practice. Students are expected to initiate and complete a research or quality improvement project focusing on preventive health services or the enhancement of access to medical care for minority communities. Prerequisites: MED-703, OBG-703 and PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**FAM - 742 Introduction to Health Policy and the American Health Care System**
In this course, students will gain a brief overview of how the American health care system arrived at present day, including: the origin of employer-sponsored health insurance, introduction of government insurance programs, era of managed care, the ongoing transition to value-based care and failed attempts at universal coverage. Through a combination of reading and writing assignments, lectures and small group discussion, students will learn to articulate the challenges that each aspect of health reform has attempted to address and consider what other changes might be necessary. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**FAM - 745 Private Practice Preceptorship**
A preceptorship with three family physicians, in a busy outpatient clinic, seeing newborn to geriatric patients. Prerequisites: MED-703 and PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**FAM - 761 Principles and Practice of Wound Care**
This course is designed to introduce the student to the multidisciplinary approach used in the management of chronic wounds, including the evaluation and treatment of these wounds in the context of underlying complex medical conditions (such as diabetes mellitus, renal failure, osteomyelitis, arterial insufficiency, spinal cord injuries, peripheral vascular insufficiency and resistant infections). Students are introduced to new developments in the field of wound care (platelet-derived GF, skin grafting, vacuum assisted closure, compression pumps/wraps, etc.). Since the patients return to the clinic on a weekly basis for ongoing treatment, students have the opportunity to participate in continuity of care and observe the wound healing. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2

**FAM - 781 Research in Family Medicine**
Students will complete an individual research activity in collaboration with faculty at Rush. The student must develop a proposal that includes the student's activities, responsibilities, amount of supervision and expected time commitment. The proposal must be signed by the faculty supervisor and submitted to Office of Integrated Medical Education for approval at least four weeks before the start of term. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**GC - TRN External Transfer Credit - GC**
This course is used if the content of such courses applies directly to the student's program of study in the college. Courses used can be from another accredited college or university, if approved by the college. A grade of B or better must have been received. Retake Counts for Credit: No. Credit(s): 1-15

**GC - TRNR Internal Transfer Credit - GC**
Rush University recognizes that courses delivered within the colleges in different programs may lead to essentially the same learning outcomes. With the department assigning an equivalency status to courses, this course allows students to receive an internal transfer of credit for identical or equivalent courses when entering another program of study. Retake Counts for Credit: No. Credit(s): 1-15

**HHV - 711 Medical Ethics**
Collaborating with at least one clinical ethicist, M4 students study questions and topics that have captured their attention during previous clinical study. In this process, they can explore their own moral reasoning and enhance their ability to conduct moral analysis in clinical medicine. Students may attend clinical events that pertain to their question, read contemporary or classical ethics literature, review medical research for ethics embedded in evidence-based practice, consult with members of the faculty of medicine or be involved in other activities that advance their inquiry. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**HSC - TRN External Elective Credit**
This course is used to transfer in elective credits for the Health Sciences (BS) program when course content is not directly transferrable to a Rush University course. Courses used can be from another accredited college or university, if approved by the college. A grade of C or better must have been received. Retake Counts for Credit: No. Credit(s): 1-12

**HSC - 350 Medical Physiology**
This course is designed to provide students with a comprehensive understanding of human physiological function, regulation and integration as a basis for understanding the complex interaction of specific body systems and their relationship to disease. Offered: spring. Retake Counts for Credit: No. Credit(s): 4

**HSC - 352 Professional Writing**
This course is designed to develop scientific and technical writing by providing students with the foundations of grammatical scrutiny necessary to provide quality communication practices and the tools to become proficient at writing professional goals and objectives, as well as clinical and scientific reports. It will also familiarize students with the investigative processes involved in proofreading clinical and scientific reports. The course emphasizes a systematic writing approach that enables students to produce a variety of scientific and technical communications in a well-presented,

clear and concise style. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**HSC - 354 Introduction to Health Professions**
This course will introduce the student to the broad array of health occupations and professionals that are essential to the provision of health care. Disciplines in allied health, medicine and nursing will be reviewed, and the role, function, education, licensure and scope of practice of the various health professions will be discussed within the context of the health care system in the United States. Core interprofessional health care competencies will be reviewed. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**HSC - 356 Biostatistics**
This course will focus on concepts and procedures for descriptive and inferential statistics for continuous and discrete data and data analysis using parametric and non-parametric statistical procedures. Computerized statistical programs, such as SPSS, will be used Retake Counts for Credit: No. Credit(s): 3

**HSC - 358 Global Health**
This course introduces major global health challenges, programs and policies. The array of determinants of health will be examined with a global perspective. Principles and practices of population-based health will be introduced. Causes of poor health access and adverse health outcomes across various populations will be discussed, as well as issues related to cultural competency. This course explores the complexities and dimensions of health and illness through diverse cultural perspectives. Emerging global health priorities and initiatives for health promotion will be explored. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**HSC - 360 Human Anatomy/Lab**
Students will pursue an in-depth study of human anatomy utilizing lectures and a dissection laboratory. The course is regionally based and includes the back and spinal cord, thorax, abdomen, pelvis, upper and lower extremities. Offered: fall. Retake Counts for Credit: No. Credit(s): 4

**HSC - 362 Clinical Immunology**
An introduction to the basic concepts and terminology of immunology, including structure of the lymphoid tissues, function of immune cells, mechanisms of cellular and humoral immune tolerance and activation and their associated effector functions that lead to pathogen clearance. Mechanisms of immune diseases, including transplant rejection, autoimmunity, hypersensitivity and asthma, immunity to tumors and congenital and acquired immunodeficiencies are covered. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**HSC - 364 Health Care Systems and Policies**
Health Care Systems and Policies is designed to inform students of the present structure and design of the health care system. This course discusses the organization and delivery of health services, the economics and financing of health care, the nation's health care workforce, access to and quality of health services. The course explores topics that address current issues in America's health care system. The student will understand what is prompting reform and the significant changes in health care reform legislation. Retake Counts for Credit: No. Credit(s): 1

**HSC - 368 Genetics**
This is an introductory course in Genetics. Clinical and molecular genetics has becoming increasing essential in the medical field. Understanding the cell cycle, DNA and genes is essential in the understanding a variety of disease processes. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**HSC - 371 Health Education**
The Health Education course introduces students to the fundamentals of patient/client education. The impact of culture, sexuality, language, cognitive ability, socio-economic status and health literacy on patient education will be explored. An overview of basic education and counseling principles, motivational interviewing and patient education skills will be provided. Students will examine the role of education on patient's/client's ability to cope with health issues, adhere to prescribed treatment plans and encourage positive behavioral health-related changes. Retake Counts for Credit: No. Credit(s): 3

**HSC - 372 Medical Terminology**
This course will introduce basic word structure and terminology pertaining to body systems. Includes spelling, pronunciation and word usage. Provides a basic overview of medical terms used to describe diseases process, systems, anatomy, special procedures, pharmacology and abbreviations. No previous knowledge of these topics is necessary. Retake Counts for Credit: No. Credit(s): 1

**HSC - 400 Independent Study**
Independent study courses give students a unique opportunity to pursue a course of study not commonly included in the curriculum. If you are interested in pursuing an independent study, meet with the faculty member you want to work with to define the coursework and expectations. Retake Counts for Credit: Yes. Credit(s): 1-12

**HSC - 414 Patient Assessment**
Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**HSC - 425 Health Care Informatics**
This course will introduce students to health care informatics, the field devoted to the optimal use of data, information and knowledge to advance individual health, public health, health care and health-related research. Health Informatics also focus on the integration of cutting-edge technology in different application areas of health care for optimization of health care delivery. Students will learn the application of informatics skills and knowledge to health-related problems. Topics include an overview of health informatics, health care data analytics, electronic health records, health information privacy and security, health informatics ethics, telehealth/telemedicine, medical imaging informatics, consumer health informatics, public health informatics and clinical decision support system. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**HSC - 435 Nutrition**
This is an introductory course in nutrition. Principles of human nutrition and metabolism, as well as nutritional planning for the maintenance of health and wellness across the life span (infant, childhood, adolescent, adulthood and later) are explored. The course will elaborate on the role of nutrients in the body and how they affect function in the normal human, as well as those with a chronic disease process. The methods and equipment used to provide nutritional analysis will be discussed and demonstrated. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**HSC - 445 Fundamentals of Neuroscience**
This course will provide an introduction and overview of core neuroscience areas, including membrane physiology, ion channels, cellular neurophysiology and neuroanatomy. Drug abuse and diseases involving the central nervous system will also be discussed. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**HSC - 446 Health Care Disparities**
Students will examine aspects of the health care system related to health risk, access, outcomes and cost and associated health care disparities. Causes of poor health access and adverse health outcomes will be discussed, as well as issues related to cultural competency. This course explores the complexities and dimensions of health and illness through diverse cultural perspectives Social and historical factors that may be involved will be reviewed, as well as possible solutions to ensure access to cost-effective, quality health care. Offered: as needed. Retake Counts for Credit: No. Credit(s): 3

**HSC - 447 Epidemiology**
This course introduces students to the principles and practices of epidemiology and provides them with a population-based perspective on health and disease. Students learn basic measurements of frequency and association and methods employed in describing, monitoring and studying health and disease in populations. Students will gain a working knowledge of key concepts in epidemiology and biostatistics, and an understanding of key aspects associated with introducing strategic initiatives. Retake Counts for Credit: No. Credit(s): 3

**HSC - 448 Health Care Ethics**
This course focuses on the basic foundational theories of ethics and practical application of principles of medical and research ethics. Health Care Ethics explores moral values and judgments as they apply to medicine and ethical principles associated with research. It also elaborates on the ethical decision making framework and ethical principles that govern the practice of medicine. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**HSC - 454 Principles of Biochemistry**
This course will provide students a basic understanding of the structure, properties, functions and metabolism of proteins, carbohydrates, lipids and nucleic acids. The analysis and application of these fundamental concepts used for testing organ function and evaluating disease will be discussed. Offered: fall. Retake Counts for Credit: No. Credit(s): 4

**HSC - 455 Pathophysiology**
This course provides an overview of human pathological processes, such as degeneration, inflammation, immune response, metabolic and toxicity and their effects on homeostasis. Disease etiology, physical signs and symptoms, prognosis and complications of commonly occurring diseases and their management will be discussed. Prerequisite: HSC-350. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**HSC - 458 Microbiology with Lab**
This course will provide a review of the general biology of infectious agents and the basic concepts and principles of immunology, including medically important microorganisms

and their relationship to disease. Identification, classification, structure and mechanism of action of pathogens, epidemiology, mechanisms causing disease and the biological basis for resistance and treatment will be covered. Assays and other biological techniques used to identify, isolate and collect samples will also be discussed Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**HSC - 459 Pharmacology**
This course will provide an understanding of pharmacokinetics and pharmacodynamics of medications used for diagnosis and treatment of a variety of diseases. The basic principles underlying pharmacological treatments will be stressed. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**HSC - 460 Management Principles**
The students will learn principles of management to include planning, organizing, directing and controlling, management and evaluation of personnel and programs, motivational theory, decision making, conflict management, principles of delegation and financial management. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**HSC - 461 Leadership Theory and Practice**
This course will provide an overview of evidence-based methods for developing and evaluating leaders and leadership. It will examine leadership theory, various management styles and organizational behavior theory. Discussion will focus on practices and principles related to developing leadership skills. Students will enhance their self-awareness concerning strengths and development needs as they relate to their career aspirations, through activities such as multisource feedback and reflective learning. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**HSC - 462 Practicum**
The practicum builds upon the theoretical knowledge and techniques introduced during didactic courses in the first year. Students will complete practicum experiences in a variety of health professions. Offerings may include nursing, medicine and various allied health fields. Students will shadow the health care provider as they conduct their day to day work. Student rotations will generally be 10-15 hours per week, depending on preceptor availability. Offered: spring. Retake Counts for Credit: No. Credit(s): 9

**HSC - 464 Capstone**
The capstone course is designed to prepare students for the transition from undergraduate studies to professional education. Students will analyze current health care trends and professional issues in an identified health specialty, including an overview of educational requirements and labor market trends. Students will evaluate how their career interests realistically match their skills and qualities in order to develop a plan for their next professional development steps. Students will develop a career portfolio that synthesizes their academic and professional accomplishments. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**HSC - 467 Issues and Trends in Health Care**
Current issues and trends in health care are discussed. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**HSC - 468 Human Growth and Development Across the Life Span**
This course will provide an introduction and overview of core life span development areas, from birth through end of life, including developmental domains (physical, cognitive, linguistic and socioemotional). Connections between topics of culture, diversity, equity and inclusion, experiences and development will be addressed throughout the modules. Atypical development, family systems and working with children and families in health care environments will also be discussed. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**HSC - 480 Holistic Health and Wellness Practices**
This course provides students with a holistic overview of the multifaceted dimensions of health and wellness across the life span. The seven dimensions of health: physical, social, intellectual, emotional, occupational, spiritual and environmental are explored within the context of a wellness lifestyle. They will also learn about aligning client needs and wants with best practice program design, implementation and evaluation for successful results. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**HSC - 483 Community Health**
This is an introductory course on concepts, structures and activities in community and public health practice. This course will explore the major areas of community health, epidemiology, health systems management, public health policy, public health advocacy, environmental and behavioral health sciences. Special topics in community health sciences will also be examined with a focus on health disparities/health equity in Chicago. Offered: fall. Retake Counts for Credit: No. Credit(s): 3



**HSC - 485 Fitness and Health**
This course provides students with an understanding of exercise physiology, conditioning and strength and endurance training. It will also provide the knowledge and skills needed to develop diet and exercise programs in respect to the participants' body type to achieve their desired health and fitness goals. The laboratory exercises will provide hands on experience with commonly used strength and conditioning equipment. Offered: as needed. Retake Counts for Credit: No. Credit(s): 2

**HSC - 486 Chronic Disease Management**
In this course, students will be introduced to specific chronic diseases commonly treated in the medical home model, such as COPD, diabetes, asthma and congestive heart failure. Proper disease management techniques will be discussed, along with lifestyle alterations that can reduce the detriment of these afflictions to patient quality of life. Offered: as needed. Retake Counts for Credit: No. Credit(s): 3

**HSC - 488 Research Methods**
This course uses the construction of research proposals and reflective journal entries to introduce student to methods of scientific research, including review of literature, research designs, sampling techniques, data analysis and related issues. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**HSC - 631 Composition for Effective Professional Writing**
This course develops the learner's professional writing for dissertation and publication. Focus will be on the process of writing, grammatical style, composition structure and APA format. Topics will include analytical literature review, critical self-reflection, plagiarism and team writing. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**HSC - 632 Leadership Theory**
Provides an overview of evidence-based methods for evaluating and developing leaders and leadership. Topics include: the history of leadership assessment and leadership theory; use of validated assessment methods in measuring leadership (e.g., interviews, assessment centers and cognitive and objective assessments); applications of adult development and career development theory; and organizational approaches to leadership development (e.g., talent reviews, developmental assignments, 360-degree feedback and succession/acceleration programs). Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**HSC - 633 Leadership in Higher Education**
Principles of leadership in the context of organization and administration of higher education and the academic department will be discussed. Governance of higher education to include organization, control, funding and evaluation will be described and the principles of leadership as they relate to the administration of the academic department will be discussed. Principles of leadership to include strategic planning, organizational change and conflict management. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**HSC - 634 Issues and Trends in Health Care**
Current issues and trends in health care are discussed. An overview of the U.S. health care system, its history, structure, major components and overall performance is provided, followed by a review of the interrelationships among various trends and forces that are likely to shape the roles and responsibilities of health care institutions in the future. The learner becomes well versed in the major issues facing the health care industry and the public/private/individual roles needed to address these issues. Concepts in organizational behavior, health economics, health care finance, health care planning and marketing and health insurance and managed care are discussed. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**HSC - 641 Education Theory and Methods**
This course provides a foundational examination of behaviorism, humanism, cognitivism, social cognitivism and constructism. Learning theories are presented relevant to higher education and professional education contexts. Research on evolving learning sciences focused on andragogical constructs will be explored. The learner will engage in application of education theory to instructional methods and evaluation. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**HSC - 642 Curriculum and Instruction**
This course provides hands-on participation with developing competency-based curricula for health science education programs. Principles of program curriculum, course curriculum and module design are presented. Construction of learning objectives with alignment to the development of instructional methods, activities and formative assessments is emphasized. Special attention is placed on the e-learning framework as the learner directs a teaching experience. Prerequisite: HSC-641. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**HSC - 643 The Adult Learner**
This course expands the learner's knowledge of adult learning from basic theories to include the role of autonomy and critical thinking. The learner will explore learning theories and models related to these concepts, identify the roles of both the learner and educator within the context of each theory/model and discuss the implications of autonomous learning and critical thinking on programming, curriculum and instructional practice. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**HSC - 651 Advanced Biostatistics**
This course will focus on using descriptive and inferential statistics for data analysis in health care research. Students will develop the necessary skills to interpret statistical tests cited in medical literature and communicate statistical test results from their own analyses. Students will enhance their knowledge and application of parametric, nonparametric and various multivariate statistical tests. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**HSC - 652 The Research Process I**
This course promotes the development, integration and application of the knowledge, attitudes and skills required to function as a health scientist. This course provides an overview of the research process and a brief philosophical basis of health research within the context of current issues and trends in health sciences. The research literature serves as the foundation for examining research problems, developing problem statements and conceptualizing research questions. Finally, theoretical and conceptual frameworks ground and enrich the research process as students explore appropriate research designs, including sampling, common study designs and data collection. Prerequisite: HSC-651. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**HSC - 653 The Research Process II**
This course introduces the design and implementation of research that combines qualitative and quantitative data collection and analysis. As a method seminar, this course will address the theoretical underpinnings, utility and ethical considerations of using mixed methods research. Emphasis will be on the comparison of mixed method typologies, an overview of the practical skills required for conducting mixed methods research, the selection of appropriate design for research questions and the integration of both qualitative and quantitative data in analysis. Prerequisite: HSC-652 or HSC-610. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**HSC - 654 Grantsmanship**
This course will assist the student to develop grant writing and review skills. Content focuses on grant mechanisms, strategies, format and the grant review process. Learning activities address writing particular NIH grant sections, including specific aims, significance, research approach, preliminary studies, human subjects, budget, personnel and supporting materials. Prerequisite: HSC-653 or HSC-611. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**HSC - 655 Ethical Conduct in Research Settings**
This course provides the student with an in-depth examination of the ethical principles that guide the conduct of responsible research. These principles will be examined in the context of current, historical and future scientific achievements. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**HSC - 656 The Dissertation Proposal**
The learner plans their dissertation research by performing an extensive literature review, forming a dissertation committee and writing a dissertation proposal. The written dissertation proposal is critiqued for strengths and weaknesses by the dissertation committee so that the learner may present a defensible proposal to their dissertation committee that is worthy of dissertation research. The learner obtains all necessary institutional board (IRB) approvals. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**HSC - 661 Professional Development I**
The student and adviser use a learning contract to define how the student will increase their knowledge base and improve their skill in a health science professional specialty area. This course will provide an opportunity for students and their advisers to define activities of their own choosing that will enhance the student's professional development. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**HSC - 662 Professional Development II**
The student and adviser use a learning contract to define how the student will increase their knowledge base and improve their skill in a health science professional specialty area. This course will provide an opportunity for students and their advisers to define activities of their own choosing that will enhance the student's professional development. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1



**HSC - 663 Professional Development III**
The student and adviser use a learning contract to define how the student will increase their knowledge base and improve their skill in a health science professional specialty area. This course will provide an opportunity for students and their advisers to define activities of their own choosing that will enhance the student's professional development. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**HSC - 699 Dissertation Research**
Students perform research in preparation of a dissertation in partial fulfillment of the requirements of the degree program. Includes supervision by the student's dissertation committee of their research and related activities, including writing the doctoral dissertation, presenting an oral defense to their dissertation committee and finally presenting an oral defense in a public setting. Prerequisite: HSC-616, HSC-656 or HSC-906. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 3

**HSC - 900 Independent Study**
Independent study courses give students a unique opportunity to pursue a course of study not commonly included in the curriculum. If you are interested in pursuing an independent study, meet with the faculty member you want to work with to define the coursework and expectations. Offered: as needed. Retake Counts for Credit: Yes. Credit(s): 1-12

**HSC - 901 Professional Track**
Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**HSC - 906 Research Seminar II**
Prerequisite: HSC-615. Retake Counts for Credit: No. Credit(s): 1

**HSC - 998 Continuous Enrollment**
The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**HSM - 606 Health Care Organization**
This course provides an overview of health care in the United States, covering the political, economic and social organization of the delivery of care. Students will understand and analyze the historical evolution, the structure, the financing mechanisms, the major provider components, performance and how the point of view of the patient is increasingly shaping the future direction of health care. The course will provide students with a framework to organize knowledge of the health care system to support further study in health services administration. Through reading, class discussions, a final paper and exam, students will gain an understanding of the major issues facing the health care system and consider alternative approaches to improve the system. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**HSM - 607 Patient Experience Seminar**
This seminar will introduce and reinforce the patient experience, help current and future health care managers and leaders understand what the patient experience means and how patient experience can be enhanced to improve the quality of the overall experience and quality of care. This course will introduce students to measurement and monitoring tools designed to measure patient experience, as well as introduce techniques for listening to the voice of the patient to effect positive change. Finally, this seminar will introduce and highlight patient-centered care and the importance of it as it relates to health care operations and outcomes. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**HSM - 608 Human Resources Management**
This course is designed to provide students with an understanding and appreciation of the fundamental human resource (HR) concepts, strategies and functions within health care. Specific attention will be placed on the integral role that health systems managers play in carrying out and utilizing HR practices and policies to support strategic goals of the organization. Offered: fall and summer. Retake Counts for Credit: No. Credit(s): 3

**HSM - 610 Professional Seminar**
This course is designed to prepare students for employment interviews and career decision-making in health management. Exercises include resume and cover letter development, recorded video interviews, networking events and dining simulation. Interactions with health care experts in the areas of association, consulting, insurance, group practice and federal government management are

presented. The emphasis of the course is placed on oral and written communication skills. Students will gain confidence and competence in networking and job search strategies. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**HSM - 613 Health Care Accounting**

The course will provide students with the fundamentals of health care financial accounting and reporting needed in health care leadership. This includes an overview of financial statements, transaction analysis, financial ratio analysis and principles of financial reporting. Students will be able to read, understand and analyze health care organization financial statements. Corequisite: HSM-614. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 614 Finance Fundamentals**

The course is intended to give generalist administrators the financial and accounting knowledge necessary to manage health care organizations. This course will concentrate on corporate finance topics but touch upon prior coursework in accounting. In addition, it will integrate corporate finance and accounting theories, institutional knowledge of health care finance and applications to specific problems. Corequisite: HSM-613. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 3

**HSM - 616 Health Informatics**

The purpose of this course is to prepare future health care executives with the knowledge and skills they need to leverage information gathered from and processed by electronic systems. Students will learn the value of information systems from a business and clinical perspective and then be introduced to health informatics, a field concerned with the use of information technology in health care. Finally, students will receive an overview of data analytics with an emphasis placed on developing students' abilities to identify, understand, manage and effectively utilize electronic health care data. The course provides a good foundation for any career in health care given the pervasiveness of information systems. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 3

**HSM - 620 HSM Internship**

The HSM Internship requires a minimum of 440 hours of real-world work experience in a health care organization. HSM fulltime students will almost always fulfill this requirement through part-time jobs within Rush University Medical Center or its affiliates during their first year in the program; however, fulltime students, under extenuating circumstances, do have the option of fulfilling the requirement through a summer internship that they identify and secure, dependent upon departmental approval. The internship emphasizes the 10 distinguishing competencies plus the Professionalism competency contained within the full set of 26 competencies for the National Center for Healthcare Leadership; these include: accountability, achievement orientation, leadership, collaboration, communication skills, professionalism, project management and self-confidence. Demonstration of behavior consistent with the Rush I CARE values is also expected. During the first semester, data management sessions will also build upon basic and intermediate excel and access knowledge, data management skills are further strengthened to handle real world data challenges (i.e., domain and data understanding, data cleaning, data transformation, output generation and creating reports and dashboards) to facilitate decision making. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**HSM - 622 HSM Internship**

The HSM Internship requires a minimum of 440 hours of real-world work experience in a health care organization. HSM fulltime students will almost always fulfill this requirement through part-time jobs within Rush University Medical Center or its affiliates during their first year in the program; however, fulltime students, under extenuating circumstances, do have the option of fulfilling the requirement through a summer internship that they identify and secure, dependent upon departmental approval. The internship emphasizes the 10 distinguishing competencies plus the Professionalism competency contained within the full set of 26 competencies for the National Center for Healthcare Leadership; these include: accountability, achievement orientation, leadership, collaboration, communication skills, professionalism, project management and self-confidence. Demonstration of behavior consistent with the Rush I CARE values is also expected. Prerequisite: HSM-620. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**HSM - 624 HSM Part-Time Internship**

The standard HSM Internship requires real-world work experience in a health care organization. HSM part-time students are almost always full-time working professionals in a health care organization. For part-time (PT) students with full-time work experience in a health care organization, the internship experience should require the part-time student to perform duties or tasks in a highly distinguishable capacity than their current full-time role at their employer organization. There are a number of options for PT students, who work full-time, to complete the HSM Internship degree requirement; the student's academic adviser and the internship director work with part-time students early in their studies to plan an approach that meets the characteristics of an ideal Rush internship and emphasizes the 10 distinguishing competencies plus the Professionalism competency. Demonstration of the Rush I CARE (innovation, collaboration, accountability, respect and excellence) values is also expected. During the first semester in the program, data management sessions will also build upon basic and intermediate excel and access knowledge, data management skills are further strengthened to handle real world data challenges (i.e., domain and data understanding, data cleaning, data transformation, output generation and creating reports and dashboards) to facilitate decision making. Retake Counts for Credit: No. Credit(s): 1-3

**HSM - 626 HSM Part-Time Internship**

The standard HSM Internship requires real-world work experience in a health care organization. HSM part-time students are almost always full-time working professionals in a health care organization. For part-time (PT) students with full-time work experience in a health care organization, the internship experience should require the part time student to perform duties or tasks in a highly distinguishable capacity than their current full-time role at their employer organization. There are a number of options for PT students, who work full-time, to complete the HSM Internship degree requirement; the student's academic adviser and the internship director work with part-time students early in their studies to plan an approach that meets the characteristics of an ideal Rush internship and emphasizes the 10 distinguishing competencies plus the Professionalism competency. Demonstration of the Rush I CARE (innovation, collaboration, accountability, respect and excellence) values is also expected. During the first semester in the program, data management sessions will also build upon basic and intermediate excel and access knowledge, data management skills are further strengthened to handle real world data challenges (i.e., domain and data understanding, data cleaning, data transformation, output generation and creating reports and dashboards) to facilitate decision making. Retake Counts for Credit: No. Credit(s): 1-3

**HSM - 628 Health Care Economics and Payment Systems**

This course provides students with the fundamental economic concepts and theories underpinning the health care industry and the technical components of health care reimbursement and payment models. By the end of the semester, students will be able to evaluate, both at a conceptual and at an analytical level, arguments about how the markets for health care and health insurance work. This course takes a holistic look by evaluating the perspectives of various stakeholders: payers, the patient, provider, industry and government. Prerequisites: HSM-606 and HSM-610. Pre or Corequisites: HSM-613 and HSM-614. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**HSM - 636 Quality, Safety and Operational Improvement in Health Care**

This course provides students with the knowledge, skills and abilities needed to apply systems thinking, quantitative methods and other tools to increase the capacity for quality and operational improvements in health care organizations. Improvement of quality, safety, operational and financial outcomes is the main role of the health care leader and is a result of effective understanding and use of data and insights, and motivating change among multidisciplinary stakeholders. Methodologies, tools and approaches to transform data into usable insights will be presented, including the effective use of metrics and dashboards. Students will appreciate the utility of these for analyzing systems, improving processes and enhancing quality and patient safety. Emphasis is placed on students' abilities to work with managers and clinicians to analyze problems, identify possible solutions, implement process improvements and communicate with stakeholders in non-technical terms. The course uses a combination of learning methods, including group discussion, multimedia and operational projects. Challenging assignments in real health care settings, such as emergency department throughput, operating room logistics and mortality and complication improvements, give students the opportunity to apply what they are learning. Pre or Corequisites: HSM-616 and either HSM-632 or CHS-601. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 4

**HSM - 640 Health Care Planning and Marketing**

This course develops students' understanding and appreciation of the health care planning, communications and marketing processes. Through discussions, cases, teaching back of marketing and strategic planning concepts and guest lecturers, topics are covered around all aspects of planning and marketing. These include frameworks for strategic thinking and planning, consumer research, market segmentation, distribution and product strategies, advertising and promotion, mass communications/public relations, social media, referral development and marketing and assessment of outcomes and effectiveness of planning and marketing efforts. As a result of this course, students will demonstrate the ability to discuss, assess and critically

evaluate marketing initiatives. Prerequisite: HSM-606. Pre or Corequisite: HSM-644. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 644 Health Care Managerial Finance and Seminar**

This course moves beyond basic financial accounting to how financial information is used to manage and make decisions. From the revenue perspective, students are expected to learn and demonstrate an understanding of the way health care providers are paid for services based on the source of payment (Medicare, Medicaid, managed care) and the payment methodology. From a cost perspective, cost allocation methodologies as well as types of costs (e.g., fixed, variable, semi-variable), will be taught. Case studies, in-class exams and team presentations will be used to evaluate students' competencies to assemble revenue and cost information to make strategic decisions and construct budgets and business strategies. The examples used will focus on existing and emerging reimbursement trends that are impacting health care organizations. Prerequisites: HSM-613 and HSM-614. Offered: fall. Retake Counts for Credit: No. Credit(s): 4

**HSM - 648 Health Law and Ethics for Health Care Managers**

This course is designed to introduce students to the legal, regulatory and ethical landscape applicable to the health care industry. The topics include a variety of legal and ethical issues that are relevant to the practice of health care administration, including regulatory and business law, fraud and abuse, corporate governance and organizational liability. Students will also consider the ethical issues underlying the fundamental conflicts and decisions faced by health care managers, including identifying stakeholders, defining ethical conflicts, proposing multiple courses of action as well as the possible costs and benefits of each. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**HSM - 652 Health Policy**

HSM 652 introduces students to the public policy and political environments that influence and shape the manner in which health care is obtained and delivered in the United States. More specifically, this course will examine the organization and financing of health care, politics and the influence of Medicare and Medicaid policies through the lens of contemporary health policy issues. In addition to conceptual discussion, the course includes a variety of techniques to analyze and evaluate health policy decisions and their implications on health care organizations. Prerequisite: HSM-606. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 656 Master's Project I**

The overall goal of this course is to integrate quantitative and/or qualitative methods and health care management knowledge to address a problem that is important to health care delivery, management or policy. In this course, students will design and conduct an applied project (research, operational improvement, strategic planning, financial analysis, among others) that results in a high quality, compelling management report and two professional oral presentations to key stakeholders. The key components of this course include integrating and synthesizing information from multiple sources; developing an appropriate problem/research question; developing an appropriate analysis plan; integrating rigorous analytic methods with data management skills to analyze data; and interpreting quantitative or qualitative results in light of the existing literature, domain knowledge and best practices to provide new insight for health care management or policy. During semester II, students execute the proposed study by requesting the necessary data, analyzing the data, interpreting the results, implementation of recommendations as required and writing the final Master's project report. Student will make a formal oral presentation of the findings to course instructors, other members of the faculty, student body and other interested persons during a special session during the spring semester and will submit a final written report to the course instructors. Prerequisites: HSM-606, HSM-607, HSM-608, HSM-610, HSM-613, HSM-614, HSM-616, HSM-628 and HSM-636. Complete HSM-632 or CHS-601. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 3

**HSM - 660 Master's Project II**

The overall goal of this course is to integrate quantitative and/or qualitative methods and health care management knowledge to address a problem that is important to health care delivery, management or policy. In this course, students will design and conduct an applied project (research, operational improvement, strategic planning, financial analysis, among others) that results in a high quality, compelling management report and two professional oral presentations to key stakeholders. The key components of this course include integrating and synthesizing information from multiple sources; developing an appropriate problem/research question; developing an appropriate analysis plan; integrating rigorous analytic methods with data management skills to analyze data; and interpreting quantitative or qualitative results in light of the existing literature, domain knowledge and best practices to provide new insight for health care management or policy. During semester II, students execute the proposed study by requesting the necessary data, analyzing the data, interpreting the results, implementation of recommendations as required and writing the final Master's project report. Student will make a formal oral presentation of the findings to course instructors, other members of the faculty, student body and other interested persons during a special session during the spring semester and will submit a final written report to the course instructors. Prerequisites: HSM-606, HSM-608, HSM-610, HSM-616, HSM-628, HSM-636 and HSM-656. Take either HSM-632 or CHS-601. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 2

**HSM - 664 Leadership in the Changing Health System**

The primary goal of this class is to enhance students' effectiveness as health care leaders by expanding their capabilities in organizational analysis and leadership generally and within the evolving health ecosystem specifically. The course begins by helping students develop a solid conceptual understanding of organizational processes from a socio-technical perspective and gain experience in using this understanding to plan successful control systems and change efforts for individuals, teams and organizations. The course places particular emphasis on developing student skills in observation and reflection on individual behavior, group processes and systems. The course draws on organizational and behavioral theory, but emphasizes application through team-based learning, experiential exercises and reflection. The course concludes with an emphasis on personal leadership and lifelong learning, with a focus on helping students enhance their self-awareness concerning strengths and development needs as they relate to their career aspirations. Prerequisite: HSM-608. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 3

**HSM - 668 Managerial Epidemiology**

This course emphasizes managerial epidemiologic principles that health care managers use to inform strategic initiatives and to achieve optimal organizational performance. Topics include basic epidemiological principles to understand disease, descriptive epidemiology, research designs, cost effectiveness analysis, community needs assessment, program planning and program evaluation. Prerequisite: HSM-632 or CHS-601. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 672 Capstone: Strategic Management of Health Care Organizations**

This course provides students with opportunities to apply the fundamentals of strategic planning and marketing, economics, finance, information system and operations acquired in previous courses in the HSM curriculum to practical problems and decisions faced by health care organizations. Students apply techniques of situational assessment, data analysis, strategy development and problem solving. As the capstone course for the HSM program, students are encouraged to integrate and refine their knowledge from all sources of learning in the HSM program to apply to business case studies. They conduct strategic analyses and develop and present strategic recommendations consistent with the mission, vision and values of an organization under the guidance of a teaching team of senior health care managers. The result is an improved ability to think critically, identify strategic challenges, complete strategic analyses for different business problems and communicate clearly. Prerequisites: HSM-616, HSM-628, HSM-636 and HSM-640. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 3

**HSM - 688A Topics in Health Systems Management: Master's Project III: Writing for Publication**

This course is intended for the graduate student who is completing a master's project and is ready to prepare a manuscript for publication based on their original research. The course will allow the student to learn general guidelines about writing for publication and making decisions about selecting appropriate publication vehicles. The design of this course provides a roadmap for preparing and submitting a manuscript for scholarly publication. Pre or Corequisites: HSM-656 and HSM-660. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 688B Topics in Health Systems Management: Case Competition**

The overall goal of this course is to apply the information learned from previous and current coursework, as well as substantive case research, to address a problem that is important to health care management and delivery. In this course, students will develop a set of high quality, compelling recommendations aimed toward senior-level stakeholders that will be presented in the form of an oral presentation to Rush faculty and senior leadership and at a nationally sponsored case competition (e.g., National Association of Health Services Executives and the University of Alabama

at Birmingham, among others). As students prepare for the case competition, they will identify and apply complex concepts to develop recommendations in response to the case study through online research, literature reviews and interviews with clinical and practitioner faculty. In advance of the case competition, students will also present at least two professional oral presentations to Health Systems Management faculty and Rush staff. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 688C Topics in Health Systems Management: Student Fieldwork Experience**

The overall goal of this course is to apply the information learned from previous and current coursework, as well as substantive case research, to address a problem that is important to health care management and delivery. The focus of the fieldwork project is the development of an evidence-based plan to improve health care outcomes for a patient/population cohort. In this course, students will develop a set of high-quality, compelling recommendations aimed toward senior-level stakeholders that will be presented in the form of an oral presentation to the field study project sponsor as well as Rush faculty and senior leadership. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 688D Topics in Health Systems Management: Applications of Human-Centered Design to Planetary Health and Sustainability**

This hands-on, interdisciplinary lab engages teams of students in the exploration and construction of sustainability and planetary health solutions suitable for context/community-specific needs and constraints. Teams will work with project sponsors and stakeholders to identify barriers and enablers to the implementation of more environmentally-friendly approaches to work and other human activity. Students will learn methods from the fields of human-centered design and systems planning to guide their development process. Students will emerge with generalizable frameworks and methods for assessing the role of context in solution utilization and in development of sustainability solutions. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 688E Topics in Health Systems Management: Special Topics**

The course has been developed to accommodate the diverse educational needs of our students. The course will provide exposure to various emerging topics in health care and prepare future leaders to manage and mitigate rising health care challenges. Topics in Health Systems Management provides students the opportunity to further develop their health care leadership knowledge, skills and attitudes. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 688F Topics in Health Systems Management: Managing Diversity**

The course is designed to provide an understanding of diversity leadership issues, including concepts of identity (race, ethnicity, gender and sexual orientation), cultural competence, unconscious bias, equity, inclusion and social justice. Students will discuss, analyze and apply strategies for understanding themselves, managing others and teams and serving diverse patients, families and communities. The focus will be on growing, managing and supporting an increasingly diverse workforce, improving team and organizational effectiveness and reducing disparities in health access and outcomes due to structural, institutional and individual barriers. The course will explore the theory and practice of diversity leadership through reflection, readings, experiential exercises, small group and class discussions and research. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 688G Topics in Health Systems Management: Health Equity and New Models of Care**

This course aims to introduce students to various aspects of population and community health, more specifically the concepts of patient-centered care, social and structural determinants of health, health disparities and health equity, payment models, care coordination, new models of care and community partnerships and anchor mission strategies to improve health. Students will develop strong background knowledge and understanding of the ever-changing health care landscape and why new models of care are being developed and/or existing ones change. The course will help students better understand the history of fragmented care and importance of interprofessional care coordination. Students will hear from various population and community health experts at Rush, as well as the greater Chicagoland community. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 688H Topics in Health Systems Management: Move the Crowd: Five Strategies for Authentic Community Engagement**

The best planning projects and public policies succeed when the communities they seek to help are engaged in shaping them. This course explores ways to create active, positive participation in different settings. We examine the goals and practice of community engagement, from theory and history to methods and techniques. Using case studies of participation processes, we will review and apply five strategies for outlining best practices for authentic community engagement locally, nationally and internationally. All readings include scholarly articles, web sources and media coverage of the case studies. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 688I Topics in Health Systems Management: Practice Management**

As the health care landscape continues to evolve, it is essential that today's health care leader can manage and grow medical practices. This course will focus on equipping students with a fundamental understanding of the complexities of ambulatory care, including patient care workflows, patient access, resource utilization, legal and compliance guidelines, technology integration, provider and staff recruitment and engagement, site of service differences, principles of reimbursement and revenue cycle and the patient experience. Students will be given insight into medical practice operations through immersive and didactic learning and will participate in a series of analytic exercises and guest lectures to better recognize the significance of various influences on practice success and growth. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 688J Topics in Health Systems Management: Academic Medicine Administration**

This course will utilize practical and experiential content, which will focus on equipping students with the fundamental technical/analytical skills and explore the required people and execution skills that are necessary to help deliver mission critical results within the matrix of organizations with exceptionally complicated financial structures. Some of the topics covered in the course may include partnering with clinical operations; business development, benchmarking and strategic planning; recruiting, retaining and supporting clinical faculty; navigating shared services groups, interfacing with system finance; the dyad partnership with chairs/chiefs; research structure/staffing/funds flow; supporting graduate medical education (medical students, residents, fellows, etc.) among others. Students will contribute to highly interactive, immersive and didactic learning. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 688K Topics in Health Systems Management: Consulting**

This course is designed to introduce the skills/toolkit recommended to be successful in a standard health care consulting model. We will be introducing and reviewing tools that are also transferable into becoming a great manager and have applicability throughout the health care industry. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 688L Topics in Health Systems Management: Introduction to Human-Centered Design**

This course will explore the human-centered design (HCD) methodology, mindset and methods. At its core, HCD seeks to understand human values, beliefs and motivations of those whom we serve in order to create optimal value for them. HCD embraces creativity, co-creation and rapid iteration to solve a variety of problems, and we will use it to explore its power in navigating complex or ambiguous health care problems. The course will explore current practices in HCD while helping students develop a working knowledge of tools and frameworks within the field so that they can help approach problems differently and generate innovative ideas. Through a workshop-style approach with light lecturing, we will explore and practice HCD methods such as problem framing, qualitative user research (e.g., interviewing), analysis, synthesis, ideation, prototyping and pitching. While this field shares similarities to other problem-solving methodologies (e.g. Lean, Six-Sigma), it differentiates itself in terms of the lens it uses when framing problems, the specific tools used, its universal application to different contexts and focusing on the development of designer's mindsets, or thinking like a designer at all times, that will lead to an ability to solve problems without relying on a specific sequence of steps. Individually and in small teams, students will experience the entire human-centered design journey while also diving deeply into specific mindsets and methods. Workshop-style classroom activities will push students' thinking and provide a new perspective on health care, analogous industries and opportunities to tackle problems differently than they have been addressed historically. Classroom time and in-between class time will be utilized to learn new material, discuss assignments and advance the overall project. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 688M Topics in Health Systems Management: Lean Six Sigma in Health Care**

Students will work in teams of three to six. Each team will participate in observations and/or interviews in select areas

of Rush University Medical Center. Projects will be selected based on clinical importance and management implications. Students will develop an understanding of the problem, conduct an assessment (using data, interviews, observations and a limited literature review) and make recommendations. Class time will be used partially for lectures pertaining to use of performance improvement tools for report out from students on progress to date. Faculty advisers will provide coaching and guidance but will not lead observations and report-outs of findings. This experience is expected to simulate what students will encounter in real-life jobs or as consultants. Prerequisite: HSM-636. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 688N Topics in Health Systems Management: Supply Chain Management in Health Care**

This course provides an overview and introduction into the health care supply chain. It will orient students to a wide range of supply chain topics and issues, including impact of supply costs on overall health care costs, patient care supply procurement and contracting/negotiations, quality and value analysis, inventory and distribution and supply chain information technology. The course uses a combination of learning methods, including group/class discussion, multimedia and case studies. The case studies will be used as part of a student/group presentation that allows the student an opportunity to employ best practices and strategies learned in the course. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 688O Topics in Health Systems Management: Revenue Cycle Management**

The course will provide students with the fundamental understanding of revenue cycle management (RCM) needed in health care leadership. The course includes an overview of RCM functions, reimbursement models, electronic health record (EHR), billing and coding software, reporting requirements, key performance indicators, in-house and outsourced operational models' services, audit and compliance functions, strategic planning for RCM and emerging topics in RCM, among others. Prerequisites: HSM-613 and HSM-614. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**HSM - 688Y Topics in Health Systems Management: Special Topics I**

The course has been developed to accommodate the diverse educational needs of our students. The course will provide exposure to various emerging topics in health care and prepare future leaders to manage and mitigate rising health care challenges. Topics in Health Systems Management I provides students the opportunity to further develop their health care leadership knowledge, skills and attitudes. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**HSM - 688Z Topics in Health Systems Management: Special Topics II**

The course has been developed to accommodate the diverse educational needs of our students. The course will provide exposure to various emerging topics in health care and prepare future leaders to manage and mitigate rising health care challenges. Topics in Health Systems Management II provides students the opportunity to further develop their health care leadership knowledge, skills and attitudes. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**HSM - 900 Independent Study**

Specialized course work designed around the needs of an individual student. Retake Counts for Credit: Yes. Credit(s): 1-12

**HSM - 999 Continuous Enrollment**

The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate-level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Retake Counts for Credit: No. Credit(s): 1

**IPE - 502 Interprofessional Person Centered Teams**

This course will introduce students to the four Interprofessional Educational and Collaborative Practice (IPEC) domains: Values/Ethics, Roles/Responsibilities, Teams/Teamwork and Communication. Students will use experiential team-based learning to apply knowledge, skills and values of the IPEC competencies. Offered: fall and spring. Retake Counts for Credit: Yes. Credit(s): 0

**IS - 305 Intro to Imaging Sciences**

This course focuses on specialized imaging sciences modalities. It includes concepts and theories of equipment operations and their integration for medical diagnosis. The student will be introduced to the basics of the available advanced imaging modalities used in the assessment of anatomy and diagnosis of disease processes. This course will provide instruction in the Imaging Sciences program curricula to meet the needs of students for entry level employment by providing an overview diagnostic imaging, the technological education and clinical practice. The student will be introduced to the basics of advanced imaging modalities used in the assessment of anatomy and diagnosis of disease processes. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**IS - 307 Introduction to Patient Care**

An overview of the historical development of radiography and basic radiation protection. An introduction to the many facets of allied health professions; including types of health care professionals, medical ethics, medical terminology, patient assessment, infection control procedures, emergency and safety procedures, communication and patient interaction skills, promoting a safe clinical environment and basic pharmacology. Topics also include patient's right to privacy, confidentiality, documentation, team building, cultural issues, age related concerns and death and dying. This course is intended to assist students in the understanding of the environment encountered in clinical agencies. This course infers from evidence-based medicine to promote the application of critical thinking skills and clinical judgment. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**IS - 310 Sectional Anatomy and Pathology**

Radiology has been developing dramatically during the past few years. With enhancements in magnetic resonance imaging (MRI), the role of the RT has also been changing. Skills in cross-sectional anatomy are important to help the MRI technologist to identify the anatomy being imaged and to communicate effectively with the radiologist and physicians. This class will provide you with the opportunity to expand your knowledge of body cross-sectional anatomy and its appearance in CT and MRI images. This course provides an in-depth application of cross sectional anatomy for medical imaging. Emphasizes the characteristic manifestations, pattern recognition and image assessment of pathologies observed in medical images. It includes a brief review of normal anatomy and structure, followed by general overview descriptions of specific pathologic processes. Students will use textbooks and Internet resources to learn the cross-sectional anatomy, basic characteristics, clinical features and diagnostic tools including medical imaging procedures. Offered: fall. Retake Counts for Credit: No. Credit(s): 5

**IS - 314 Pathophysiology**

This course provides an in-depth application of the concepts of pathophysiology for the assessment and management of medical imaging patients. Emphasizes the characteristic manifestations, pattern recognition and image assessment of pathologies observed in medical images. This course investigates general pathology and organ system pathology. It includes a brief review of normal structure and function, followed by more in-depth descriptions of specific pathologic processes. Students will use textbooks and Internet resources to learn the basic characteristics, etiology, pathogenesis, clinical features and diagnostic tools, including medical imaging procedures, prognoses and therapies for each of the specific pathologies. Students will participate in online discussions and create interactive pathology presentations in this course. Offered: fall. Retake Counts for Credit: No. Credit(s): 4

**IS - 318 Patient Assessment**

Patient evaluation and implementation of evidence-based care plans will be described. Evidence based practice and critical diagnostic thinking are reviewed and applied to the review of the medical record, patient interview, physical assessment and evaluation of diagnostic studies. Assessment of oxygenation and arterial blood gases are reviewed. Laboratory studies, imaging studies and ECG monitoring and interpretation are discussed. Pulmonary function testing, diagnostic bronchoscopy and other diagnostic studies are also described. The student will integrate assessment findings in the development and evaluation of care plans for specific disease states and conditions. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**IS - 325 Pharmacology and Radiologic Contrast Agents**

This course provides a study of pharmacodynamics, pharmacokinetics, medication administration, drug categories and implications in patient care. Emphasizes pharmaceuticals frequently used in medical imaging. This course is intended to provide imaging sciences professionals the knowledge in all aspects of basic pharmacology. The purpose is to educate radiologic personnel in basic pharmacology principles, ensuring quality patient care. Contrast media is used by most modalities of diagnostic imaging. This course is designed to provide an in-depth understanding different contrast medias used in diagnostic imaging. A brief historical development and evolution of contrast media is reviewed. Topics include uses, prevention of acute reactions, contrast induced nephropathy, renal adverse reaction and

more. Students will follow weekly modules and or use textbook and internet resources to learn more about contrast media use, safety issues and guideline. Students will participate online with others. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**IS - 328 Vascular Interventional Technology**
This didactic course includes instruction over: procedural angiography, including imaging of the heart, pulmonary vascular system, thoracic aorta, central venous access procedures, cardiac-interventional, vascular-interventional and nonvascular-interventional procedures. Each student will be working in either vascular-interventional radiology or interventional cardiology. The course encourages students to combine theoretical knowledge with the practical experience they acquire while working in these clinical areas. Learning activities for this course review and build upon pre-existing knowledge, such as human anatomy, physiology, pathology, patient care in radiography and radiation protection Offered: fall. Retake Counts for Credit: No. Credit(s): 6

**IS - 331 Education**
This course will provide students with an introduction to basic principles and techniques used in health care education. This course will provide students with the knowledge needed by health professional who interact with other health professionals and/or patients in educational settings, including professional development, higher education, patient education or community education. Case studies will be presented. Topics include health care professional's role in education, patient education, in-service education, course design, curriculum development and models, objectives and goals, lesson plan development, learning activities, use of media, teaching methods, development of presentations, testing and evaluation. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 3

**IS - 336 MRI Physics**
This course will provide the student with an introduction to the field of MRI. Topics will include an overview of MRI history and development, fundamental principles of Magnetism, Safety in MRI, equipment, terminology and coils. This course will explain in depth concepts of MRI physics. Topics will include, Basic Principles of MRI, Image weighting and contrast, tissue characteristics, signal production, image formation, image acquisition and image production, pulse sequences, flow phenomena, artifacts in MRI, scanning parameters, Contrast media administration, along with functional imaging techniques. Offered: spring. Retake Counts for Credit: No. Credit(s): 5

**IS - 337 Computed Tomography Physics**
This course will provide the student with an in-depth understanding of the physical and instrumentation involved in concepts of computed tomography. Computed tomography is a specialized modality of Diagnostic Imaging section. The historical development and evolution of computed tomography is reviewed. Physics topics include x-radiation in forming the CT image, CT beam attenuation, linear attenuation coefficients, tissue characteristics and Hounsfield number application. Data acquisition and manipulation techniques, image reconstruction algorithms will be explained. This course will also provide students with fundamental physical principles, quality control and instrumentation needed. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**IS - 338 Advanced Radiation Biology**
This course is directed to computed tomography (CT) and interventional radiography students enrolled in the Imaging Sciences program. Content will include review and continuation of basic radiobiology involved with radiography and advanced modalities. It will address the radiobiological/biophysical events at the cellular and subcellular levels. Analysis of factors influencing radiation response of cells and tissues will be covered. Construction and evaluation of radiobiological data on graphs, charts and survival curves will be included. Relationships of time, dose, fractionation, volume and site as they apply to tissue response will be evaluated. The principles of radiation response modifiers, hyperthermia, chemotherapy and their influence on biologic effects in combination with radiation will be examined. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**IS - 340 MRI Safety**
This course provides an in-depth application of the health and safety concerns of MRI technology. Both theoretical and practical information will be covered. MRI physics bioeffects of static, gradient and radiofrequency electromagnetic fields will be covered as well as the risks associated with acoustic noise. Use of MRI during pregnancy, the design of an MRI facility to support safety, the procedures to screen patients and other individuals, and the management of patients with claustrophobia, anxiety or emotional distress will be addressed. Review of the safety of MRI contrast agents, use of ferromagnetic detection systems, techniques for physiological monitoring, unique safety needs of interventional MRI centers and administration of sedation and anesthesia during MRI will be covered. Proper management of patients with metallic implants and complex electronically activated devices, such as cardiac pacemakers and neuromodulation systems will be covered. MRI safety policies and procedures will be reviewed for hospitals/medical centers, outpatient facilities, children's hospitals and research facilities. Finally, MRI standards and guidelines will be addressed for the United States. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**IS - 400 Independent Study**
Independent study courses give students a unique opportunity to pursue a course of study not commonly included in the curriculum. If you are interested in pursuing an independent study, meet with the faculty member you want to work with to define the coursework and expectations. Offered: fall. Retake Counts for Credit: Yes. Credit(s): 1-12

**IS - 444 MRI Positioning/Protocols**
MRI is a specialized modality of the Diagnostic Imaging section. This course is designed to provide an understanding of proper protocols and positioning utilized to acquire appropriate imaging with patient history in mind concepts of magnetic resonance imaging. Anatomy and pathophysiology are reviewed for appropriate protocol and contrast usage. Protocol and positioning topics include basic overview of MRI physics, indications for procedure, preparation, orientation of MRI room, positioning and landmarks, patient history and assessment, types of contrast media and their usage, scan parameters for brain, spine, upper and lower extremity imaging, female and male pelvis, abdominal imaging, cardiac and breast imaging. MRI protocols vary from site to site and most often are dependent on radiologist's preference. Students will follow weekly modules and or use textbook and Internet resources to learn MRI protocols and positioning Offered: spring. Retake Counts for Credit: No. Credit(s): 4

**IS - 447P Clinical Practicum I**
Supervised clinical experience in the imaging track selected. This course is designed so the students gain the clinical experience needed to function in an active imaging sciences department and to document the needed clinical procedures. Each of the three clinical practicum will consist of 333.33 hours (total of 1,000 hours) in an assigned facility for supervised practice of acquired knowledge and skills. Review of medical imaging with an emphasis on problem solving and critical thinking in the imaging track selected. Offered: summer. Retake Counts for Credit: No. Credit(s): 6

**IS - 448 Clinical Seminar I**
This course builds on the previous learning related to imaging sciences. This course will allow the students to engage in self-directed study to prepare for the American Registry of Radiologic Technologist (ARRT) by completing registry review board modules. This course will provide the students the opportunity to integrate the theory and clinical practice in order to meet the complex needs of patients. ARRT registry review modules and case presentations will be completed. This course will provide a review of medical imaging with an emphasis on problem solving and critical thinking in the imaging track selected. The course is intended for senior students to prepare for the ARRT's credentialing exam. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**IS - 449 Clinical Seminar II**
This course builds on the previous learning related to imaging sciences. This course will allow the students to engage in self-directed study to prepare for the American Registry of Radiologic Technologist (ARRT) by completing registry review board modules. This course will provide the students the opportunity to integrate the theory and clinical practice in order to meet the complex needs of patients. ARRT registry review modules and case presentations will be completed. This course will provide a review of medical imaging with an emphasis on problem solving and critical thinking in the imaging track selected. The course is intended for senior students to prepare for the ARRT's credentialing exam. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**IS - 453 Computed Tomography Positioning and Protocols**
Computed Tomography is a specialized modality of Diagnostic Imaging section. This course is designed to provide an understanding of proper protocols and positioning utilized to acquire appropriate imaging with patient history in mind concepts of Computed Tomography. Anatomy and Pathophysiology is reviewed for appropriate protocol and contrast usage. Protocol and Positioning topics include basic overview of CT Physics, Patient communication and safety, Radiation dose, indications for procedure, preparation, orientation of CT room, positioning and landmarks, patient history and assessment, types of contrast media and their usage, scan parameters. Imaging protocols for brain, chest, abdomen, spine and musculoskeletal imaging will be covered in this course. CT protocols vary from site to site and most often are dependent on radiologist's preference. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**IS - 454 Health Care Ethics and Cultural Competence**
This course covers ethical issues that allied health professionals can expect to encounter during their education and career. It covers such areas of concern as professionalism, cultural differences, confidentiality, informed consent, responsible practice, handling mistakes, difficult cases and key legal aspects of these issues. The course will begin by helping the student understand the value of diversity in our society and allow the student to make self-examination of their own beliefs, values and biases. This will be followed by the dynamics involved when two cultures interact. Students will examine specific cultural characteristics as they apply to health care and propose ways of adapting diversity to the delivery of health care. The course will include an in-depth assessment of the Culturally and Linguistically Appropriate Services (CLAS) standards and cultural competency information available to health care organizations. Offered: spring. Retake Counts for Credit: No. Credit(s): 4

**IS - 457P Clinical Practicum II**
Supervised clinical experience in the imaging track selected. This course is designed so the student gains the clinical experience needed to function in an active imaging sciences department and to document the needed clinical procedures. Each clinical practicum requires 333.33 hours in an assigned facility for supervised practice of acquired knowledge and skills. This course will offer a review of medical imaging with an emphasis on problem solving and critical thinking in the imaging track selected. Offered: fall. Retake Counts for Credit: No. Credit(s): 6

**IS - 458 Leadership**
This special topics course is designed to provide a basic introduction to leadership by focusing on what it means to be a good leader. Emphasis in the course is on the practice of leadership. The course will examine topics such as the nature of leadership, recognizing leadership traits, developing leadership skills, creating a vision, setting the tone, listening to out-group members, handling conflict, overcoming obstacles and addressing ethics in leadership. Attention will be given to helping students to understand and improve their own leadership performance. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**IS - 463 Research and Statistical Methods**
An introduction to the methods of scientific research to include research design and statistical analysis. Critical review of the components of research reports will be performed to include definition of the problem, review of the literature, research design, data analysis and results. Offered: fall and summer. Retake Counts for Credit: No. Credit(s): 3

**IS - 467P Clinical Practicum III**
Supervised clinical experience in the imaging track selected. This course is designed so the students gain the clinical experience needed to function in an active imaging sciences department and to document the needed clinical procedures. Each of the three clinical practicums will consist of 333.33 hours (total of 1,000 hours) in an assigned facility for supervised practice of acquired knowledge and skills. Review of medical imaging with an emphasis on problem solving and critical thinking in the imaging track selected. Prerequisites: IS-447P and IS-457P. Offered: spring. Retake Counts for Credit: No. Credit(s): 6

**IS - 468 Clinical Seminar III**
This course builds on the previous learning related to imaging sciences. This course will allow the students to engage in self-directed study to prepare for the American Registry of Radiologic Technologist (ARRT) by completing registry review board modules. This course will provide the students the opportunity to integrate the theory and clinical practice in order to meet the complex needs of patients. ARRT registry review modules and case presentations will be completed. This course will provide a review of medical imaging with an emphasis on problem solving and critical thinking in the imaging track selected. The course is intended for senior students to prepare for the ARRT's credentialing exam. Prerequisites: IS-448 and IS-449. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**IS - 481P Clinical Specialty Practicum**
Supervised clinical experience in the imaging track selected. This course is designed so the student gains the clinical experience needed to function in an active imaging sciences department and to document the needed clinical procedures. The clinical specialty practicum will consist of 200 hours in an assigned facility for supervised practice of acquired knowledge and skills. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 6

**IS - 999 Continuous Enrollment**
The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are undergraduate-level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their undergraduate work. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**MED - EXM Medicine Exam Remediation**
Remediation of course examination. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 8

**MED - REM Medicine Clinical Remediation**
Remediation of clinical weeks. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 8

**MED - 7EI Internal Medicine Individualized Elective**
Students may receive credit for an individually arranged elective with a Rush faculty member. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter stating the student's activities, responsibilities, amount of supervision and specific dates of the rotation. The sponsoring faculty member must complete an evaluation of the student's performance at the conclusion of the elective. Students must submit a proposal to the Office of Clinical Curriculum for approval at least eight weeks before the rotation and must have written approval from the assistant dean of Clinical Education before beginning the rotation. Students may receive four weeks of credit for an individually arranged elective. Credit for a maximum of only one individually arranged elective will count toward graduation requirements. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 703 Core Clerkship: Internal Medicine**
This course introduces students to the study and skills of clinical medicine. Through the case study approach, students have the opportunity to evaluate and manage a variety of patients and their problems. In this manner, students can develop their skills in history taking and physical examination and will review pathophysiological principles in caring for patients. Students develop an understanding of relationships between disease states and patient hosts from the medical, social and emotional points of view. The ward team approach allows students the opportunity to actively work toward the goals of good patient care and the acquisition of a solid foundations of medicine. Students are expected to supplement their learning through a self-study program of learning objectives. This will provide the students with exposure to basic technical skills as well as a core set of topics in Internal Medicine. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 8

**MED - 710 Subinternship: Internal Medicine**
Students function at an advanced level, doing histories and physical examinations, diagnostic evaluations and initiation of appropriate therapy. There is close supervision by the staff of the Department of Internal Medicine. The course is primarily intended for students desiring additional clinical experience in internal medicine. The four-week subinternship rotation is taken during the fourth year. This clerkship will be scheduled during the elective lottery, which takes place in the spring of the M3 year. Prerequisites: MED-703, NEU-701, OBG-703, PED-701, PSY-701, RMD-701 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**MED - 711 Cardiovascular Medicine**
This course is the study of the diagnostic spectrum of cardiac evaluation, including bedside assessment, critical care cardiology, electrocardiography, electrophysiology, echocardiography, cardiac catheterization, coronary angiography, coronary care, interventional cardiology, preventive cardiology and exercise testing. Patient study is carried out under the direction of the clinical staff. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**MED - 712 Medical Intensive Care**
This course provides experience in the recognition and management of medical critical care issues. The student will learn about bedside hemodynamic monitoring, mechanical ventilators and point of care ultrasound (POCUS) to evaluate and manage critically ill patients. Patient care is carried out under the direction of the clinical staff, but the student will have the opportunity to take ownership of complex, critically ill patients. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 717 Palliative Care**
This two- or four-week elective course designed for fourth year medical students (and approved third years, who have completed their internal medicine clerkship) will provide a window into the work of a comprehensive palliative care team. The course will provide both a broad overview and a more nuanced look into specialty-level topics like pain and symptom management as well as directing goals of care conversations and delivering bad news. This will be accomplished primarily through assisting with the management of

inpatient palliative care consults, preparing patient presentations and written notes in the medical record. This will include hands-on, case-based experience with controlling symptoms and holding serious values-based discussions with patients and families. Additionally, students will participate in dedicated white board lectures with Palliative fellows and attending physicians, interprofessional conferences and daily work rounds. Pre or Corequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 721 Endocrinology/Metabolism**

Endocrine and metabolic disorders are studied under the direction of the clinical faculty. Regular didactic sessions, departmental conferences and seminars supplement clinical work, which involves both outpatients and inpatients. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**MED - 724 Coronary Care Unit**

This course is designed for students desiring advanced exposure to patients with acute cardiovascular illness. During this rotation the student functions at the sub-intern level and will be expected to admit anywhere from one to three patients per day. Although night call is not required, it is expected that the student remain until their work is fully completed and sign-out given to the intern on-call. The student then will give formal presentations of patient histories and physicals at morning rounds. The student is available for admitting and rounding six days out of seven. The student is also exposed to the full spectrum of bedside procedures performed in the coronary care unit, including pulmonary artery catheterization, indwelling arterial line and venous central catheter. Exposure to placement of transvenous pacemakers and intraaortic balloon pumps will also be part of the CCU experience. It is anticipated that the experience in the coronary care unit be rigorous. At the conclusion of the rotation the student should be able to understand the diagnosis and treatment of the full spectrum of cardiovascular illnesses, including ischemic heart disease, advanced heart failure, shock, hypertensive heart disease, valvular heart disease, congenital heart disease and pericardial disease. The student gains valuable experience in the diagnosis and treatment of rhythm disturbances and in 12-lead electrocardiogram interpretation. The student is responsible for all aspects of patient care under the supervision of the physician team, which includes a full-time cardiovascular attending physician, a cardiovascular fellow, as well as internal medicine residents and interns. It is also expected that the student participates in didactic conferences and attend all the cardiology conferences throughout their rotation. This clerkship is recommended for students intending to enter a career in internal medicine, the internal medicine subspecialties or critical care medicine. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 726 Nephrology**

In this course, the clinical diagnosis and management of patients with acute and chronic renal disease as well as various fluid, acid-base and electrolyte abnormalities are studied. In addition, the course is directed toward the proper interpretation of pathophysiologic findings and the practical clinical management of nephrotic syndrome, diabetic nephropathy, glomerulonephritis and patients with chronic renal failure and end-stage renal disease. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 732 Digestive Diseases**

Students rotate on the gastroenterology and/or hepatology inpatient services, including liver transplant. Students actively participate in consults, bedside rounds and didactic lectures. Students also attend conferences including weekly Gastroenterology ground rounds, weekly Liver Transplant Conference and Monthly Journal club. An outpatient experience in Gastroenterology and/or Hepatology is available if desired. There is also an optional opportunity for students wishing to participate in clinical research in digestive disease to incept projects. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 736 Hematology**

This course provides an intensive exposure to clinical hematology. Students meet with residents, fellows and a teaching-attending hematologist daily for presentation and discussion of hospitalized hematology patients. Students work-up patients, present them to the attending and participate in patient care with medical residents. Blood and bone marrow slides on the service patients are reviewed daily with attending hematologists using a teaching (multiheaded) microscope. Bedside rounds follow the daily presentation of cases. On Mondays, a multidisciplinary lymphoma conference presents diagnostic and therapeutic aspects of the malignant lymphomas. On Thursdays, a clinical conference is held in which a patient is presented and discussed in depth by students, residents and faculty. A recent addition to this elective is a daily self-learning session with a faculty member on a core topic of hematology. Twenty of these topics cover the spectrum of hematologic diseases. All conferences held by the Section of Hematology and Stem Cell Transplantation is available to the students on an optional basis. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 746 Infectious Disease**

In this course, students are exposed to a wide variety of acute and chronic infectious disease problems, with emphasis in the inpatient setting, emphasizing diagnostic and therapeutic approaches. Teaching is conducted in a case-study format where students see new patients and present them to the attending on consultation rounds, where they are encouraged to follow up on patients during their hospital stay. Depending on length of rotation, students may spend time at Rush University Medical Center and John H. Stroger, Jr. Hospital of Cook County. Students will attend a weekly, two-hour infectious disease conference at the medical center and a one-hour infectious disease conference at John H. Stroger, Jr. Hospital of Cook County where they may present cases. The rotation includes several didactic activities, such as weekly infectious diseases conference (case-based presentations), weekly microbiology rounds and a longitudinal curriculum of 30-minute lectures covering common infectious diseases syndromes. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 747 Global and Community Health**

In this course, students spend between two and four weeks in a specific community defined by the student. The purpose of this elective is to provide students the opportunity to read and discuss in the area of primary health care, as defined by the World Health Organization (1978). Students obtain a framework for addressing common diseases in an underserved community setting from a clinical, epidemiologic and public health perspective. In addition to the didactic portion of the course the student spends two to four weeks in an underserved community developing country setting under the supervision of Rush faculty. The course will focus on the social determinants of population health, including the impact of environment, poverty, social structure and culture on health status and health care. The course will include the epidemiology, diagnosis, treatment, control and prevention of selected diseases of importance in underserved settings. Students use this knowledge to develop a plan for working in disadvantaged communities providing primary health care, either locally or internationally. Students must have a faculty sponsor at Rush as well as a physician at the site responsible for supervision of the student's work. Students must complete the on-line curriculum and reading self-study prerequisites prior to departure for their work in the community and must submit a completed project within one week of the completion of the elective. Prerequisites: MED-703, NEU-701, OBG-703, PED-701, PSY-701, RMD-701 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 751 Rheumatology**

In this course, students participate in all activities of the Section of Rheumatology, including patient care in clinics, inpatient consultations, conferences and didactic sessions. A wide variety of musculoskeletal conditions and connective tissue diseases are seen. Objectives include performance of musculoskeletal exam, synovial fluid analysis, arthrocentesis, therapeutic injection of joints and other structures, ability to formulate differential diagnosis of rheumatic conditions and formulate long-term management programs. An interdisciplinary approach relies on contributions of immunology, orthopedics, diagnostic radiology, physiotherapy and occupational therapy. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 755 Quality and Safety in the Hospital**

Quality and Safety in the Hospital will focus on the importance of QI and patient safety in clinical care, learning the tools to improve system processes in the hospital, understanding the metrics that are involved in hospital quality and safety ratings, the importance of physician leadership in health care and reflecting how this will impact personal practice into residency and beyond. The elective will be a virtual course that will include obtaining an IHI basic certificate and meeting with the course director virtually for daily discussion/teaching sessions. There will be self-study around QI practice and implementation, reflection pieces and leadership. The elective will consist of virtual modules, didactic/discussion sessions and attending virtual institutional conferences/meetings around QIPS. These will include the institutional daily safety briefing. Students will be given a solid foundation that will prepare for the transition to residency QI tracks. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 761 Medical Oncology**
Patients seen by the Section of Medical Oncology provide an ample and varied spectrum of oncological problems. Students study selected patients under the direction of members of the section. Various therapeutic approaches and complications occurring in the course of the disease are discussed. The program stresses the importance of the combined interdisciplinary approach using the resources of the Departments of Surgery and Therapeutic Radiology, as well as those of Pathology and Nuclear Medicine. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 771 Pulmonary Medicine**
The course gives the student an exposure to the diagnosis and management of patients with a wide variety of pulmonary disorders. The rotation concentrates on inpatients at Rush University Medical Center. The essentials of pulmonary physiology, the use and interpretation of pulmonary function testing, chest imaging interpretation, lung ultrasound and mechanical ventilation will be reviewed. The course also gives the student an introduction to pulmonary procedures including thoracentesis, chest tube placement and bronchoscopy. Prerequisites: MED-703 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 777 Allergy/Immunology**
This course teaches the clinical approach to the problems of allergy, other immune-mediated diseases and immunodeficiency in children and adults. Diagnosis and treatment of commonly encountered IgE-mediated diseases (allergic rhinitis, asthma, eczema and urticaria), as well as connective tissue diseases and immunodeficiency syndromes are explained. Students are responsible for following medicine as well as pediatric inpatient consults at Rush University Medical Center and John H. Stroger, Jr. Hospital of Cook County and report to the attending physician-on-service for daily rounds. Allergy/immunology outpatient care is demonstrated at Fantus Clinic (part of the Stroger Hospital Ambulatory Care Network) as well as the Allergy/Immunology Office at Rush University Medical Center. Students also learn about skin testing techniques, spirometry and immunological tests performed by the Rush Medical Laboratory. Teaching (basic science or clinical lecture, journal club, research and chart review) conferences are held at Rush on Friday mornings. The attending physician-on-service and/or fellow-on-service also teach on daily rounds. A pretest and final quiz are given to measure achievement as a basis for evaluation. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**MED - 781 Research in Medicine**
Students will complete an individual research activity in collaboration with faculty at Rush. The student must develop a proposal that includes the student's activities, responsibilities, amount of supervision and expected time commitment. The proposal must be signed by the faculty supervisor and submitted to Office of Integrated Medical Education for approval at least four weeks before the start of term. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**MED - 785 Community-Based Intensive Care**
This community-based intensive care experience is offered at Rush Copley Medical Center in Aurora. Students learn to recognize critically ill patients' presentation and natural history, identify proper treatment of critical illness and become familiar with typical critical care procedures. They also learn the process of multidisciplinary rounds in a community ICU. Prerequisites: MED-703 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 790 Advanced Concepts in Palliative Care**
This is a two-week online compressed course designed for graduate students to build a foundation in palliative care principles that may be applied directly to patient care. The focus of the course is to gain familiarity with an interdisciplinary approach and establish primary palliative care expertise in caring for patients with life-limiting illness across the disease continuum. Students learn the history and driving tenets of palliative care, discover the core skills in interprofessional teamwork and expand their understanding of complex pain and symptom management, serious illness communication, prognostication and the care of the dying patient. Graduate students leave with skills that have been demonstrated to improve patient safety, patient and provider satisfaction and decrease health care utilization. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2

**MED - 795 Geriatric Medicine**
This course draws upon a number of resources within Rush University System for Health, including Rush University Senior Care and its practice sites and Johnston R. Bowman Health Center. Students learn about models of care for older adults throughout the continuum of medical care. Under the supervision of the faculty of the section of Geriatric Medicine and Palliative Care, students participate as part of an interdisciplinary team in evaluation and assessment of the medical, psychiatric and social needs of older adults. The curriculum includes exposure to topics in medical ethics, medical economics, and medical and legal aspects of end-of-life care. Weekly didactic sessions presented by section faculty complement clinical experiences. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 799 Combined Internal Medicine/Pediatrics**
This course is based at Lifetime Medical Associates, the continuity practice of the Rush combined Internal Medicine/Pediatrics residency program. This integrated resident-faculty outpatient practice focuses on family-oriented primary care. Students spend the day working with common outpatient problems in patients of all ages. In addition, students gain experience in office management, insurance issues, quality improvement, urgent care and other areas important to general practice. Because this course is essentially an outpatient subinternship, we request that students advise us as soon as possible of a need to change dates or cancel enrollment. NOTE: Visiting students may only enroll in four-week rotations with the approval of the course director; they are not eligible for two-week rotations. Prerequisites: MED-703, OBG-703 and PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 812 Medical Intensive Care**
This course provides experience in the recognition and management of medical critical care issues, particularly the use of bedside hemodynamic monitoring, use of mechanical ventilators and management of cardiovascular, pulmonary, renal and endocrine emergencies. Patient care is carried out under the direction of the clinical staff. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**MED - 815 Clinical Palliative Care**
In this course, students see patients referred to the palliative care service in the inpatient, outpatient and home setting. The service sees 50 patients/month in the inpatient setting; 10-15 patients/week in the outpatient clinic; and two to three patients/week at home. The student is involved in a selected number of these patients. Palliative Medicine fellows provide teaching to the residents and medical students rotating on the service both formally during didactic sessions, as well as serving as role models during direct patient care interactions and family meetings. Prerequisites: MED-703, NEU-701, OBG-703, PED-701, PSY-701, RMD-701 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2

**MED - 821 Endocrinology/Metabolism**
Endocrine and metabolic disorders are studied under the direction of the clinical faculty. Regular didactic sessions, departmental conferences and seminars supplement clinical work, which involves both outpatients and inpatients. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**MED - 826 Nephrology**
In this course, the clinical diagnosis and management of patients with acute and chronic renal disease as well as various fluid, acid-base and electrolyte abnormalities are studied. In addition, the course is directed toward the proper interpretation of pathophysiologic findings and the practical clinical management of nephrotic syndrome, diabetic nephropathy, glomerulonephritis and patients with chronic renal failure and end-stage renal disease. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**MED - 828 Cardiology**
This course consists of two weeks of CCU and two weeks of inpatient cardiology consults or four weeks of CCU. Each student can choose which of the two formats they prefer. Students see patients on their own and present/discuss them with the team. They attend cardiology rounds and conferences. Students improve their knowledge about the presentation and treatment of common cardiac diseases, including chest pain, acute coronary syndrome, arrhythmias. Students improve their skills in the cardiac examination and in the interpretation of EKGs. There is a daily half-hour teaching conference for the team. Students have the option of staying for an additional hour long conference geared toward the fellows. Students are invited to attend any conferences for the department of medicine residents (noon conferences three days per week). Evaluation is based on the student's performance on rounds. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**MED - 832 Digestive Diseases**
This course is divided into two two-week sessions: Gastroenterology and Hepatology. Students rotate on the gastroenterology and hepatology inpatient services, including liver transplant. Students actively participate in consults, didactic lectures and bedside rounds. Students attend all conferences, including Gastroenterology Grand Rounds,

Liver Transplant Conference and Journal Club. An outpatient experience in both gastroenterology and hepatology is available once per week if desired. There is an optional opportunity for those students wishing to participate in clinical research in the area of digestive diseases to incept projects during this rotation. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**MED - 836 Hematology**

This course provides an intensive exposure to clinical hematology. Students meet with residents, fellows and a teaching-attending hematologist daily for presentation and discussion of hospitalized hematology patients. Students work-up patients, present them to the attending and participate in patient care with medical residents. Blood and bone marrow slides on the service patients are reviewed daily with attending hematologists using a teaching (multiheaded) microscope. Bedside rounds follow the daily presentation of cases. On Mondays, a multidisciplinary lymphoma conference presents diagnostic and therapeutic aspects of the malignant lymphomas. On Thursdays, a clinical conference is held in which a patient is presented and discussed in depth by students, residents and faculty. A recent addition to this elective is a daily self-learning session with a faculty member on a core topic of hematology. Twenty of these topics cover the spectrum of hematologic diseases. All conferences held by the Section of Hematology and Stem Cell Transplantation is available to the students on an optional basis. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**MED - 847 Externship: Infectious Disease**

As externs on the Infectious Disease inpatient ward, students act as daily care providers for newly admitted patients with HIV/AIDS, most of whom have opportunistic infectious and/or malignancies requiring in-hospital diagnostic evaluation and therapy. Students participate in daily multidisciplinary team rounds that include an Infectious Disease attending, Medicine house staff, clinical pharmacist and physician assistants (PAs). Students also may spend one-half day per week in the outpatient HIV clinic under the supervision of an Infectious Disease physician. Didactic sessions include a weekly one-hour Infectious Disease conference conducted at the Core Center, a two-hour clinical Infectious Disease conference held at Rush and 12 lectures on HIV-related topics. Exposure to the microbiology lab takes place during which the following topics are reviewed: HIV Testing, Blood Cultures, Mycobacterial Testing, Susceptibilities. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**MED - 848 HIV Primary Outpatient Care**

In this course students learn about HIV primary care, including HIV counseling and testing; prevention, diagnosis and treatment of opportunistic infections; and antiretroviral therapy. Experiences will include adult, adolescent and pediatric HIV clinics and brief exposure to a walk-in sexually transmitted disease clinic, and specialists in HIV dental, renal, cancer, hematology and neurology specialty care, as well as mental health, social work and chemical dependency support services. Didactic sessions include a one-hour weekly Infectious Diseases conference at the CORE Center and a two-hour clinical conference at Rush. The CORE Center provides comprehensive outpatient Infectious Disease services. Founded by Rush and the County of Cook, the Center is operated by the Cook County Bureau of Health Services. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**MED - 850 Short Stay Telemetry**

In this course students see patients on their own and go over their presentations with senior residents and attending staff. CXRs and EKGs are also reviewed with the attending staff. Students are exposed to the presentation and management of patients with chest pains, acute coronary syndromes as well as congestive heart failure and various arrhythmias. All patient orders will be supervised and co-signed by the house staff. Students usually see two patients daily and follow their patients for the approximately 48-hour stay while they are on the observation unit. Students will be based on the telemetry units Monday to Friday between the hours of 8 a.m. and 6 p.m. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**MED - 851 Rheumatology**

In this course, students participate in all activities of the Section of Rheumatology, including patient care in clinics, inpatient consultations, conferences and didactic sessions. A wide variety of musculoskeletal conditions and connective tissue diseases are seen. Objectives include performance of musculoskeletal exam, synovial fluid analysis, arthrocentesis, therapeutic injection of joints and other structures, ability to formulate differential diagnosis of rheumatic conditions and formulate long-term management programs. An interdisciplinary approach relies on contributions of immunology, orthopedics, diagnostic radiology, physiotherapy and occupational therapy. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**MED - 861 Medical Oncology**

Patients seen by the Section of Medical Oncology provide an ample and varied spectrum of oncological problems. Students study selected patients under the direction of members of the section. Various therapeutic approaches and complications occurring in the course of the disease are discussed. The program stresses the importance of the combined interdisciplinary approach using the resources of the Departments of Surgery and Therapeutic Radiology, as well as those of Pathology and Nuclear Medicine. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**MED - 872 Pulmonary Consultation Services**

This course consists of John H. Stroger, Jr. Hospital of Cook County inpatient pulmonary consults and outpatient pulmonary clinics. Students see patients on their own and present/discuss them with the team. They see a variety of new and follow-up patients. Stroger is renowned for the ethnic and clinical diversity of its patient population. Students also attend pulmonary rounds and conferences. The rotation consists of inpatient pulmonary consults and outpatient pulmonary clinics. Typical hours are 7:30 a.m. to 5 p.m. Students will have weekends off. Specific Educational Objectives of Clerkship: At the end of the rotation, students will: (1) display an approach to history taking, physical examination and interpretation of radiographic and physiologic studies to allow accurate description of acute and chronic respiratory syndromes; (2) be able to classify respiratory illnesses based on tempo and findings as acute, sub-acute or chronic and categorize the illness as congenital or acquired, infectious, inflammatory, neoplastic or traumatic in nature; (3) demonstrate an organized approach to interpretation of chest imaging; (4) demonstrate an organized approach to interpretation of cardiorespiratory physiology; (5) demonstrate proficiency in physical examination of the patient with lung disease. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**MLS - 504 Clinical Chemistry I**

This course is designed to introduce students to Clinical Chemistry as used in Medical Laboratory Science (MLS). The biochemistry, clinical utility and analysis of amino acids, proteins, carbohydrates, lipids/lipoproteins, bilirubin and non-protein nitrogen-containing molecules will be presented. Renal physiology along with the chemical and cellular analysis of urine will also be presented. Course content includes correlation of data and case studies for selected disease states. Offered: fall. Retake Counts for Credit: No. Credit(s): 4

**MLS - 505 Clinical Chemistry II**

This course continues with the biochemistry, analysis and application of clinically significant chemical substances. Topics include enzyme kinetics and clinical application of enzyme levels, endocrinology, bone and mineral metabolism, cardiac markers, tumor markers, body water balance, electrolytes, pH and blood gases and testing for drugs of abuse and toxic alcohols. Course content includes the discussion of case reports and primary literature for selected disease states. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**MLS - 514 Hematology I**

This course introduces hematologic concepts and clinical applications. Students will learn about venipuncture, complete blood counts, hematopoiesis, erythrocyte metabolism, the synthesis and function of hemoglobin, leukopoiesis and differentiation of leukocytes. After students learn about the normal aspects of hematology, they will learn about the abnormalities associated with erythrocytes and leukocytes such as, anemias, hemoglobinopathies, thalassemias and leukemias and lymphomas. Case studies will be used to further students' understanding of erythrocytes and leukocytes. Laboratory sessions included. Offered: fall. Retake Counts for Credit: No. Credit(s): 6

**MLS - 515 Hematology II**

The study of hematology is continued in this course in which students learn about coagulation and hemostasis and extend their knowledge of erythrocytes and leukocytes to the analysis of body fluids other than blood. Students will learn about megakaryopoiesis, hemostasis, coagulation and coagulopathies. In addition, the chemical and cellular analyses of the following fluids will be discussed: cerebral spinal, synovial, pleural, peritoneal, pericardial and seminal, as well as fecal analysis. Finally, students will learn how to differentiate between transudates and exudates as well the clinical significance of those analyses. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**MLS - 523 Clinical Immunology**

An introduction to the basic concepts and terminology of immunity is covered in this course, including development, structure and function of the lymphoid system; the basis of

antigenicity; antibody structure, production and function; mechanisms of cellular and humoral immunity; the complement system; and mechanisms of immune suppression and tolerance. Topics also include the immune response and the laboratory testing related to measuring the immune response. The pathogenesis and laboratory diagnosis of immunological disorders such as hypersensitivities, immune deficiencies and autoimmunity will be discussed. Solving case studies involving immune system disorders will be an important aspect of learning about these diseases. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**MLS - 524 Clinical Immunohematology**

This course provides the student with the practical and theoretical knowledge in whole blood collection, processing and transfusion that is necessary to work in a blood center or clinical transfusion service. Topics include red cell immunology, genetics and membrane biochemistry; characteristics of human blood group systems; serological testing systems; parentage testing; red cell antibody detection and identification; pretransfusion testing; quality management; blood product manufacturing, including blood procurement, component preparation and donor infectious disease testing; transfusion medicine practice; adverse effects of transfusion; and hemolytic disease of the fetus and newborn (HDFN). Offered: spring. Retake Counts for Credit: No. Credit(s): 4

**MLS - 526 Molecular Techniques**

This course consists of an introduction to the principles, methodologies and applications of molecular biological procedures used in the clinical laboratories. Emphasis is placed on the molecular biological procedures used in the identification of infectious agents that cause human disease, in the diagnosis of inherited diseases, in the diagnosis of cancer and in the determination of risk factors for the development of cancer. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**MLS - 534 Clinical Microbiology I**

This course focuses on the diagnostic procedures employed in the clinical bacteriology laboratory, such as specimen collection and the cultivation, isolation and identification of medically important bacteria. Mechanisms of antimicrobial activity and antibiotic susceptibility testing are discussed in depth. Laboratory activities familiarize the student with the appearance and colony morphology of clinically important bacteria and consist of learning procedures used in the identification of bacterial isolates, including the gram stain and various biochemical and molecular assays. These activities are then applied to the identification of unknown bacterial isolates found in patient specimens. Offered: spring. Retake Counts for Credit: No. Credit(s): 6

**MLS - 535 Clinical Microbiology II**

In this course, students will learn about the acquisition, disease and identification of fungi (yeasts and molds), eukaryotic parasites and obligate intracellular organisms, including viruses and bacteria. Emphasis is on the diagnostic procedures used in the clinical laboratory to isolate and identify these organisms. Digital microscopy will be used to supplement lecture such that students will learn the morphology of fungi and parasites in particular. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**MLS - 541 Research in MLS I**

This is the first course in the MLS research series that is taken concurrently with Research Methods. In this course, students will apply research methods to the medical laboratory science scope of practice. Students will learn about the requirements for completing a research project in medical laboratory science that will satisfy graduation requirements, including the components of the written research paper and content of the proposal and final defense presentations. Students will attend and evaluate the research defense presentations given by students who are preparing for graduation. At the conclusion of this course, students will have selected a research topic and research mentor. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**MLS - 542 Research in MLS II**

Completion of a research project provides the graduate student with the opportunity to participate in the design, implementation, analysis and reporting of original research in Medical Laboratory Science (MLS) or translational research related to MLS. With the guidance of a research adviser, the graduate student will be involved in the planning and execution of a project as well as generate analyzable data that can be published in a primary journal. Students can undertake projects in any discipline within the scope of the field of Medical Laboratory Science with the support of their chosen research adviser as well as the MLS faculty. Offered: summer. Retake Counts for Credit: No. Credit(s): 6

**MLS - 543 Research in MLS III**

This course is a continuation of MLS 542 Research in MLS II in which the student will complete the analysis of data generated during the first course and complete a written manuscript and final oral defense in culmination of the requirements for the degree. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**MLS - 580P Clinical Practicum-Chemistry**

This course builds upon the theoretical knowledge and techniques learned in the Clinical Chemistry courses in that students will directly see how the analyses of clinical chemistry are applied to the diagnosis and management of the patient. Students spend time in the clinical chemistry laboratory experiencing the environment of the clinical laboratory and working hands-on with state-of-the-art chemistry instrumentation and automation. Routine and special chemistry methodology, flow-cytometry and electrophoresis are included. The daily experience will be supplemented with the analysis of case studies to support the development of critical thinking skills needed by the highly functional medical laboratory scientist. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 3

**MLS - 581P Clinical Practicum-Hematology**

The diagnosis of diseases related to the blood as first learned in the prerequisite courses will be reinforced in this practicum experience in which students spend time observing and performing hematological tests in a clinical laboratory. The use of automation and instrumentation to perform basic hematological analyses, specialized hematologic testing techniques and advanced techniques are included. Additional analysis of case studies as well as identification and evaluation of a quality assurance/control issue are required. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 3

**MLS - 584P Clinical Practicum-Immunohematology**

The working immunohematology laboratory will be the setting for this clinical practicum. Students will observe and perform routine and specialized tests that are critical for ensuring the safe transfusion of blood and blood products into patients. The basic skills learned in the prerequisite course will be reinforced. Students will directly experience the impact regulatory bodies have on transfusion services. Case studies and the analysis of quality control/assurance issues will be used to foster the development of critical thinking skills. Instrumentation and advanced methodologies are emphasized. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 3

**MLS - 585P Clinical Practicum-Education**

It is expected that the entry-level medical laboratory scientist will be able to train and/or educate users and providers of laboratory services. In this practicum, students will learn and apply educational methodologies and terminology. They will also analyze and improve their communication skills. Students will assist in the instruction of the first-year student laboratory sessions, including working with the course director to prepare for these exercises. In addition, to demonstrate the acquisition of the communication skills sufficient to teach, students will prepare and deliver a unit of instruction, including appropriate learning objectives and evaluation of learning. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 3

**MLS - 586P Patient Care Techniques**

Preanalytical situations and best practices in specimen collection techniques are reinforced through extensive discussion and practice in this course. Students will perform venipuncture procedures on patients throughout both inpatient and outpatient settings. Pediatric and geriatric patients are included, as are general adult populations. Evaluation of preanalytical situations involving documentation, transportation requirements and infection control are also covered in this course. Students will improve their communication skills as they interact with patients and other health care providers. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 1

**MLS - 587P Clinical Practicum-Microbiology**

In this practicum, students will spend time in the clinical microbiology laboratory observing and performing tests for the isolation and identification of clinically significant bacteria, fungi, viruses and parasites. The determination of antimicrobial susceptibility, detection of resistance and interpretation of susceptibility patterns will be reinforced. Instrumentation and advanced methodologies are emphasized. The daily experience will be supplemented with the analysis of case studies to support the development of critical thinking skills needed by the highly functional medical laboratory scientist. Students will interact with other health care professionals (e.g., pharmacists, physicians and infection control nurses) during rounds and/or case conferences. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 6

**MLS - 588 Comprehensive Review**
A comprehensive review of hematology, body fluid analysis, clinical chemistry, laboratory operations, immunology, immunohematology, molecular diagnostics and microbiology will be the focus of this course through the analysis of multidisciplinary case studies and completion of weekly examinations. This review course prepares students for the national certification examinations. At the completion of the review all students will take a comprehensive examination. Successful passing of all sections of the departmental comprehensive examination is required for completion of the course and for graduation. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**MLS - 589 Clinical Laboratory Management**
Management of the clinical laboratory will be covered in this course with topics to include operational aspects of the laboratory, human resource management, financial considerations of running a laboratory, error management, personality and leadership styles and crisis and disaster management. Students will participate in interactive sessions designed to help them understand and develop important leadership and management concepts. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**MLS - 900 Independent Study**
Offered: as needed. Retake Counts for Credit: No. Credit(s): 1-12

**MLS - 999 Continuous Enrollment**
The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate-level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**NEU - EXM Neurology Exam Remediation**
Remediation of course examination. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**NEU - REM Neurology Clinical Remediation**
Remediation of clinical weeks. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**NEU - 7EI Neurology Individualized Elective**
Students may receive credit for an individually arranged elective with a Rush faculty member. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter stating the student's activities, responsibilities, amount of supervision and specific dates of the rotation. The sponsoring faculty member must complete an evaluation of the student's performance at the conclusion of the elective. Students must submit a proposal to the Office of Clinical Curriculum for approval at least eight weeks before the rotation and must have written approval from the assistant dean of Clinical Education before beginning the rotation. Students may receive four weeks of credit for an individually arranged elective. Credit for a maximum of only one individually arranged elective will count toward graduation requirements. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**NEU - 701 Core Clerkship: Neurology**
This course is designed to introduce students to the care of patients with neurological illness. Through an exposure to patients with a variety of illnesses, the students develop their neurological examination and history-taking skills, as well as an understanding of the work-up, diagnosis and management of patients with neurological symptoms and diseases. At both Rush University Medical Center and John H. Stroger, Jr. Hospital of Cook County, the student has extensive interaction with both attending staff and residents and participates in daily attending rounds. Didactic teaching during the rotation includes a formal lecture series on topics in clinical neurology. In addition, there are weekly departmental conferences, including Neurology Grand Rounds. Students participate in the diagnostic workup of assigned patients. At Rush, the student is a member of the general neurology floor service and the stroke/critical care service for two weeks each. At Stroger, students are members of the neurology team that sees neurology in-patients and consultation patients, as well as attending two outpatient clinics per week. All students are expected to be in attendance and prepared for daily work rounds and daily attending rounds. They are responsible for performing a history and physical examination on their assigned patients and presenting their patients. Students are expected to be involved closely in the initial and daily follow-up care of their patients, including writing daily notes. In addition, students are expected to attend all assigned lectures and conferences. There is rotating call for medical students. Students are required to participate in clinical activities the Thursday morning before the mini-board examination. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**NEU - 781 Research in Neurology**
Students will complete an individual research activity in collaboration with faculty at Rush. The student must develop a proposal that includes the student's activities, responsibilities, amount of supervision and expected time commitment. The proposal must be signed by the faculty supervisor and submitted to Office of Integrated Medical Education for approval at least four weeks before the start of term. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**NEU - 792 Advanced Neurology**
This advanced course is intended to provide students the opportunity to further develop their clinical skills in the evaluation of patients with neurologic conditions. Students build on the foundational knowledge and experience from the core neurology clerkship, successful completion of which is required. Prior to the start of the rotation, students have the option to identify subspecialties in which they have interest so that a schedule can be developed to reflect these interests. Students may choose to focus on any subspecialties within neurology, including general neurology, neuromuscular, stroke, epilepsy, multiple sclerosis, neuro-oncology, neuro-ophthalmology, movement disorders, child neurology, dementia, sleep, as well as in the Neuro ICU service and Neuro-Endovascular service. This is a flexible program that will be structured by the course director and course coordinator to best fit the interests of the individual student, based on clinic and attending availability. Specific areas of interest should be discussed with the coordinator at least eight weeks prior to the rotation start date. Prerequisite: NEU-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**NEU - 793 Neurological Science Intensive Care Unit**
The Neurological Science Intensive Care Unit rotation exposes M4 students to the management of critically ill neurological and neurosurgical patients. Students will comprehensively evaluate patients, learn how to review and interpret various neuroimaging modalities, present their findings on rounds and develop an initial assessment and plan. Basic principles behind end-of-life issues, brain death and organ donation will be discussed. Exposure to the entire spectrum of neurocritical care will be available, including disorders of consciousness, acute ischemic strokes, hemorrhagic strokes, subarachnoid hemorrhages, neuromuscular diseases, CNS infections, seizures and status epilepticus, as well as neuro-oncological emergencies. Prerequisites: MED-703, NEU-701, OBG-703, PED-701, PSY-701, RMD-701 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**NRS - TRN External Transfer Credit-CON**
This course is used if the content of such courses applies directly to the student's program of study in the college. Courses used can be from another accredited college or university, if approved by the college. A grade of B or better must have been received. Retake Counts for Credit: No. Credit(s): 1-15

**NRS - 541P Specialty Practicum**
This course is designed to provide advanced nursing practice students with an opportunity to achieve population competence at the graduate level. The experience is accomplished under the guidance of an approved preceptor/facilitator. The minimum number of clock hours of practicum and residency may be determined by the population specific credentialing body and graduate requirements may vary across population programs. Prerequisite or co-requisites: Core courses as determined by each program; and RN licensure. Clinical conference is included. Post-master's student requirements are individually determined. P/N grading. (Variable) Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-12

**NRS - 600P Specialty Residency**
This course is designed to provide advanced nursing practice students with an opportunity to achieve specialty competence at the graduate level. The experience is accomplished under the guidance of an approved preceptor/facilitator. The minimum number of clock hours of practicum and residency may be determined by the specialty specific credentialing body and graduate requirements may vary across specialty programs Prerequisite or co-requisites: Core courses as determined by each program. P/N grading. (Variable) Pre or Corequisite: NRS-541P. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-7

**NSG - 500 Socialization Into Nursing Seminar**
Historical, theoretical and ethical underpinnings of the discipline, as well as professional standards that guide practice are used to assist the learner in understanding nursing as a scientific discipline and a social phenomenon and in developing a sense of professional nursing practice. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 1

**NSG - 501 Role of the Professional Nurse**
This course presents concepts essential to the practice of client/patient and family centered nursing across the life span. Students will examine essential physiological and psychosocial concepts, the professional role and introductory clinical reasoning, while respecting individual and cultural diversity. Pre or Corequisite: NSG-501P. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 501P Role of the Professional Nurse Practicum**
The learner will use clinical reasoning to holistically address client's/patient's health and wellness needs. Learner will apply psychosocial and physiological concepts, therapeutic communication, pathophysiology, biostatistics and epidemiology to diverse clients/patients and families in a variety of settings. Focus will be on the patient/client within the context of the client/patient system. Pre or Corequisite: NSG-501. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 502 Nursing Management of Common Health Alterations Across the Life Span**
This course presents physiological, psychosocial, cultural, developmental and ethical concepts of common acute or exacerbated health alterations across the life span. Concepts of health promotion and disease prevention are introduced using evidence-based interventions. Interprofessional and intraprofessional collaboration for ensuring quality health outcomes is emphasized. Corequisite: NSG-502P. Pre or Corequisites: NSG-501, NSG-501P, NSG-510, NSG-525 and NSG-525L. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 502P Nursing Management of Common Health Alterations Across the Life Span Practicum**
This course provides an opportunity for the learner to apply concepts learned in the didactic portion of the course to the care of patients across the life span experiencing common acute or exacerbated health alterations. Corequisite: NSG-502. Pre or Corequisites: NSG-501, NSG-501P, NSG-510, NSG-525 and NSG-525L. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 503 Psychiatric and Mental Health Nursing**
This course examines the etiology, manifestations and clinical management of selected mental illnesses across the life span and continuum of care. Students will analyze systems and the evidence base for psychiatric nursing and apply this knowledge in promoting mental health and the optimal functioning and rehabilitation of individuals, families and communities with mental health problems. Prerequisites: NSG-502, NSG-502P, NSG-510, NSG-511, NSG-525 and NSG-525L. Corequisite: NSG-503P. Offered: fall and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 503P Psychiatric and Mental Health Nursing Practicum**
This clinical practicum provides the learner with the opportunity to develop clinical competence in psychiatric and mental health clinical settings. Emphasis is placed on the development and maintenance of the therapeutic relationship with clients/patients and families across the continuum of care. Prerequisites: NSG-502, NSG-502P, NSG-510, NSG-511, NSG-525 and NSG-525L; Corequisite: NSG-503. Offered: fall and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 504 Women's Health Across the Life Span**
This course presents physiological, psychosocial, cultural, developmental and ethical issues of women's health across the life span, including pregnancy and birth. Concepts of health promotion and disease prevention are stressed using evidence-based interventions. Interprofessional and intraprofessional collaboration for ensuring quality health outcomes is emphasized. Corequisite: NSG-504P. Pre or Corequisites: NSG-503 and NSG-503P. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 504P Women's Health Across the Life Span Practicum**
This course provides clinical practice opportunities for students to manage the care of women, newborns and the childbearing family. Students will integrate evidenced-based health promotion and health maintenance information when teaching and developing nursing plans of care for women, newborns and the childbearing family. Corequisite: NSG-504. Pre or Corequisites: NSG-503 and NSG-503P. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 1

**NSG - 505 Public Health Nursing**
This course uses an ecological model to assess the nursing care needs of individuals, families and groups in the community. Evidence based strategies to promote health and reduce risk for individuals, families and groups are analyzed within the context of the communities in which they live. The impact of public health laws and regulations on public safety and access to care are examined. Prerequisites: NSG-503 and NSG-503P. Corequisite: NSG-505P. Pre or Corequisite: NSG-524. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 3



**NSG - 505P Public Health Nursing Practicum**
This course provides the opportunity for the learner to apply knowledge and skills in providing nursing care across the life span for individuals, families and groups in community settings. The learner will apply the ecological model to integrate evidence-based health promotion, prevention and risk reduction strategies for individuals, families and groups within the context of the communities in which they live. The impact of public health laws and regulations on public safety and access to care are examined. Prerequisites: NSG-503 and NSG-503P. Corequisite: NSG-505. Pre or Corequisite: NSG-524. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 2

**NSG - 506 Nursing Management of Complex Health Alterations Across the Life Span**
This course presents physiological, psychosocial, cultural, development and ethical concepts in the case management of complex health alterations across the life span. Interprofessional collaboration for ensuring quality health outcomes is emphasized. Prerequisites: NSG-504, NSG-504P, NSG-505 and NSG-505P. Corequisite: NSG-506P. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 506P Nursing Management of Complex Health Alterations Across the Life Span Practicum**
This course provides an opportunity for the learner to apply concepts learned in the didactic portion of the course to the care of patients across the life span experiencing complex health alterations. P/F grade Prerequisites: NSG-504, NSG-504P, NSG-505 and NSG-505P. Corequisite: NSG-506. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 507 Preparation for Professional Practice**
This course will provide prelicensure students with the opportunity to analyze the CNL role in the context of the health delivery system with an emphasis on various microsystems in the practice settings. Prerequisites: NSG-506 and NSG-506P. Pre or Corequisite: NSG-514. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**NSG - 510 Pathophysiology**
This course provides a conceptual, life span approach to alterations in normal anatomic structure and function. General and system specific concepts related to causation and clinical presentation of pathophysiology will be discussed. This course will provide the foundation for the application of pathophysiologic concepts to common clinical situations. Critical thinking is emphasized. Application of evidence-based pathophysiologic research will be discussed. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 511 Pharmacology**
This course provides a conceptual, life span approach to understanding the principles of pharmacokinetics and pharmacodynamics that provide the foundational knowledge critical to understanding pharmacotherapeutics. Critical thinking is emphasized. Application of research is discussed. Prerequisite: NSG-510. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 512 Clinical Leadership and Project Development**
This course provides the learner with an opportunity to apply concepts and principles of clinical leadership and quality improvement to address issues related to health care outcomes and demonstrate the role of the clinical nurse leader in managing care outcomes for a microsystem. Pre or Corequisites: NSG-522 and NSG-523. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 513 Clinical Project Implementation**
This clinical course expands the student's clinical competency and integrates the role of the Clinical Nurse Leader in a variety of clinical settings. The student will demonstrate progressive competence and independence in meeting the clinical objectives throughout the experience. Students will use this clinical experience to develop and/or implement the Capstone project. Prerequisite: NSG-512. Offered: fall and summer. Retake Counts for Credit: No. Credit(s): 5

**NSG - 514 Immersion: Clinical Practicum**
This clinical immersion course provides the student with the opportunity to expand clinical competency and begin integration of the clinical nurse leader in a variety of clinical settings. The student will demonstrate progressive competence and independence in meeting the course objectives throughout the experience. Prerequisites: NSG-506 and NSG-506P. Offered: fall and summer. Retake Counts for Credit: No. Credit(s): 5

**NSG - 515 Clinical Project Implementation**
This clinical course expands the student's clinical competency and integrates the role of the clinical nurse leader in the clinical setting. The student will demonstrate CNL competencies. Students will use this clinical experience

implement the Capstone project. Prerequisites: NSG-521, NSG-522, NSG-523, NSG-524, NSG-531, NSG-533, NSG-602, NSG-625, NSG-625L and NSG-519. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 5

**NSG - 517 Immersion: CNL Role Practicum**

This clinical immersion course provides the postlicensure student with the opportunity to integrate the role of the clinical nurse leader in the areas of case management (five weeks), education (five weeks) and CNL practice (five weeks). This practicum provides an opportunity to practice in the major foci of the CNL role. Prerequisites: NSG-602, NSG-524, NSG-522, NSG-533, NSG-531, NSG-625, NSG-625L, NSG-523 and NSG-521. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 5

**NSG - 518 Palliative Care for Nursing**

The purpose of the courses is to educate nursing students about palliative care and its recognized growing needs in health care. Students will learn to directly and/or indirectly incorporate palliative care into their practice. Offered: fall and summer. Retake Counts for Credit: No. Credit(s): 2

**NSG - 519 Clinical Leadership and Project Development for Post-Licensure Students**

Using a case-based approach, this course provides the learner with an opportunity to apply concepts and principles of clinical leadership and quality improvement to address issues related to care outcomes and demonstrate the role of the clinical nurse leader in managing care outcomes for a microsystem. Pre or Corequisite: NSG-521. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 521 Antiracism in Organizational Leadership**

This course provides the student with an opportunity to explore leadership styles and change theories through an antiracist lens to affect organizational change that improves health outcomes. Inequities in operational and managerial processes in practice environments that affect outcomes, quality, safety and cost effectiveness of patient care are analyzed. Ethical leadership principles and the role of the nurse leader to advance social justice are examined. The role of clinical informatics in reducing health care disparities is introduced. Pre or Corequisite: NSG-523. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 522 Applied Epidemiology Biostats Nursing**

Emphasis is on the use of biostatistical and epidemiological methods to examine the distribution and determinants of health-related states and events. The concepts of disease causation and progression, modes of transmission, prevention, risk reduction and health promotion are examined. Students learn to measure and manage health data, create data files and data dictionaries, perform descriptive and inferential data analyses and graphic displays and interpret health statistics. Focus is on the critical appraisal and translation of epidemiological principles and research to provide the foundation for evidence-based practice. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 523 Research for Evidence Based Practice**

Students will develop an understanding of the research process and how research evidence influences practice. Students will identify appropriate practice questions and use multiple methods and informatics to systematically obtain sound evidence about practice questions. Students will critically analyze and apply research evidence to improve practice outcomes in culturally diverse populations. Pre or Corequisite: NSG-522. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 524 Health Promotion in Individuals and Clinical Populations**

Students will use theories and models to examine determinants of health and to guide health promotion and illness/injury prevention strategies and practice. Students will use informatics to gather and evaluate health data, locate and utilize evidence based practice strategies and evaluate quality of health information. Prerequisite: NSG-522. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 525 Health Assessment Across the Life Span**

This course is designed to teach the didactic components of a comprehensive history and physical examination of individuals/families across the life span and the documentation of findings. The course provides a framework of critical thinking based on careful collection of history and physical findings and their systematic analysis. The course content is organized around assessment of specific body systems of individuals/families across the life span. Corequisite: NSG-525L. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 2



**NSG - 525L Health Assessment Across the Life Span Lab**

This course is designed to teach the didactic components of a comprehensive history and physical examination of individuals/families across the life span and the documentation of findings. The course provides a framework of critical thinking based on careful collection of history and physical findings and their systematic analysis. The course content is organized around assessment of specific body systems of individuals/families across the life span. Corequisite: NSG-525. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 1

**NSG - 531 Advanced Pharmacology**

This course covers the principles of pharmacokinetics and pharmacodynamics. The course is designed to provide the foundational knowledge requisite to understanding pharmacotherapeutics. Prerequisite: NSG-532 or NSG-533. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 532 Advanced Physiology**

This course covers selected aspects across the life span of advanced cell biology and systems physiology that are related to cellular homeostasis and viability in humans. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 533 Advanced Pathophysiology**

This course incorporates scientific concepts, principles and theories into discussion of advanced pathophysiologic processes across the life span. Pathophysiology is a combined science that encompasses definition/classification, epidemiology, risk factors, etiology, pathogenesis and clinical manifestations. The initial sections of the course cover basic mechanisms of disease, which are then integrated into subsequent discussions of selected system-related disorders. Learning activities and evaluation strategies are focused on the development and assessment of critical thinking and problem-solving in clinical scenarios to facilitate real-world practice applications and prepare students for certification exams. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 534 Major Psychopathological Disorders**

This course will focus on the epidemiology, etiology, clinical manifestation and treatment of selected psychopathologic disorders across the life span. Emphasis will be placed on assessment and interventions in a variety of settings. This emphasis will also include the impact of culture on diagnosis and treatment of selected disorders and a critical evaluation of relevant research findings. Offered: fall and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 535 Diagnostics for the APRN**

This course prepares the advanced practice nursing student to use, interpret and implement laboratory and diagnostic testing in the clinical setting for the use, interpretation and application of laboratory, diagnostic techniques and procedures. With this information, the student will learn to use critical thinking and decision making skills to interpret laboratory and diagnostic testing results across the life span. Prerequisites: NSG-532 and NSG-533. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 3

**NSG - 536 Principles of Case Management for Advanced Nursing Practice**

This course is designed to provide an overview of the evolution and core principles of case management. Contemporary case management models across the health care continuum will be analyzed. Case management competencies will be addressed. A major focus is to identify strategies that promote appropriate clinical outcomes of care, coordination of care and cost-efficient utilization of resources using a systems perspective. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 537 Transition to the APRN Role**

This course addresses issues relevant to APRN practice. It focuses on models of APRN practice, ethical principles, regulation, quality outcomes, reimbursement and professional issues related to an APRN entering a first position in the current marketplace. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 541 Chemistry and Physics in Anesthesia**

Students will learn to apply the basic principles of chemistry and physics in nurse anesthesia practice and will review medical math. The components of an anesthesia machine will be analyzed, and currently available monitoring devices will be reviewed and compared. Prerequisite: ANA-500. Corequisite: NSG-531. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 542 Nurse Anesthesia Pharmacology**

This course entails a comprehensive study of anesthetic agents and adjuvants along with drugs frequently encountered in the perioperative setting. The mechanisms of action, side effects, pharmacokinetics and pharmacodynamics of

these drugs are discussed. Potential drug interactions, the impact of aging and various disease processes on dosing and administration of these drugs will be covered. A career-long dedication to self-directed learning of the most current pharmacology is mandatory for continued professional competence as a Certified Registered Nurse Anesthetist (CRNA). Prerequisites: NSG-531 and NSG-541. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 543A Anesthesia Principles I: Basic Principles of Nurse Anesthesia**

A solid foundation of basic knowledge is vital to nurse anesthesia practice. This course provides a comprehensive orientation to nurse anesthesia practice, facilitating incorporation of safe, basic, principles into the delivery of competent, responsible patient care. In the co-requisite practicum course, there will be experiences that will allow the students to begin to develop the general clinical skills in the practice of anesthesia that will serve as the basis for subsequent progression to a more advanced nurse anesthesia practice. LT grade Prerequisite: NSG-541. Corequisites: NSG-542 and NSG-606. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 543B Anesthesia Principles II: Advanced Principles of Nurse Anesthesia**

This course is for the student who has a foundation in the basic principles and practice of nurse anesthesia. During this course, students learn anesthetic management principles for surgical specialty areas. Important concepts to master include the related anatomic, physiologic, pathophysiologic and pharmacologic principles for each of the surgical specialty areas. Prerequisites: NSG-542 and NSG-543A. Pre or Corequisite: NSG-606. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**NSG - 543C Anesthesia Principles III: Obstetric and Pediatric Anesthesia**

This course is for students who have completed Anesthesia Principles I and II. This course provides essential content for nurse anesthesia care in the specialty areas of obstetric and pediatric anesthesia. Learners will acquire knowledge related to the preoperative assessment of obstetric and pediatric patients, as well as the planning, implementation and evaluation of nurse anesthesia care provided to obstetric and pediatric patients undergoing diagnostic and surgical procedures. Prerequisite: NSG-543B. Pre or Corequisite: NSG-606. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 546 Developmental Physiology of the Fetus/Neonate**

This course is designed to provide the student with greater depth of understanding of developmental physiology of the fetus and neonate. Principles of growth and development, genetics/teratogenesis, embryology and maturation of organ systems as related to critical periods of intrauterine development, transition to extrauterine life and through early infancy will be covered. Adaptation to physiologic stress and alterations from normal will also be discussed. Prerequisite: NSG-533. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 547 Neonatal Pathophysiology**

This course provides a graduate level conceptual approach to principles and content in neonatal pathophysiology that form the scientific foundation for the development, implementation and evaluation of clinical therapeutics. It is designed to provide the advanced practice nursing student with an in depth analysis of advanced neonatal pathophysiology. General and system specific concepts related to causation and clinical presentation of selected pathophysiologic states will be discussed. Prototype diseases are used to illustrate pathophysiologic concepts and assist the student in applying these concepts systematically. Prerequisite: NSG-546. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 548 Advanced Neonatal Physical Assessment**

This course is designed to develop the student's knowledge of comprehensive physical assessment and the diagnosis of physical findings in the premature and term neonate. The central objective of the course is to emphasize the importance of critical reasoning and clinical decision making based on a thorough collection of history and physical findings, accurate documentation and their systematic analysis. The course content is organized around assessment of specific body systems of the neonate. The neonate's presentation at birth is emphasized. Prerequisite: NSG-547. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**NSG - 549 Neonatal Pharmacotherapeutics**

This course is designed to provide advanced practice nursing students with a working knowledge of the impact of neonatal physiology on drug pharmacology. Building on the student's knowledge of pharmacokinetics and pharmacodynamics, content includes the role and responsibilities of the APN in prescribing medications, considerations in medication selection for the treatment of a variety of neonatal conditions, diseases and disorders, as well as monitoring the physiological responses to such interventions. Also addressed are the effects of drugs during pregnancy and lactation on the fetus and neonate. Prerequisite: NSG-547. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**NSG - 550A Neonatal Management I**

This is the first of three sequential management courses that provide the theoretical and practical knowledge for the neonatal nurse practitioner to manage the health care needs of the neonate at the highest level of nursing practice. Course content focuses on the recognition and management of common conditions affecting the newborn. Demonstrating critical thinking and diagnostic reasoning skills in clinical decision making, developing a plan of care based on scientific evidence and practice guidelines, and instituting evidence-based strategies to provide psychosocial support and education for the infant's family are emphasized. Pre or Corequisite: NSG-547. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 550B Neonatal Management II**

This is the second of three sequential management courses that provide the theoretical and practical knowledge for the neonatal nurse practitioner to manage the health care needs of the neonate at the highest level of nursing practice. Course content focuses on the recognition and management of acute conditions affecting the neonate/preterm infant. Demonstrating critical thinking and diagnostic reasoning skills in clinical decision making, developing a plan of care based on scientific evidence and practice guidelines, and instituting evidence-based strategies to provide psychosocial support and education for the infant's family are emphasized. Pre or Corequisite: NSG-606. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 550C Neonatal Management III**

This is the final of three sequential management courses that provide the theoretical and practical knowledge for the neonatal nurse practitioner to manage the health care needs of the neonate at the highest level of nursing practice. Course content focuses on the recognition and management of life-threatening conditions affecting the neonate/preterm infant. Demonstrating critical thinking and diagnostic reasoning skills in clinical decision making, developing a plan of care based on scientific evidence and practice guidelines, and instituting evidence-based strategies to provide psychosocial support and education for the infant's family are emphasized. Pre or Corequisite: NSG-606. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**NSG - 551A Advanced Primary Care of the Child I**

The course focus is on the development of pediatric clinical judgment. A chronological approach is used to address preventative health care services and identification and management of common health problems in infants, children and adolescents. Prerequisite: NSG-525 or NSG-625. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 551B Advanced Primary Care of the Child II**

The course content provides the theoretical basis for clinical judgment and decision making skills for providing primary care to ill children and their families. A systems approach is used to focus on assessment and management of acute and common health problems. The is the second course in the three course series in the PNP management sequence Pre or Corequisite: NSG-606. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 551C Advanced Primary Care of the Child III**

The course enhances clinical judgment and decision making skills required in providing primary care to children with complex physical and psychosocial needs due infectious disease, genetics and environmental conditions. A systems approach is used to focus on assessment and management of complex health problems. This is the third class in a three part series. Pre or Corequisite: NSG-606. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**NSG - 556 Applied Pharmacology - Pediatric**

In this course, pediatric advanced practice students apply a systematic process for therapeutic prescription plans for selected common acute and chronic health conditions. Prerequisite: NSG-531. Pre or Corequisite: NSG-551A. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 557A Pediatric Acute Care I**

The course content provides the theoretical basis for clinical judgment, decision-making and procedural skills for delivering complex acute, critical and chronic health care to ill or injured children and their families. Recognition and management of emerging health crises and organ dysfunction by systems are emphasized. Part 1 of a 2-part series. Corequisite: NSG-606 or NRS-541P. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 557B Pediatric Acute Care II**

The course content provides the theoretical basis for clinical judgment, decision-making and procedural skills for delivering complex acute, critical and chronic health care

to ill or injured children and their families. Recognition and management of the injured child and transitions in care are emphasized. This is the second part of a two-part series. Prerequisite: NSG-557A. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**NSG - 565 Advanced Nursing Roles in Public Health Systems**

Students will examine ethical, economic, financial and role issues relevant to community and public health care. The focus will be on helping students gain knowledge, tools and experience to understand community-based and public health care organizations, their roles and functions within the U.S. health care system and the advanced nursing role in these organizations. Prerequisites: NSG-600 and NSG-602. Pre or Corequisites: NSG-522 and NSG-606. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 566 Population Assessment and Heath Promotion Frameworks**

This is the first of two sequential courses in population assessment and intervention planning. The course focuses on an application of the concepts and methods for conducting an in depth assessment of health status among populations, which serves as the foundation for the health planning process. Principles of epidemiology and assessment frameworks are applied in analyzing population and organizational level data to provide understanding of population needs and resources. Students examine health promotion frameworks in relation to effective approaches to guiding population level interventions. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**NSG - 567 Population Intervention Planning, Implementation and Evaluation**

This is the second of two sequential courses in population* health assessment and program/intervention planning. The course is organized around planning as a method of decision-making. Various theoretical frameworks are applied to the development of a plan to meet the health needs of selected populations at-risk, based on an in-depth population assessment. Formulation of implementation strategies and evaluation schemes for sustainable program/intervention development are discussed. Emphasis is on implementation and evaluation methods for innovative nursing practice with communities/populations. *For the purposes of this course, the term population is defined to include the traditional public health population and clinical populations/aggregates. Prerequisite: NSG-566. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 568 Environmental Health**

This course provides an overview of the core principles in environmental health. Emphasis is on application of basic concepts to address specific environmental hazards that affect the health of individuals and populations. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**NSG - 569 Maternal Child Management for the FNP**

This course addresses the diagnosis and management of 1) common acute and chronic health care problems in children from infancy through adolescence and 2) pregnancy and fertility issues for women of child-bearing age. Prevention, screening, diagnosis, treatment and counseling of these patients and their families form the framework for students to refine evidence-based clinical decision-making and reasoning skills. Quality, cost-effectiveness and safety are integrated in the development of patient-centered management plans. Prerequisites: NSG-535 and NSG-570B. NSG-525 or NSG-625. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 570A Pharmacotherapeutics Acute Care**

Course provides the advanced practice nurse with knowledge of pharmacotherapeutics for common acute and chronic health conditions across the life span according to specialty area of practice. Building on the student's knowledge of pharmacokinetics and pharmacodynamics, content includes medications used for the diagnosis and treatment of a variety of physical and psychiatric disorders and monitoring the physical, behavioral and psychiatric responses to such interventions. The course is offered in sections according to specialty area of practice. Prerequisite: NSG-531. Offered: fall. Retake Counts for Credit: Yes. Credit(s): 3

**NSG - 570B Pharmacotherapeutics Primary Care**

Course provides the advanced practice nurse with knowledge of pharmacotherapeutics for common acute and chronic health conditions across the life span according to specialty area of practice. Building on the student's knowledge of pharmacokinetics and pharmacodynamics, content includes medications used for the diagnosis and treatment of a variety of physical and psychiatric disorders and monitoring the physical, behavioral and psychiatric responses to such interventions. The course is offered in sections according to specialty area of practice. Prerequisite: NSG-531. Offered: fall and summer. Retake Counts for Credit: Yes. Credit(s): 3

**NSG - 571A Management: Adult/Gerontology I**

This course addresses the diagnosis and management of selected common acute and chronic health care problems in the late adolescent through older adult populations. Prevention, screening, diagnosis, treatment and counseling adult patients form the framework for students to refine evidenced-based clinical decision-making and reasoning skills. Quality, cost-effectiveness and safety are integrated in the development of patient-centered management plans. The major focus of this course is: cardiovascular, pulmonary, endocrine, women's health problems and gerontological considerations. Prerequisite: NSG-570A, NSG-570B, NSG-535, NSG-525 or NSG-625. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 571B Management: Adult/Gerontology II**

This course addresses the diagnosis and management of selected common acute and chronic health care problems in the late adolescent through older adult populations. Prevention, screening, diagnosis, treatment and counseling adult patients form the framework for students to refine evidenced-based clinical decision-making and reasoning skills. Quality, cost-effectiveness and safety are integrated in the development of patient-centered management plans. The focus of this course is: neurological, sensory, musculoskeletal, dermatological, psychiatric, oncological, women's health problems and gerontological considerations. Prerequisite: NSG-571A. Offered: fall and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 571C Management: Adult/Gerontology Acute and Critical Illness I**

This course addresses the diagnosis and management of selected acute, chronic and critical health care problems in the late adolescent (16 years) through older adult populations. Prevention, screening, diagnosis, treatment and counseling adult patients form the framework for students to refine evidence-based clinical decision-making and reasoning skills. Quality, cost-effectiveness and safety are integrated in the development of patient-centered management plans. Prerequisite: NSG-571A. Offered: summer. Retake Counts for Credit: No. Credit(s): 4

**NSG - 571D Management: Adult/Gerontology Acute and Critical Illness II**

This is the third clinical management course that focuses on the advanced management of the critically ill adult patient. This course addresses the synthesis of critical illness management. Pre or Corequisites: NSG-570A, NSG-571A and NSG-571C. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**NSG - 572 Quality and Safety for the Aging Adult**

This course prepares nurse leaders to create a culture of quality improvement and patient safety for the aging adult. Current models of quality and patient safety are evaluated in the context of national trends and health care priorities. The essential role of interprofessional teams as a mechanism to improve quality and patient safety is addressed. Prerequisite: NSG-523. Pre or Corequisites: NSG-524 and NSG-600. Offered: fall and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 575 Psychopharmacology**

This course is designed to provide advanced practice nursing students with knowledge of pharmacotherapeutics for common acute and chronic health conditions across the life span. It will also prepare PHMNP students to use, interpret and apply appropriate laboratory diagnostic procedures to the use of medications to treat a variety of psychological and psychiatric disorders. Building on the student's knowledge of pharmacokinetics and pharmacotherapeutics, content includes medications used for the diagnosis and treatment of a variety of psychological and psychiatric disorders and monitoring the physiological, psychiatric and behavioral responses to these interventions Prerequisites: NSG-531 and NSG-576. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 576 Neuropathophysiology: A Life Span Approach**

This course is designed to provide advanced practice nursing students with knowledge of the essential neuropathophysiology of mental illness, across the life span. Building on the basics of cell physiology and neural transmission, this course focuses on the neurobiology of select serious mental illnesses. There is emphasis throughout on the neural structures and functions thought to be implicated in symptom presentation and disease progression of select serious mental illnesses. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**NSG - 577A Diagnostics and Management I: Psychiatric Assessment Across the Life Span**

This course will focus on the methods for gathering pertinent data in order to conduct a psychiatric assessment, arrive at a differential diagnosis and make appropriate treatment recommendations with clients across the life span demonstrating psychiatric symptoms. Pre or Corequisite: NSG-575. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 577B Diagnostics and Management II: Evidence-Based Treatment**

The theoretical basis for psychotherapeutic nursing interventions across the life span is examined. Cognitive treatment and evidence based therapy techniques receive particular emphasis. Management of common psychiatric disorders via clinical practice guidelines is a third course thread. Prerequisite: NSG-577A. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**NSG - 577C Diagnostics and Management III: Group Therapy and Complex Care**

This course has three foci: in depth analysis of theory and research as a basis for the clinical practice of group psychotherapy; exploration of the mental health recovery paradigm and finally, the assessment, planning and intervention in complex care of individuals with co-morbid substance use and medical conditions Prerequisite: NSG-534. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 580 Paradigms for Teaching and Learning**

This course provides the learner with the philosophical and theoretical foundations of teaching and learning. Using a culturally responsive framework, students are introduced to educational and learning theory and their application to a variety of educational contexts. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 581 Student Learning and Evaluation**

This course provides the learner with approaches to student learning and evaluation. Concepts of the inclusive classroom and culturally relevant pedagogy are reintroduced. Designing and implementing teaching approaches to achieve student learning outcomes are presented. Methods of evaluation, including test construction and evaluation, are emphasized. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 582 Curriculum Design and Evaluation**

This course provides the learner with the opportunity to explore current theory and methods for curriculum design and evaluation. Topics include creating program and course learning outcomes, mapping outcomes to accreditation/regulatory standards and curriculum/program evaluation. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 583 Growing in the Nurse Educator Role**

This course exposes the learner to the expanded roles of nurse educators in a variety of settings. Emphasis is placed on professional and scholarly development. Prerequisites: NSG-580, NSG-581 and NSG-582. Corequisite: NSG-584. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**NSG - 584 Nurse Educator Role Praxis**

This course allows the student to apply knowledge learned in the curriculum in a variety of academic or practice-oriented environments. Students will have the opportunity to develop, deliver and evaluate an educational offering of their choice. Prerequisites: NSG-580, NSG-581 and NSG-582. Corequisite: NSG-583. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**NSG - 600 Leadership in Evolving Health Care Environments**

This course guides students in explorations of leadership in evolving health care environments. Students complete an assessment and analysis of their leadership style. Leadership trends, styles and competencies are applied to specific leadership scenarios and challenges. In addition, students develop a leadership e-portfolio, including a vision statement, goals and specific strategies for attaining these goals. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 602 Health Care Economics, Policy and Finance**

This course will examine current trends in health care policy and economics and their impact on financing and care delivery in the United States. Using informatics as a tool, costs associated with specific health care delivery systems will be analyzed at the organizational level. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 605 DNP Project**

The DNP Project provides students with a faculty guided experience in the application of advanced clinical practice and systems level knowledge and skill in a practice setting. The project represents a synthesis of knowledge gained in all previous coursework and involves development, implementation and evaluation of a process for change in health care delivery for individuals, groups or populations. The project should be of such a nature that it serves as a foundation for future scholarship. The student's chosen program of study will inform the scope and complexity of practice change for the project. This course is taken during the term students intend to do their public presentation. Dependent on program. P/N grading. (2) Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**NSG - 606 DNP Specialty Practicum**

Practica are planned conjointly by the student and faculty member. The minimum number of hours of practica may be determined by the specialty-specific credentialing body program requirements and may vary across specialty tracks. Clinical conference is included, depending on track. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-12

**NSG - 607 DNP Immersion Residency**

This course is designed to provide advanced nursing practice students with an opportunity to achieve specialty competence at the DNP level. The experience is accomplished under the guidance of an approved preceptor/facilitator. The minimum number of clock hours of residency may be determined by the specialty-specific credentialing body program requirements and may vary across specialty tracks. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-14

**NSG - 608 Program Evaluation**

This course provides students with the information and tools needed to strategically evaluate change initiatives and outcomes in practice and health care environments. Prerequisite: NSG-610. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 609A DNP Project Practicum A**

This course is the first of a series of three DNP project practicum courses focused on providing students with experience in the application of advanced nursing practice and systems level knowledge in a health care setting. In the entirety of the practicum series, students will translate current best evidence and use collaborative skills, leadership skills and knowledge of informatics to design, implement and evaluate a project to improve health outcomes. The focus of this course is conducting a comprehensive and systematic assessment of the context, organization, population and problem. Prerequisite: NSG-610. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**NSG - 609B DNP Project Practicum B**

This course is the second in a series of three DNP project practicum courses focused on providing students with experience in the application of advanced nursing practice and systems level knowledge in a health care setting. In the entirety of the practicum series, students will translate current best evidence and use collaborative skills, leadership skills and knowledge of informatics to design, implement and evaluate a project to improve health outcomes. The focus of this course is the implementation of a project that is evidenced-based, feasible and acceptable to key stakeholders. Prerequisite: NSG-609A. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**NSG - 609C DNP Project Practicum C**

This course is the final in a series of three DNP project practicum courses focused on providing students with experience in the application of advanced nursing practice and systems level knowledge in a health care setting. In the entirety of the practicum series, students will translate current best evidence and use collaborative skills, leadership skills and knowledge of informatics to design, implement and evaluate a project to improve health outcomes. The focus of this course is project evaluation and dissemination. Prerequisite: NSG-609B. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**NSG - 610 DNP Project Planning and Implementation**

This course examines implementation science theories, models and frameworks intended to improve health care quality. Complex factors that influence an effective and sustainable implementation initiative will be analyzed through critique of research in the field. This course provides students with the information and tools required to plan a strategy that evaluates and/or improves quality and patient safety in complex health care environments. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 611 Financial and Business Concepts**

This course will enable students to understand, apply and communicate the concepts required for effective financial planning, decision making and management in health care

programs and organizations. The long-term financial impact of practice changes will be assessed at the organizational level. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 612 Applied Organizational Analysis and the Management of Human Resources**

This course focuses on the structure and function of organizations. The elements of organizational features, culture and human talent and the influence on outcomes are explored. Prerequisite: NSG-602. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 613 Data and Decision Making for Strategic Outcomes Management**

This course focuses on analyzing the process of outcomes management and use of appropriate data to manage system change. Students will apply decision-making skills to effectively use data to formulate an outcomes management plan and evaluate the outcomes management process. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 614 The Leader and Policy, Politics, Power And Ethics**

This course will prepare nursing leaders to analyze and influence health policy environments. The student will learn to apply methods of policy analysis to policies of relevance to their practice settings and to use the results to advocate for populations and organizations/systems. The student will learn methods for evaluating policy outcomes and how to design interventions to influence policymaking and intervention implementation. Applying these skills in an organizational context will enhance the policy process, as well as help leaders to assist their organizations to respond to policy opportunities and threats. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 615 DNP Project Proposal Seminar**

This seminar focuses on the development of the DNP proposal. Students are guided by their DNP project adviser in the development of their project proposal and in the integration of core content obtained throughout the DNP program. Upon completion of this seminar, the student will have developed and received the required approvals on a project proposal and presentation and will have submitted necessary Institutional Review Board requirements. Prerequisites: NSG-608 and NSG-610. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**NSG - 616 Advanced Nurse Leadership**

In this course the student develops advanced leadership skills as described in the American Organization for Nursing Leadership Executive Nurse Competencies. Didactic modules concentrate on the executive nurse role development, advanced skills in communication and relationship management and leading interprofessional teams. Prerequisite: NSG-600. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 625 Advanced Health Assessment for Advanced Practice Nursing Across the Life Span**

This course is designed to enhance the advanced practice nursing student's knowledge of a history and physical examination and the diagnosis of physical findings of individuals across the life span. The course introduces the student to clinical problem solving through a series of lectures, case presentations and class discussion. This course emphasizes the importance of the careful collection of data by history and physical examination and their systematic analysis. The content of the course is organized around the health assessment of specific body systems and provides a framework of critical thinking and development of differential diagnosis. Pre or Corequisites: NSG-533 and NSG-625L. Offered: fall and summer. Retake Counts for Credit: No. Credit(s): 2

**NSG - 625L Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab**

In this course, students will develop skills needed to conduct a comprehensive history and physical examination of individuals across the life span and document the findings. The course provides a framework of critical thinking based on careful collection of history and physical findings and their systematic analysis. The course content is organized around advanced health assessment of specific body systems of individuals across the life span. Prerequisite: NSG-533. Pre or Corequisite: NSG-625. Offered: fall and summer. Retake Counts for Credit: No. Credit(s): 1

**NSG - 675 Literature Synthesis Approach**

This doctoral-level course examines aspects pertinent to synthesizing the literature in the form of integrative and systematic literature reviews. Content emphasizes the principles of a literature review, including the review question, review protocol, search strategies, data extraction and synthesis. Offered: summer. Retake Counts for Credit: No. Credit(s): 3



**NSG - 676 Research Hours**

This course involves mentored research to conduct a state of the science literature review for the qualifying exam, which includes a manuscript and oral presentation of evidence that supports their dissertation research. Prerequisite: NSG-675. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1

**NSG - 679 Evidence-Based Teaching in Health Professions**

Focus is on essential components of health profession's education, including learning theories and evidence-based methods of facilitating and assessing learning. Course and curriculum design are examined, and course, program and institutional evaluation are reviewed. The tripartite faculty role is explored with an emphasis on the scholarship of teaching and the faculty member's responsibilities to professional and institutional service and leadership. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 680 Understanding Scientific Paradigms**

This course exposes the learner to predominate philosophies of science and their influence on the development of nursing science. Emphasis is on the analysis and evaluation of these philosophies' underlying scientific assumptions, beliefs and values, and how these can influence the approach to the learner's phenomenon of interest. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**NSG - 681 Understanding Theoretical Framework Development**

This course provides the learners with the opportunity to develop or expand a theoretical framework that will guide their Advanced Clinical Research Practicum (ACRP) and their dissertation research. Integration of the literature is emphasized. Prerequisite: NSG-680. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 683 Ethical Conduct in Research Settings**

This course provides the student with an in-depth examination of the ethical principles that guide the conduct of responsible research. These principles will be examined in the context of current, historical and future scientific achievements. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 684 Intermediate Statistics**

This course develops student's knowledge of the application of database management principles and intermediate statistical principles in health care research. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**NSG - 685 Multivariate Statistics**

This course develops student's knowledge of the application of multivariate statistical principles in health care research. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 686 The Research Process: Quantitative Design and Methods Part I**

This course promotes the development, integration and application of the knowledge, attitudes and skills required to function as a clinical scientist. This courses provides an overview of the research process and a brief history of clinical research within the context of current issues and trends in health care. The research literature serves as the foundation for examining research problems, developing problem statements and conceptualizing research questions. Finally, theoretical and conceptual frameworks ground and enrich the research process as students explore appropriate samples and sampling designs. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**NSG - 687 The Research Process: Quantitative Design and Methods Part II**

This course is the second in a series of three doctoral level research courses that promote the development, integration and application of the knowledge, attitudes and skills required to function as an independent clinical researcher. The course will include research design, measurement, instrument development, intervention fidelity, data management, cross-cultural issues and research translation. Emphasis is on the critical appraisal of selected research designs and measurement strategies relevant to quantitative research. Prerequisite: NSG-686. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 688 The Research Process: Qualitative Design and Methods**

This course will focus on the design, conduct and dissemination of qualitative research. Emphasis will be on the critical appraisal of qualitative research methodologies, data analysis and analysis and interpretation of findings. Pre or Corequisite: NSG-680. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**NSG - 690 Grant Writing**

This course will assist students in developing skills in grant writing and reviewing. The content focuses on grant mechanisms, strategies, format and the grant review process. Learning activities focus on writing specific NIH grant sections using an NIH template. The following sections of the application will be highlighted: specific aims, significance,

innovation, research strategy, budget, biosketch, timeline and review criteria and skills. The course will culminate in a formal mock grant review where each student's previously submitted NIH RO3 Grant proposal will be reviewed by two reviewers according to the structure of the NIH grant review process. Prerequisites: NSG-680, NSG-681, NSG-684, NSG-685, NSG-686, NSG-687 and NSG-688. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NSG - 691 Advanced Clinical Research Practicum (ACRP)**
Encompasses a minimum of 8 credit hours of advanced clinical research in which the student completes and publicly defends the first two manuscripts of the three-manuscript dissertation. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-12

**NSG - 692 Teaching Practicum**
Students will participate as a teaching assistant, applying principles of teaching, learning and evaluation. Pre or Corequisite: NSG-679. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**NSG - 693 Research Practicum**
An individualized mentored research experience designed by the student, mentor and program committee based on the student's research interests and research skill development needs. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**NSG - 697 Dissertation Seminar**
This seminar presents an opportunity for students to discuss relevant approval processes, data management and resources needed to conduct dissertation research. Pre or Corequisite: NSG-690. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**NSG - 698 Dissertation Proposal Development**
Mentored support for students, under the guidance of their advisers and dissertation committee members, to develop their dissertation proposals. Pre or Corequisite: NSG-690. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**NSG - 699 Dissertation Research**
The student contracts with faculty members and the associate dean for Academic Affairs for independent research. The doctoral candidate must be enrolled for at least three quarter hours each quarter or until the dissertation has been defended. The successful dissertation defense constitutes a submitted paper and verbal defense. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**NSG - 900A Independent Study**
Student contracts with faculty member to complete an academic independent study in a selected area of nursing content. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-9

**NSG - 999 Continuous Enrollment**
The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate-level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**NTR - 604 Core Concepts of Health and Wellness**
This course provides students with a holistic overview of the multifaceted dimensions of health and wellness across the life span. The seven dimensions of health: physical, social, intellectual, emotional, occupational, spiritual and environmental are explored within the context of a wellness lifestyle. They will also learn about aligning client needs and wants with best practice program design, implementation and evaluation for successful results. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 2

**NTR - 605 Sports Nutrition**
This course will provide an in-depth analysis of advanced human metabolism and energy systems, including the evaluation of controversial nutrition practices that may influence metabolism and physical performance. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**NTR - 606 Critical Analysis Multimedia**
This course will examine multimedia sources featuring nutrition and health care content. It will critically evaluate the nutrition-related messages that may influence individual, behavioral and societal beliefs about diet and health. Offered: summer. Retake Counts for Credit: No. Credit(s): 2

**NTR - 611 Advanced Nutrition Care I**
This course will integrate evidence-based practice and current nutrition theory in prevention and nutritional management of obesity, diabetes and cardiovascular disease. Participants will review the pathophysiology and epidemiology of disease, examine evidenced-based nutrition-related recommendations for disease prevention, evaluate the research evidence supporting various nutritional approaches for treating disease and identify differences in disease management by race/ethnicity. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NTR - 612 Advanced Nutrition Care II**
This course will integrate evidence-based practice and current nutrition theory in prevention and nutritional management of cancer, renal disease, gastrointestinal disease and pulmonary disease. Participants will review the pathophysiology and epidemiology of disease, examine evidenced-based nutrition-related recommendations for disease prevention, evaluate the research evidence supporting various nutritional approaches for treating disease and identify differences in disease management by race/ethnicity. Prerequisite: NTR-611. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**NTR - 613 Advanced Nutrition Care III**
This course will review evidence-based practice and current nutrition theory for critically ill patients in the intensive care unit (ICU). Participants will discussion alterations in energy metabolism, regulation of macronutrients during critical illness, electrolyte management, acid-base balance, influence of underlying chronic disease on the acute phase response and examine evidenced-based nutrition-related recommendations for the use of enteral and parenteral nutrition in ICU-related illnesses. Prerequisites: NTR-611 and NTR-612. Corequisite: NTR-613L. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**NTR - 613L Advanced Nutrition Care III Lab**
This course will integrate the clinical components of evidence-based practice and current nutrition theory for critically ill patients in the intensive care unit (ICU). Participants will demonstrate nutrition support management of altered energy and macronutrient metabolism and monitor electrolyte and acid-base balance. Evidenced-based nutrition-related recommendations will be examined for the use of enteral and parenteral nutrition in ICU-related illnesses. Corequisite: NTR-613. Retake Counts for Credit: No. Credit(s): 1

**NTR - 615 Advanced Community Nutrition: A Policy Perspective**
This course will explore the importance of community nutrition programs on the overall health and well-being of diverse populations. It will detail the necessary steps to planning, implementing and evaluating community nutrition programs, as well as discuss the policy implications of community-based nutrition programing and research. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**NTR - 621 Regulation of Macronutrients and Energy Metabolism**
This course will integrate biochemical and molecular nutrition, emphasizing regulation of dietary carbohydrate, lipid and protein metabolism and their relation to health. Regulation of energy metabolism as it relates to energy and nutrient intake will be discussed. Recent research and evidence-based nutrition recommendations will be incorporated. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 2

**NTR - 622 Vitamins and Minerals**
This advanced course in human nutrition will explore the role of micronutrients, phytochemicals, dietary supplements in metabolism and health maintenance. Differences in these processes across the life span and research to support this will be discussed in the context of the Dietary Reference Intakes. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**NTR - 623 Maternal and Infant Nutrition**
This advanced course will explore the relation among nutrition, growth, development and health issues/concerns such as maternal obesity and feeding/eating disorders of infants from birth to 24 months, with an emphasis on critical time periods. Pregnancy and lactation periods will be included as well as the vital role of families and agencies in nutritional care. Evidence based research to support these issues will be studied. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**NTR - 625 Fundamentals of Nutrition Care**
This course will provide an overview of the nutrition care process in the inpatient and outpatient area. Fundamentals of nutrition care will be introduced. Additionally, the pathophysiology of disease and the interrelated role of nutrition in prevention, etiology and treatment of disease will be included. A major part of the class involves a critical review of the nutrition literature in prevention and treatment of acute and chronic disease. Corequisite: NTR-625P. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**NTR - 625P Practice in Fundamentals of Nutrition Care**
This supervised practice course provides students the opportunity to apply basic nutrition care. Students will

provide nutrition assessment, diagnosis, intervention, monitoring and evaluation to individuals of varying ages, backgrounds and cultures across the continuum of care. Students will function as members of the health care team with increasingly complex learning experiences and clinical responsibilities. Corequisite: NTR-625. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**NTR - 626 Clinical Nutrition I**
This course will provide an overview of the pathophysiology of disease and the interrelated role of nutrition in prevention, etiology and treatment of disease. A major part of the class involves a critical review of the nutrition literature in prevention and treatment of acute and chronic disease. Corequisite: NTR-626P. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**NTR - 626P Practice in Clinical Nutrition I**
This supervised practice course provides students the opportunity to apply basic nutrition care. Students will provide nutrition assessment, diagnosis, intervention, monitoring and evaluation to individuals of varying ages, backgrounds and cultures across the continuum of care. Students will function as members of the health care team with increasingly complex learning experiences and clinical responsibilities. Corequisite: NTR-626. Offered: fall. Retake Counts for Credit: No. Credit(s): 4

**NTR - 627 Clinical Nutrition II**
This course will provide an overview of the pathophysiology of disease and the interrelated role of nutrition in prevention, etiology and treatment of disease. A major part of the class involves a critical review of the nutrition literature in prevention and treatment of acute and chronic disease. Corequisite: NTR-627P. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**NTR - 627P Practice in Clinical Nutrition II**
This supervised practice course provides students the opportunity to apply basic nutrition care. Students will provide nutrition assessment, diagnosis, intervention, monitoring and evaluation to individuals of varying ages, backgrounds and cultures across the continuum of care. Students will function as members of the health care team with increasingly complex learning experiences and clinical responsibilities. Corequisite: NTR-627. Offered: spring. Retake Counts for Credit: No. Credit(s): 4

**NTR - 628 Community Nutrition**
This course will provide an overview of community nutrition as it relates to federal, state and local community nutrition programming, funding and policy. Appropriate community-based nutrition assessment, program planning and program evaluation will be discussed. Corequisite: NTR-628P. Offered: summer. Retake Counts for Credit: No. Credit(s): 2

**NTR - 628P Practice in Community Nutrition**
This supervised practice course provides students the opportunity to apply nutrition assessment and nutrition education techniques, assess food and nutrition services, and develop and implement nutrition interventions within a community setting. Corequisite: NTR-628. Offered: summer. Retake Counts for Credit: No. Credit(s): 5

**NTR - 629 Food Systems Management**
This course will provide an overview of food systems management. Food systems principles and management theories will be applied within health care, school food service and commercial food service operations. Corequisite: NTR-629P. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**NTR - 629P Practice in Food Systems Management**
This supervised experiential learning course provides students with the opportunity to function as members of the management team within the foodservice setting. Through increasingly complex learning experiences, students are expected to develop competence as an entry-level practitioner. Corequisite: NTR-629. Offered: fall. Retake Counts for Credit: No. Credit(s): 5

**NTR - 641 Leadership and Management in Dietetics**
This advanced course in leadership will explore theories of leadership with the focus on practices and principles related to developing leadership behaviors and competencies. Advanced practices and principles related to management of food and nutrition services in health care operations will be explored. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 3

**NTR - 650 Supervised Experience in Food Systems Management I**
Students function as members of the management team in the foodservice units of the medical center. Through increasingly complex learning experiences, students are expected to develop competence as an entry-level practitioner in food systems management. Enrollment is limited to Clinical Nutrition MS/DI students. Offered: fall. Retake Counts for Credit: No. Credit(s): 6



**NTR - 651 Supervised Experience in Clinical Nutrition I**
Students will provide nutrition assessment, diagnosis, intervention, monitoring and evaluation to individuals of varying ages, backgrounds and cultures across the continuum of care. Students will function as members of the health care team with increasingly complex learning experiences and clinical responsibilities. Students will also provide nutrition care and education to individuals. Enrollment is limited to Clinical Nutrition MS/DI students. Offered: spring. Retake Counts for Credit: Yes. Credit(s): 6

**NTR - 652 Supervised Experience in Clinical Nutrition II**
Students will provide nutrition assessment, diagnosis, intervention, monitoring and evaluation to individuals of varying ages, backgrounds and cultures across the continuum of care. Students will function as members of the health care team with increasingly complex learning experiences and clinical responsibilities. Students will also provide nutrition care and education to individuals. Enrollment is limited to Clinical Nutrition MS/DI students. Prerequisite: NTR-651. Offered: fall and summer. Retake Counts for Credit: Yes. Credit(s): 6

**NTR - 653 Supervised Experience in Clinical Nutrition III**
Students will provide nutrition assessment, diagnosis, intervention, monitoring and evaluation to individuals of varying ages, backgrounds and cultures across the continuum of care. Students will function as members of the health care team with increasingly complex learning experiences and clinical responsibilities. Students will also provide nutrition care and education to individuals and groups. Enrollment is limited to Clinical Nutrition MS/DI students. Offered: fall. Retake Counts for Credit: Yes. Credit(s): 6

**NTR - 654 Supervised Experience in Clinical Nutrition IV**
Students will provide nutrition assessment, diagnosis, intervention, monitoring and evaluation to individuals of varying ages, backgrounds and cultures across the continuum of care. Students will function as members of the health care team with increasingly complex learning experiences and clinical responsibilities. Students will also provide nutrition care and education to individuals and groups in the community. Enrollment is limited to Clinical Nutrition MS/DI students. Offered: spring. Retake Counts for Credit: Yes. Credit(s): 6

**NTR - 660 Applied Evidence in Clinical Nutrition: Obesity**
This class will provide a comprehensive overview of the epidemiology, pathophysiology (including energy balance, weight regulation, genetics, epigenetics, nutrigenomics and other environmental factors), pharmaceutical treatments and relevant social determinants of health associated with obesity. The course will appraise current evidence in nutrition assessment and medical nutrition therapy in the prevention and treatment of obesity across the life span. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**NTR - 661 Applied Evidence in Clinical Nutrition: Metabolic Diseases**
This class will provide a comprehensive overview of the epidemiology, pathophysiology, pharmaceutical treatments and relevant social determinants of health associated with metabolic disease (metabolic syndrome, diabetes and cardiovascular disease). The course will appraise current evidence in nutrition assessment and medical nutrition therapy in the prevention and treatment of metabolic disease across the life span. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**NTR - 662 Applied Evidence in Clinical Nutrition: Cancer and GI Disease**
This class will provide a comprehensive overview of the epidemiology, pathophysiology, pharmaceutical treatments and relevant social determinants of health associated with cancer and gastrointestinal disease. The course will appraise current evidence in nutrition assessment and medical nutrition therapy in the prevention and treatment of cancer and gastrointestinal disease. Offered: summer. Retake Counts for Credit: No. Credit(s): 2

**NTR - 682 Research Methods Application and Special Topics in Clinical Nutrition**
This course is a supplement to the research methods CHS 610 course. The focus is on applying the concepts introduced in CHS 610 to assist in the development of a mini research proposal. Special topics not covered in CHS 610 will also be introduced. Corequisite: CHS-610. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**NTR - 683 Clinical Nutrition Master's Research Project I**
Under faculty supervision, the student will prepare and present a master's research project based on a specific clinical or research question. For this course, the student will complete the introduction and review of literature section for research project. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**NTR - 684 Clinical Nutrition Master's Research Project II**
Under faculty supervision, the student will prepare and present a master's research project based on a specific clinical or research question. For this course, the student will complete the methods section of the research project. Additionally, the student will create and present the research project proposal presentation to the Department of Clinical Nutrition. Prerequisite: NTR-683. Offered: summer. Retake Counts for Credit: No. Credit(s): 1

**NTR - 685 Clinical Nutrition Master's Research Project III**
Under faculty supervision, the student will prepare and present a master's research project based on a specific clinical or research question. For this course, the student will complete data collection for the research project. Prerequisite: NTR-684. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**NTR - 686 Clinical Nutrition Master's Research Project IV**
Under faculty supervision, the student will prepare and present a master's research project based on a specific clinical or research question. For this course, the student will complete the results, discussion and conclusion sections. Additionally, the student will create and present the research project defense presentation to the Department of Clinical Nutrition. Prerequisite: NTR-685. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**NTR - 691 Nutrition Epidemiology**
The course will develop students' ability to apply epidemiological concepts that guide evidence-based nutrition policy, including the Dietary Guidelines for Americans and other federal programs developed in dynamic health care environments. Students will use public use data sources, SPSS software and published literature to address nutrition health concerns of population groups. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**NTR - 692 Seminar in Clinical Nutrition**
In this course, students will examine the evidence about a key nutrition topic that is controversial or novel that has been identified by the course instructor, critically analyze the literature and summarize the evidence for faculty and fellow students in an oral presentation. Finally the student will be able to identify how to apply this new content in clinical practice. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 1

**NTR - 695 Journal Club in Clinical Nutrition**
Students will present a key nutrition article identified by the course instructor or suggested by another faculty. The goal will be to critically analyze the findings presented, discuss the strength of the design, the weaknesses, summarizing the take-away points for faculty and fellow students in an oral presentation. Finally, the student will be able to describe whether such content may be applied to clinical practice. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 1

**NTR - 696 Master's Research Project**
Under faculty supervision, student prepares and presents a Master's research project. The student will select and analyze a specific clinical or research question. Completion of the project includes a professionally written paper and a presentation. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-3

**NTR - 698 Thesis**
Under faculty supervision, student prepares and presents a research thesis. Emphasis is on a review of current research literature and appropriate research design and methods in support of research objectives. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-6

**NTR - 900 Independent Study**
This course will provide students the opportunity to perform independent work on a project under faculty supervision. The project may involve nutrition-related data collection, entry and analysis or preparation of a paper or presentation. Nutrition topics may include, but not be limited to, metabolism, medical nutrition therapy, community nutrition or food service management. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-3

**NTR - 999 Continuous Enrollment**
The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the College of their program until the degree is earned. Continuous Enrollment courses are graduate level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1



**OBG - EXM Obstetrics-Gynecology Exam Remediation**
Remediation of course examination. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 6

**OBG - REM Obstetrics-Gynecology Clinical Remediation**
Remediation of clinical weeks. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 6

**OBG - 7EI Obstetrics-Gynecology Individualized Elective**
Students may receive credit for an individually arranged elective with a Rush faculty member. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter stating the student's activities, responsibilities, amount of supervision and specific dates of the rotation. The sponsoring faculty member must complete an evaluation of the student's performance at the conclusion of the elective. Students must submit a proposal to the Office of Clinical Curriculum for approval at least eight weeks before the rotation and must have written approval from the assistant dean of Clinical Education before beginning the rotation. Students may receive four weeks of credit for an individually arranged elective. Credit for a maximum of only one individually arranged elective will count toward graduation requirements. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**OBG - 703 Core Clerkship: Obstetrics-Gynecology**
This course is designed to familiarize the student with the female reproductive tract. Emphasis is placed on routine obstetrics and gynecologic health care maintenance and patient education. Identification and management of high-risk pregnancy, infertility and other endocrinopathies, gynecologic oncology, family planning psychosomatic disorders, and normal physiological changes in obstetrics and gynecology, as well as gynecologic surgery, are some of the areas covered in detail. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 6

**OBG - 710 Subinternship: Gynecologic Oncology**
This four-week OB-GYN Subinternship in Gynecologic Oncology is designed for fourth year medical students. Students will follow GYN-ONC patients on the floor, including postoperative patients and patients admitted for chemotherapy or complications of their malignancy and treatment. Students will be responsible for overseeing the care of several patients, rounding with the team, writing notes, calling consults, participating in hand offs, working with interdisciplinary teams to coordinate care and discharge planning, likely some OR experience as well. The course will follow Rush University Medical Center's requirements/objectives/assignments standard to Rush Medical College Subinternships. Permission to enroll is granted by the course director. Prerequisite: OBG-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**OBG - 711 Subinternship: Obstetrics and Gynecology**
This four-week course is designed for fourth year medical students. Students function at an advanced level, doing histories and physical examinations, diagnostic evaluations and initiation of appropriate therapy. There is close supervision by the staff of the Department of Obstetrics and Gynecology. The course is primarily intended for students desiring additional clinical experience in obstetrics and gynecology. This course will follow RUMC's requirements/objectives/assignments standard to RMC subinternships. Prerequisite: OBG-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**OBG - 731 Maternal-Fetal/High Risk**
Emphasis of this course is on the identification and management of high risk pregnancy. Ultrasonography, amniocentesis, medical and surgical complications of pregnancy and operative obstetrics are some of the specific topics dealt with in detail. Students participate in ante-partum management of hospitalized and ambulatory pregnant patients with high risk conditions. Additional exposure to intra-partum problems is obtained through daily clinical teaching rounds and through follow-up of high-risk ante-partum patients as they go through labor and delivery. Special experiences and involvement in genetic counseling, prenatal diagnosis and obstetric ultrasound are also available. Prerequisite: OBG-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**OBG - 732 Labor and Delivery**
This is a 4-week Labor and Delivery elective for fourth year students. Students will have the opportunity to hone skills required to evaluate and manage acute OB-GYN problems. It will include both day and evening shifts. They will actively participate in the triage of acute obstetrical complaints, manage patients admitted in labor, participate in deliveries, round on postpartum patients, write intrapartum and postpartum notes; additionally, the experience will include assessing ED and floor consults for gynecologic patients overnight. There will also be a medical education component with the student assisting in the orientation and education of clerkship students on the unit. Prerequisite: OBG-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**OBG - 741 Family Planning**
Elective in Family Planning elective is designed to provide students opportunity to gain expertise in taking sexual and reproductive health histories, pregnancy options counseling, management for pregnancy loss and complex contraception counseling for patients with medical co-morbidities. Students will explore the complexity of family-planning decision making, counseling and procedures for abortion and miscarriage management, along with health policies impacting family planning care in the United States and abroad. Students have a choice of taking this elective for two or four weeks. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**OBG - 751 Female Pelvic Medicine and Reconstructive Surgery**
The Female Pelvic Medicine and Reconstructive Surgery (FPMRS) elective is a subspeciality elective that is designed to provide fourth year students pursing an interest in OB-GYN or Urology the opportunity to enhance their clinical knowledge and technical skills in urogynecology. Students will have the opportunity to recognize pathologic disease processes of the pelvic floor through history and physical exam and determine appropriate therapy while understanding the role of additional diagnostic testing such as urodynamics. Students will gain real-world practice applying evidence-based medicine in clinic and provide level-appropriate assistance with minimally invasive and invasive surgical procedures. Students are expected to be an engaged member of the clinical care team, which includes actively participating in the care of inpatients and outpatients and demonstrating use of the electronic medical record and web-based resources to provide high-quality evidence-based care. Students have a choice of taking this elective for two or four weeks. Prerequisite: OBG-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**OBG - 761 Gynecologic Oncology**
The purpose of this advanced course is to expose the student directly to medical, surgical and research aspects of gynecological cancer care, beyond the scope of what is achieved during short-term required rotations. The student functions as a partner in a team of attendings, residents and nurses. Prerequisite: OBG-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**OBG - 767 Reproductive Endocrinology and Infertility**
This course provides clinical experience in diagnostic evaluation and therapeutic management of couples with infertility and women with gynecologic endocrine problems. The students participate in routine diagnostic studies such as ovulation timing, postcoital tests, endocrine evaluation, etc. and are introduced to the use of diagnostic and therapeutic procedures such as hysterosalpingography, ultrasonography, laparoscopy, hydrotubation, etc. The students scrub on surgical reconstructive procedures involving female reproductive system and participate in the activities of the in-vitro fertilization program. Laboratory experience in performing hormone radioimmunoassay, sperm separation, and other procedures may also be included. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**OBG - 781 Research in Obstetrics-Gynecology**
Students will complete an individual research activity in collaboration with faculty at Rush. The student must develop a proposal that includes the student's activities, responsibilities, amount of supervision and expected time commitment. The proposal must be signed by the faculty supervisor and submitted to Office of Integrated Medical Education for approval at least four weeks before the start of term. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**OCC - 501 Human Structure and Principles of Movement**
The primary goal of this course is to understand and evaluate the musculoskeletal system related to the performance skills of occupational performance. Biomechanical principles are presented with application of treatment to occupational performance impairment. The student will learn and demonstrate the ability to administer evaluations of posture, joint motion, muscle strength and body mechanics in selected activities. Corequisite: OCC-501L. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**OCC - 501L Functional Anatomy With Lab**
The primary goal of this course (OCC-501L) is to understand and evaluate the musculoskeletal system related to the skill components of occupational performance. The gross anatomical structures are presented with respect to the application of the assessment and treatment of occupational performance dysfunction. The student will learn, through lecture and prosected laboratory specimens, of the gross human body structures with an emphasis on the structures vital for functional movement. The largest content focus is on the musculoskeletal system with emphasis on the trunk and extremities, particularly the upper extremities. Pre or Corequisite: OCC-501. Offered: fall. Retake Counts for Credit: No. Credit(s): 2



**OCC - 510 Self-Care and Professional Transitions**
This course introduces students to various strategies and resources to promote self-care while navigating the professional transition to graduate school and becoming an occupational therapist. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**OCC - 520 Health Conditions**
Selected medical, surgical and psychiatric conditions with emphasis on their etiology, prognosis, medical and pharmacological management will be explored through lecture, presentation and discussion. Offered: fall. Retake Counts for Credit: No. Credit(s): 4

**OCC - 576 Sociocultural Aspects of Care**
This course introduces students to the cultural issues that impact practice. Culture is multifaceted and will be explored through a variety of viewpoints and applied to a variety of practice settings. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**OCC - 579 Research Methods**
This course provides the foundation for participation in clinical research and the importance of evidence-based practice in occupational therapy. Emphasis will be on quantitative research design, data analysis strategies and the incorporation of evidence-based practice to clinical practice. Students will also select, apply and interpret quantitative and qualitative methods for analyzing evidence in order to inform occupational therapy practice. This course will serve as a basis for research projects with assigned research faculty. Offered: spring. Retake Counts for Credit: No. Credit(s): 4

**OCC - 600 Introduction to Occupation, Health and Wellness**
Overview of the historical foundations of occupational therapy as they relate to general Occupational Therapy practice and the philosophical perspectives upon which the profession is based. This course also provides students with a holistic overview of the multifaceted dimensions of health and wellness across the life span. Six dimensions of health are explored within the context of occupational therapy. The influence of chronic disease on health, wellness, and occupational performance will be explored. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**OCC - 607 Psychosocial Aspects of Care**
This course introduces students to mental health theory and how it applies to the occupational therapy process in a variety of practice settings. Prerequisites: OCC-520 and OCC-600. Pre or Corequisite: OCC-610. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**OCC - 608 Introduction to Clinical Practice**
This course is designed to provide the occupational therapy student with a foundation of technical and interpersonal clinical practice skills. The primary goal of the skills presented and practiced in the course is for the students to have exposure, experience, and acquire basic clinical assessment, intervention and clinical reasoning skills as a foundation for productive clinical placements and preceptorships at RUMC and in the community. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**OCC - 609 Occupational Performance and Ability**
Focus will be on the development of task analysis skills by applying logical thinking, critical analysis, problem solving and creativity. Students will demonstrate ability to grade and adapt occupation-based tasks and purposeful activity, including the interaction of performance areas, components and contexts through dynamic classroom exercises. In addition, a four-week practicum experience within Rush University Medical Center will allow students the opportunity to apply skills learned in the classroom in a clinical setting. Prerequisites: OCC-501, OCC-501L, OCC-520 and OCC-608. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**OCC - 610 Occupational Therapy Process**
This course will introduce students to the fundamentals of the occupational therapy process, including evaluation, intervention planning, re-evaluation and discharge. This will include ability to critique assessment tools, documentation of the occupational therapy process, best practices in education and therapeutic relationships. Prerequisites: OCC-608 and OCC-609. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**OCC - 612 Physical Disabilities I**
Application of theories and conceptual models for restoration of occupational performance based on biomechanical and rehabilitative principles are presented. The occupational therapy planning, evaluation and intervention process is introduced, and instruction methods include application and synthesis of covered topics. Prerequisites: OCC-501, OCC-501L, OCC-620, OCC-608, OCC-609 and OCC-610. Offered: fall. Retake Counts for Credit: No. Credit(s): 4

**OCC - 613 Physical Disabilities II**
Application of theories and conceptual models for restoration of occupational performance based on motor learning, cognitive-perceptual and rehabilitation models of practice. The occupational therapy planning, evaluation and intervention process is introduced, and instruction methods include application and synthesis of covered topics. Prerequisites: OCC-625, OCC-620, OCC-608, OCC-609 and OCC-610. Offered: spring. Retake Counts for Credit: No. Credit(s): 4

**OCC - 614 Mental Health Practice**
Students learn to apply theories and conceptual models for restoration of occupational performance based on psychosocial principles for individuals, groups and populations. Didactic and experiential learning activities will engage the student in the occupational therapy evaluation, intervention planning and intervention delivery processes. Students will also apply the principles of group dynamics to a six-week group leadership experience. Prerequisites: OCC-576, OCC-620, OCC-607, OCC-608, OCC-609 and OCC-610. Offered: fall. Retake Counts for Credit: No. Credit(s): 4

**OCC - 615 Developmental Disabilities I**
This course begins with fundamental topics of occupational performance as it relates to human and occupational development, with an emphasis on pediatric developmental. The students will be introduced to clinical reasoning within the context of the occupational therapy process with children and their families. Exposure to various assessment tools will facilitate foundational knowledge needed for occupational therapy evaluations related to development throughout the life cycle. Prerequisites: OCC-620, OCC-608 and OCC-609. Pre or Corequisites: OCC-610 and OCC-625. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**OCC - 616 Developmental Disabilities II**
Interventions, which are unique to facilitating human and occupational development, are explored in this course. Students learn to apply practice models and frames of references for the prevention, development, remediation and restoration of occupational performance as it relates to various developmental disorders. Prerequisites: OCC-620, OCC-608, OCC-609, OCC-610 and OCC-615. Offered: spring. Retake Counts for Credit: No. Credit(s): 4

**OCC - 617 Clinical Practice Skills/Fieldwork 1-A**
This course focuses on development of professional behaviors to prepare students for fieldwork experiences. This course also provides didactic and lab training in the use of physical agent modalities. The course culminates with a supervised two-week field experience related to the theory and application of occupational therapy in the areas of biomechanical, rehabilitation and psychosocial principles. Prerequisites: OCC-620, OCC-608 and OCC-609. Pre or Corequisites: OCC-607 and OCC-610. Offered: summer. Retake Counts for Credit: No. Credit(s): 2

**OCC - 618 Clinical Practice Skills/Fieldwork 1-B**
This course will provide didactic and lab training for select clinical skills necessary for successful completion of fieldwork experiences. In addition, this course continues to focus on development of professional behaviors to prepare students for fieldwork experiences. The course culminates with a supervised two-week field experience related to the theory and application of occupational therapy in the areas of biomechanical, rehabilitation and psychosocial principles. Prerequisites: OCC-620, OCC-607, OCC-608, OCC-609 and OCC-610. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**OCC - 620 Foundational Theories in Occupational Therapy**
This course focuses on the prevalent theories of occupational therapy and the impact of theory on clinical practice as well as community-based practice. It introduces students to the difference between models of practice and frames of reference and how theory can be used to guide professional reasoning across the life span. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**OCC - 625 Functional Neuroscience and Cognition**
This course consists of lecture and lab content covering the anatomy, functions and selected dysfunctions of the central and peripheral nervous systems. The student will learn the basic principles of organization, structure, and function within the human nervous system and correlate specific clinical signs and symptoms to lesions within the central and peripheral nervous system. Instruction on clinical measures, including evaluation and assessment tools specific to the neurological tracts will be included, with this material being applied through interactive labs. (1.5 sh lecture; 1.5 sh lab) Offered: summer. Retake Counts for Credit: No. Credit(s): 4

**OCC - 630 Program Development**
This course will introduce students to community-based practice and the program development process. Students will increase their awareness for opportunities to recommend changes to existing services and/or develop proposals for new services in traditional and emerging practice areas. Students will also explore alternative funding strategies, such as grant writing to fund new or developing programs. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**OCC - 643 Health Care Systems**
This course reviews and identifies the factors, forces and dynamics of the environment in which health care services are provided. The interrelationships of health care institutions in the future and their impact on occupational therapy will be discussed. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**OCC - 644 Leadership and Advocacy**
This course presents the foundations of leadership development with an emphasis on effective management of the delivery of Occupational Therapy services, personnel management, fiscal management and resource allocation. Institutional, community and political advocacy as they relate to occupational therapy are also presented. Prerequisite: OCC-643. Offered: summer. Retake Counts for Credit: No. Credit(s): 2

**OCC - 683 Evidence-Based Practice Series I**
The Evidence-Based Practice Series is comprised of three courses (OCC 683, OCC 684 and OCC 685) and is the culmination of the research sequence in the occupational therapy curriculum. It provides students with the opportunity to explore and experience clinical research and the outcomes during development of a graduate research project. Small groups of students participate in weekly faculty-student seminars to explore the literature, create and conduct a research project leading to dissemination of the work, which will be a final paper and presentation. Prerequisites: OCC-579 and CHS-601. Offered: summer. Retake Counts for Credit: No. Credit(s): 1

**OCC - 684 Evidence-Based Practice Series II**
This course is a continuation of OCC 683. Students will continue to work with their small groups to implement their research projects. Emphasis will be on strategies related to data collection and implementation of their project. Prerequisites: OCC-579, OCC-683 and CHS-601. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**OCC - 685 Evidence-Based Practice Series III**
This is the final course in the Evidenced-Based Practice Series. Emphasis in this course will be on strategies related to data analysis, interpretation and dissemination of findings. The culmination of this series will be completion of a scholarly paper and presentation. Prerequisites: OCC-579, OCC-683, OCC-684 and CHS-601. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**OCC - 795 Advanced Fieldwork I**
This course offers supervised field experiences applying theoretical Occupational Therapy concepts on persons with psychosocial and/or physical dysfunctions. Full-time student status is continued while engaged in fieldwork. Prerequisites: OCC-612, OCC-613, OCC-614, OCC-615, OCC-616, OCC-617 and OCC-618. Offered: summer. Retake Counts for Credit: No. Credit(s): 9

**OCC - 797 Advanced Fieldwork II**
This course offers supervised field experiences applying theoretical Occupational Therapy concepts on persons with psychosocial and/or physical dysfunctions. Full-time student status is continued while engaged in fieldwork. Prerequisites: OCC-612, OCC-613, OCC-614, OCC-615, OCC-616, OCC-617 and OCC-618. Offered: fall. Retake Counts for Credit: No. Credit(s): 9

**OCC - 810 Professional Reasoning and Doctoral Experience I**
This is the first module in the Professional Reasoning and Doctoral Experience series, which culminates in the Individualized Doctoral Experience. Emphasis will be placed on development of professional reasoning. Students will begin planning their individualized doctoral experience by identifying interests and opportunities that match their strengths. Prerequisites: OCC-610 and OCC-630. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**OCC - 811 Professional Reasoning and Doctoral Experience II**
This is the second module of the Professional Reasoning and Doctoral Experience series, which culminates in the Individualized Doctoral Experience. Emphasis will be placed on development of professional reasoning. Students will continue planning their individualized doctoral experience. Prerequisites: OCC-610, OCC-630 and OCC-810. Offered: summer. Retake Counts for Credit: No. Credit(s): 1

**OCC - 812 Professional Reasoning and Doctoral Experience III**
This is the final module of the Professional Reasoning and Doctoral Experience series, which culminates in the Individualized Doctoral Experience. Emphasis is placed on the ongoing development of professional reasoning. Students will complete their plan for the Individualized Doctoral Experience and capstone dissemination. Prerequisites: OCC-610, OCC-630, OCC-810 and OCC-811. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**OCC - 820 Capstone Competencies**

Students will complete competency requirements, which will include a comprehensive examination. Prerequisite: OCC-795. Pre or Corequisite: OCC-797. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**OCC - 825 Individualized Doctoral Experiences**

This course affords students the opportunity to extend, build and apply knowledge acquired in the curriculum and prior fieldwork experiences during a 16 week, full time, Individualized Doctoral Experience. Students will engage in an area of practice beyond the generalist level by directing their experience toward an in-depth focus on advanced practice in traditional and emerging settings, management and leadership, academia or research. Students direct the development of specific learning objectives with the guidance and approval of faculty. Prerequisites: OCC-795, OCC-797, OCC-810, OCC-811, OCC-812 and OCC-820. Offered: spring. Retake Counts for Credit: No. Credit(s): 12

**OCC - 828 Capstone Dissemination**

Students will complete a capstone project based on the Individualized Doctoral Experience. The capstone will analyze professional development, advancing skills and discovery of evidence in a culminating report. Students will complete the culminating report through producing papers and/or presentations based upon the objectives and outcomes developed through the Professional Reasoning and Doctoral Experience coursework. Prerequisites: OCC-810, OCC-811, OCC-812 and OCC-820. Pre or Corequisite: OCC-825. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**OCC - 900 Independent Study**

Creative project designed by the student and supervised by faculty. Offered: as needed. Retake Counts for Credit: Yes. Credit(s): 1-12

**OCC - 999 Continuous Enrollment**

The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Offered: as needed. Retake Counts for Credit: Yes. Credit(s): 1

**PED - EXM Pediatrics Exam Remediation**

Remediation of course examination. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 8

**PED - REM Pediatrics Clinical Remediation**

Remediation of clinical weeks. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 8

**PED - 7EI Pediatrics Individualized Elective**

Students may receive credit for an individually arranged elective with a Rush faculty member. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter stating the student's activities, responsibilities, amount of supervision and specific dates of the rotation. The sponsoring faculty member must complete an evaluation of the student's performance at the conclusion of the elective. Students must submit a proposal to the Office of Clinical Curriculum for approval at least eight weeks before the rotation and must have written approval from the assistant dean of Clinical Education before beginning the rotation. Students may receive four weeks of credit for an individually arranged elective. Credit for a maximum of only one individually arranged elective will count toward graduation requirements. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PED - 701 Core Clerkship: Pediatrics**

This course is designed to introduce students to the principles and practice of care of the patient from birth through adolescence, which are studied through direct patient contact. The primary objective is to provide an opportunity for students to become proficient in the clinical basis of pediatric diagnosis. The clinical facilities of both the inpatient and outpatient services of Rush University Medical Center, John H. Stroger, Jr. Hospital of Cook County and private physicians' offices are utilized. Regular conferences, lectures and case presentations provide additional learning experiences. Students will have an eight-week assignment to pediatrics, which includes rotations in inpatient and ambulatory settings and the nursery. Ambulatory activities constitute 50% of the clerkship. Night call is approximately every fourth night, including weekends. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 8



**PED - 710 Subinternship: Pediatrics**

The subintern will function in a capacity similar to an intern on one of two pediatric ward services. Senior residents and faculty physicians will provide supervision. The students are expected to take call every fourth night. Prerequisites: MED-703, NEU-701, OBG-703, PED-701, PSY-701, RMD-701 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**PED - 711 Pediatric Cardiology**

Ambulatory experience can be obtained in the care of children with congenital and acquired heart disease, as well as assessment of innocent heart murmurs. Clinical history and physical findings are correlated with X-ray, electrocardiographic, echocardiographic and cardiac catheterization data. Didactic sessions are offered once a week, which include learning the interpretation of ECG and chest X-ray. Prerequisite: PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PED - 715 Chronic Diseases in Children**

Based at Shriner's Hospital for Crippled Children, students participate in an active inpatient and outpatient program that provides referral services to children with musculoskeletal disorders, neural tube defects and other chronic diseases. Prerequisite: PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**PED - 716 Pediatric Ambulatory Care**

This course offers students the opportunity to participate in primary care pediatrics in a variety of settings. A hands-on approach with individual attending supervision is emphasized. Students work one-on-one with two to three different outpatient faculty over the course of the rotation. They will treat patients for both health maintenance during well child check-ups and acute medical problems during urgent care visits. Students generate their goals and learning experiences for the rotation. The course will be geared toward satisfying the student's individual needs and interests. Students must attend Pediatric Grand Rounds. Prerequisite: PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PED - 721 Pediatric Endocrinology**

This course provides students with a problem-oriented approach to pediatric endocrinology. All aspects of pediatric endocrinology are covered but particular emphasis is placed on the outpatient assessment of the normal and abnormal aspects of growth and pubertal development. The course aims to highlight the role of the primary care provider in the initial evaluation of pediatric patients with a suspected endocrine disorder and to provide the student with an introduction to specialized diagnostic endocrine testing and management of the endocrine patient. The student is expected to evaluate any inpatient consult that presents during the rotation. The student is provided up to eight endocrine case exercises with questions for review, as well as other didactic material and is expected to present an endocrine topic researched from the literature for 15-20 minutes at the end of the rotation. Prerequisite: PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**PED - 724 Pediatric Intensive Care**

This course exposes the student to the type of care provided to medical, subspecialty and surgical pediatrics patients who require higher acuity of care. The student is part of a medical team comprised of residents of varying experience levels. The student is expected to perform at a subintern level with regard to expectations and work requirements. By the end of the rotation, the student will be expected to learn: (1) The initial evaluation and stabilization of a critically ill patient; (2) pediatric resuscitation techniques; (3) basic ventilator management; and (4) procedures such as intubation and central line placement. Prerequisite: PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**PED - 726 Pediatric Nephrology**

This course will provide the student with experience in the care of children with renal problems in hospital and ambulatory settings. The emphasis is on participation in an active consulting service with concentration on normal and abnormal renal functions, electrolyte imbalances, proteinuria, hematuria, hypertension, urinary tract infections and developmental diseases of the kidney. Prerequisite: PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**PED - 732 Pediatric GI/Nutrition**

This course provides a core set of didactic materials and discussions. Emphasis is on understanding the pathophysiology of, and basic approach to, common clinical problems. The nutrition component includes fundamentals of enteral and total parenteral nutrition management. The student is expected to perform a literature review of one or more topics. Prerequisite: PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PED - 741 Pediatric Allergy/Immunology**

This course teaches the clinical approach to problems of allergy, other immune-mediated diseases and immunodeficiency in both children and adults. Diagnosis and treatment of commonly encountered IgE-mediated diseases (allergic rhinitis, asthma, eczema, food allergies and urticaria), as well as autoimmune and autoinflammatory diseases and immunodeficiency syndromes will be covered during the clerkship. Students learn via bedside teaching and lectures (basic science and clinical lectures, journal clubs, research presentations and chart reviews). Students will be supervised by allergy/immunology attending and fellows in learning to evaluate and manage patients in the allergy/immunology outpatient clinic in the Professional Office Building. Students will learn about skin testing and spirometry testing and learn how to interpret these test results. Students will learn the indications for ordering allergy and immunological laboratory tests and how to interpret the results of the tests. Students will be given weekly feedback by attending and fellows. At the end of the clerkship, a final grade will be entered into Oasis by the clerkship director with feedback given to the clerkship director by the attending and fellows. Prerequisite: PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PED - 742 Pediatric Hematology/Oncology**

This course provides an introduction to the care of children with hematologic disorders and malignancies of childhood. Students participate in the evaluation of new patients as well as established patients in the clinic, the pediatric infusion center and on the inpatient wards. High yield topics are reviewed with the fellow or attending. Prerequisite: PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PED - 746 Pediatric Infectious Disease**

This course focuses on the clinical management and laboratory evaluation of pediatric infections in both the inpatient and outpatient setting. The rotation involves a robust inpatient consultation service experience with the goal of continuity and the opportunity for outpatient follow up. Over the course of this rotation, learners will gain knowledge and experiences related to the pathophysiology of pediatric infectious diseases, creation of differential diagnoses and the appropriate use of empiric and targeted antimicrobial therapy. Additionally, there are several different didactic opportunities by which to gain experience in the wide breadth of infectious diseases. Prerequisite: PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PED - 751 Pediatric Neurology**

In this advanced course students will become acquainted with the broad scope of pediatric neurology with an emphasis on the basic examination of children with neurologic and developmental problems. Basic interpretation of common neurodiagnostic studies in the course of inpatient rounds and outpatient clinics will be emphasized. Students will become familiar with common diagnoses such as epilepsy, migraine, autism, muscular dystrophy, developmental delay, tics and attention deficit disorder. Prerequisites: NEU-701 and PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**PED - 755 Advanced Clinical Genetics**

The Advanced Clinical Genetics elective is designed to provide fourth year medical students the opportunity to learn about the diagnostic process and management of common genetic disorders, particularly in the pediatric population. Genetics as a field has rapidly expanded in the last decade from a technological and molecular standpoint, and there are now known genetic disorders affecting nearly all areas of medicine. This course would allow students to translate what they have learned from the medical school curriculum into the clinical setting. Students have a choice of taking this elective for two or four weeks. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PED - 772 Pediatric Respiratory Medicine**

The objective for this course is to expose medical student to all facets of clinical practice involving pediatric patients with respiratory disease. Prerequisite: PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**PED - 781 Research in Pediatrics**

Students will complete an individual research activity in collaboration with faculty at Rush. The student must develop a proposal that includes the student's activities, responsibilities, amount of supervision and expected time commitment. The proposal must be signed by the faculty supervisor and submitted to Office of Integrated Medical Education for approval at least four weeks before the start of term. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**PED - 793 Neonatal Intensive Care**

This course is an introduction to the care of sick and premature newborn infants in the intensive care setting with emphasis on normal sequence of events in the birth-recovery period and disruptions to that sequence and adaptation of the baby during the postpartum period. Care of the most common complications occurring at this age will be emphasized. Visiting students are eligible for four-week rotations only. Prerequisite: PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PED - 794 Adolescent and Young Adult Medicine**

This course provides direct experience in the care of hospitalized and outpatient adolescents and young adults. Hospitalized patients are seen at Rush University Medical Center. Outpatients are seen at a variety of sites, including the Pediatric Ambulatory Care Center at Rush, the Teen/Family Planning Clinic in Evergreen Park, the Joliet and Chicago Job Corps Center and the Orr High School Clinic. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**PED - 804 Adolescent and Young Adult Medicine**

This course provides experience in outpatient settings, including a hospital-based adolescent clinic and HIV adolescent specialty clinic, the juvenile detention center and school-based clinics. In addition, students are required to do short presentations and to participate in didactic sessions and a journal club that is adolescent-focused. Prerequisite: PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PED - 842 Pediatric Hematology/Oncology**

This course introduces the care of children with hematologic disorders and malignancies of childhood. A core lecture series is presented during the elective as well as a review of blood and marrow morphology. Students participate in the evaluation of new patients as well as established patients. Ward rounds are made daily for inpatients on the service and consultations. Outpatient clinics are held five days a week. Several multidisciplinary conferences are held weekly. A course syllabus will be provided. Students complete the course by taking an oral and written (open-book) examination. Prerequisite: PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**PED - 861 Child Abuse and Neglect**

In this course students work one-on-one with the attending physicians in the Division of Child Protective Services at Stroger, Jr. Hospital of Cook County and actively participate in the work-up, management and follow-up care of children suspected of being maltreated. Students can expect to learn medical aspects of physical abuse, sexual abuse and neglect (including failure to thrive). Students also have the opportunity to observe and participate in the developmental evaluations of patients and in the psychosocial evaluations of patients and their families. Students attend and provide care in the weekly comprehensive follow-up clinic for abused and neglected children and also attend the medical clinic at the Children's Advocacy Center. In addition to participating in the clinical work-up of suspected abuse/neglect, students learn about the role of the physician as advocate for the child within the Child Welfare and Legal Systems and learn about the physician's role in coordinating multidisciplinary care for high risk patients and their families. There is required reading and students are expected to attend lectures and present cases during rounds and weekly multidisciplinary patient staffing. Prerequisite: PED-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**PHA - CLIN1 Clinical Curriculum Enrollment**

This course acts as place holder for billing purposes. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 16

**PHA - 510 Human Physiology**

This lecture-based course will present a comprehensive and advanced review of organ systems, including human physiologic function, regulation and integration as a basis for understanding the complex interaction of specific body systems and their relationship to disease. Commonly occurring pathophysiologic processes will be introduced to prepare students for more in-depth learning about specific disease states and patient presentations in subsequent courses. Offered: summer. Retake Counts for Credit: No. Credit(s): 2

**PHA - 511 Human Anatomy**

This course provides students with a thorough understanding of the principles of functional and applied human anatomy necessary for the practice of clinical medicine. The course is driven primarily by the laboratory (small group) sessions with lectures given to prepare students for the lab and provide supplementary information. Offered: summer. Retake Counts for Credit: No. Credit(s): 4

**PHA - 512 History and Physical Examination**

This course is designed to teach PA students the proper techniques for patient assessment. This course covers how to conduct an effective medical interview, how to document clinical findings in the medical record and how to perform a physical exam. Both the comprehensive and problem focused medical history formats will be discussed and

students will practice proper MR documentation using the SOAP note format. Students will learn how to perform a comprehensive physical examination and to recognize the normal examination findings associated with each organ system. The course will also introduce students to common pathological PE findings and to interpret the significance of these findings to diagnosing disorders. Finally, students will learn to accurately record PE findings as part of a patient medical record. The course material will be presented sequentially in an organ-system basis. The course will present techniques to facilitate accurate and efficient data collection, to foster effective patient communication and to develop appropriate patient centered responses to different patients in the clinical setting. Developing skills to effectively educate, counsel and influence patient behaviors will also be discussed. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**PHA - 513 Physician Assistant Professional Practice**

This course is designed to introduce and familiarize the student with the major professional issues and communication skills important to a practicing physician assistant working on a medical team. Topics include the history and development of the physician assistant profession, the physician/physician assistant relationship, physician assistant scope of practice and professional regulations, licensure, certification/recertification, physician assistant program accreditation and physician assistant professional organizations. The course also covers legal issues in health care related to physician assistant practice, including the Health Insurance Portability and Accountability Act (HIPAA), professional liability, laws and regulations, billing and reimbursement, quality assurance and risk management. Corequisites: PHA-510, PHA-511, PHA-512 and PHA-514. Offered: summer. Retake Counts for Credit: No. Credit(s): 2

**PHA - 514 Clinical Medicine I**

This is the first in a three-part course series designed to provide students with an intensive study of the principles essential to the practice of primary care medicine. Lectures will discuss the etiology, pathophysiology, clinical presentation, diagnostic evaluation and management principles of various diseases in the following topic categories: basics of pharmacology, dermatology, EENT, orthopedics, rheumatology, genetics, hematology, immunology, infectious diseases and corresponding pediatric topics. Lectures, readings, case study analysis and discussion of specific disorders in each category will provide an understanding of the key clinical concepts relevant to disease diagnosis and patient care. Offered: summer. Retake Counts for Credit: No. Credit(s): 5

**PHA - 520 Principles of Clinical Pharmacology I**

This is the first in a two-part course series designed provide students with an intensive study of the pharmacology and pharmacotherapeutics principles required for patient care. Emphasis in the course is placed on the applications of pharmacological principles in primary care medicine. This course is organ system-based; the topics discussed will mirror the major organ systems covered in Clinical Medicine II. Pharmacological principles discussed in this course include the following: principles of pharmacology and drug action; pharmacokinetics and dynamics; drug dosage calculation; the usage profile for major classes of clinically important drugs, including indications, contraindications and side effects and dosing and administration; principles of drug selection and assessment of therapeutic efficacy and outcome. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**PHA - 521 Research and Statistics**

This online/face-to-face blended course is designed to discuss the different components and terminology of research as well as various research models ranging from the highly quantitative to broad qualitative methods. The course will provide a practical approach to research planning through the logical sequence of developing a research proposal pertaining to the research interests of individual students. Formulation of research questions, hypotheses, literature search techniques, ethical issues, and the writing of the research proposal/final research report and the dissemination of research findings will be discussed. This course is designed to provide the first-time researcher with the skills to undertake research and to write up proposals and final reports in areas of their choice. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**PHA - 522 Diagnostic Reasoning I**

This is the first in a two-part course series designed to develop students' skills in clinical problem solving and promote application of knowledge gained throughout PA school for use in patient assessment and management and formulating patient care plans. In class, students will be presented with clinical case scenarios, which they must analyze and make decisions relevant to patient evaluation and management. Students are encouraged to apply their medical knowledge and to utilize sound, clinically based texts and online references to derive clinical assessment plans and facilitate case analysis. The goal of this course is to develop students' clinical critical thinking and problem-solving skills, including utilizing previously learned information and recognition of how to find necessary information to fill knowledge gaps. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**PHA - 523 Epidemiology and Public Health**

This course is an introduction to principles and practices of population health in the United States health care system, focusing on the Chicago metropolitan area and Chicago Medical District as an exemplar microcosm to represent the larger health system paradigm. The course will discuss issues related to health care access, population health trends and current topics in public health policy and health care reform. Additionally, the role of social determinants of health on disease management is explored as a tool for reviewing health outcomes in the United States. Course discussions will explore the influence of race, class, gender, immigration and social status on health care policy. These discussions are designed to provide students with various lenses through which to analyze current and emerging public health policies, practices and health care outcomes. Prerequisites: PHA-513 and PHA-514. Corequisites: PHA-524 and PHA-525. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**PHA - 524 Clinical Medicine II**

This is the second in a three-part course series designed provide students with an intensive study of the principles essential to the practice of primary care medicine. Lectures will discuss the etiology, pathophysiology, clinical presentation, diagnostic evaluation and management principles of various diseases in the following topic categories: dermatology; otolaryngology; ophthalmology; cardiology; pulmonology; nephrology, including fluid and electrolyte and acid-base maintenance; and urology. Lectures, readings, case study analysis and discussion of specific disorders in each category will provide an understanding of the key clinical concepts relevant to disease diagnosis and patient care. Offered: fall. Retake Counts for Credit: No. Credit(s): 6

**PHA - 525 Principles of Advanced Practice I**

This is the first of a two-part companion course to PHA 524 Clinical Medicine II. This course will course discuss the essentials of ordering, interpreting and performing clinical studies used in the screening, diagnosis, management and monitoring of disease. The course will mirror the organ systems scheduled in clinical medicine. Topics include the interpretation of rhythm strips and 12 lead electrocardiograms (EKGs), basic and advanced imaging techniques, including: radiography, CT, MRI, PET scan, cardiac imaging and V/Q scan. Emerging diagnostic technology and the use of diagnostic testing in disease assessment and management, including decision making regarding ordering radiologic testing, will also be included. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**PHA - 530 Principles of Clinical Pharmacology II**

This is the second in a two-part course series designed provide students with an intensive study of the pharmacology and pharmacotherapeutics principles required for patient care. Emphasis in the course is placed on the applications of pharmacological principles in primary patient care. This course is organ system-based; the topics discussed will mirror the major organ systems covered in the Clinical Medicine III. Pharmacological principles discussed in this course include the following: principles of pharmacology and drug action; pharmacokinetics and dynamics; drug dosage calculation; the usage profile for major classes of clinically important drugs, including indications, contraindications and side effects and dosing and administration; principles of drug selection and assessment of therapeutic efficacy and outcome. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**PHA - 532 Diagnostic Reasoning II**

This is the second in a two-part course series designed to develop students' skills in clinical problem solving and promote application of knowledge gained throughout PA school for use in patient assessment and management and formulating patient care plans. In class, students further refine their patient care skills through case analysis and discussion. The format of the course is similar as PHA 522 - Diagnostic Reasoning I, where students will be presented with clinical case scenarios that they must analyze and make decisions relevant to patient evaluation and management. The cases in this term present more complex diagnostic and management issues than in the previous course. The goal of this course is to further develop students' clinical critical thinking and problem solving skills, including utilizing previously learned information and recognition of how to find necessary information to fill knowledge gaps. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**PHA - 533 Psychosocial Medicine**

This course will explore the psychosocial aspects of patient care to help students develop their understanding of the dynamic between one's own and patient's attitudes, biases and values and the impact they have on medical practice and patient relationships and communication. Discussions and presentations will cover the basic counseling and patient

education skills necessary to help patients and families cope with illness and injury, and to modify behaviors as needed to adhere to therapeutic management plans and improve outcomes. Discussions include issues of culture, faith, religion and sexuality and the impact these forces have on attitudes toward health and patient counseling. Prerequisite: PHA-523. Corequisites: PHA-534 and PHA-535. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**PHA - 534 Clinical Medicine III**

This is the third in a three-part course series designed provide students with an intensive study of the principles essential to the practice of primary care medicine. Lectures will discuss the etiology, pathophysiology, clinical presentation, diagnostic evaluation and management principles of various diseases in the following topic categories: gastroenterology; endocrinology; women's health; rheumatology; orthopedics; geriatrics; and wellness and prevention medicine. Lectures, readings, case study analysis and discussion of specific disorders in each category will provide an understanding of the key clinical concepts relevant to disease diagnosis and patient care. Offered: spring. Retake Counts for Credit: No. Credit(s): 6

**PHA - 535 Principles of Advanced Practice II**

This is the second of a two-part companion course to PHA 534 Clinical Medicine III. This course will discuss the essentials of ordering, interpreting and performing clinical studies used in the screening, diagnosis, management and monitoring of disease. The course will mirror the organ systems scheduled in clinical medicine. Topics include the interpretation of abdominal imaging, gastrointestinal testing, renal and bladder imaging, hormone assays, breast imaging, cervical cancer screening, bone testing, fracture imaging and preventative and geriatric testing. Emerging diagnostic technology and the use of diagnostic testing in disease assessment and management, including decision making regarding ordering radiologic testing, will also be included. There will also be several written short answer case assignments, done in class, that will encompass knowledge students have gained in Diagnostic Methods, as well as Principles of Advanced Practice I. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**PHA - 536 Emergency and Surgical Medicine**

This two-credit course will provide students with an introduction to the diagnosis and treatment of disease states and conditions encountered in emergency and urgent care settings. Students will also be introduced to surgical concepts needed to assess patients and provide care in surgical settings. Emergency medicine lectures will discuss the role of triage, assessment and the management of commonly encountered medical, surgical, environmental and psychiatric emergencies as they present in the adult and pediatric populations. Surgical lectures will discuss general surgical concepts. Pre and postoperative patient assessment and care management will be emphasized. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**PHA - 581 Family Medicine**

During this experience in family medicine, students see patients, perform assessments and formulate care plans under the supervision of a physician, PA or advanced practice nurse. Comprehensive, longitudinal care is stressed. Common problems are reviewed, and the responsibilities of a primary care physician assistant are observed and taught. Principles of health, wellness, prevention, recognition and treatment of substance abuse and chronic disease management and chronic care are introduced in the clinical setting. Patient assessment and management are reviewed to include the generation of a differential diagnosis and oral presentation of patient data to the supervising physician and appropriate referral of patients. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 4

**PHA - 582 Internal Medicine I**

This clinical practice is designed to introduce students to the practice of internal medicine. Through participating directly in patient care, students have the opportunity to evaluate and manage a variety of patients and their problems. Students further develop their skills in history taking and physical examination and review pathophysiologic principles as a guide to caring for patients. Students will develop an understanding of relationships between disease states and the patient from the medical, social and emotional points of view. The team approach allows students the opportunity to actively work toward the goals of quality patient care while reinforcing medical principles. Patient assessment and management are reviewed to include the generation of a differential diagnosis, oral presentation of patient data to the supervising physician and appropriate referral of patients. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 4

**PHA - 583 Internal Medicine II**

This clinical practice rotation is designed to immediately follow Internal Medicine I and reinforce internal medicine concepts through practice in an internal medicine subspecialty. Through participating directly in patient care, students have the opportunity to evaluate and manage a variety of patients and their problems. Students further develop their skills in history taking and physical examination and review pathophysiologic principles as a guide to caring for patients. Students will develop an understanding of relationships between disease states and the patient from the medical, social and emotional points of view. The team approach allows students the opportunity to actively work toward the goals of quality patient care while reinforcing medical principles. Patient assessment and management are reviewed to include the generation of a differential diagnosis, oral presentation of patient data to the supervising physician and appropriate referral of patients. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 4

**PHA - 584 General Surgery I**

The student will be introduced to the principles of preoperative, operative and postoperative care, diagnosis of surgical disease, indications for surgery, recognition and response to surgical emergencies and the physiological principles of surgery are presented. Technical experience is provided in the operating rooms. Lectures and/or conferences provide additional direct contact with other members of the interprofessional health care team. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 4

**PHA - 585 General Surgery II**

This clinical practice rotation is designed to immediately follow General Surgery I and reinforce general surgery concepts through the practice of a surgical subspecialty. Students will continue their exposure to the principles of preoperative, operative and postoperative care, diagnosis of surgical disease, indications for surgery, recognition and response to surgical emergencies and the physiological principles of surgery are presented. Technical experience is provided in the operating rooms. Lectures and/or conferences provide additional direct contact with other members of the interprofessional health care team. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 4

**PHA - 586 Obstetrics and Gynecology**

This clinical rotation experience will introduce students to patient health maintenance and education needs in the obstetrics and gynecological setting. Students will learn the identification and management principles of conditions unique to women, including normal psychological changes across the life span, pregnancy, infertility, gynecologic oncology, family planning and psychosomatic disorders. Basic, common procedures in obstetrics and gynecology will also be covered. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 4

**PHA - 587 Pediatrics**

Principles and practice patient care from birth through adolescence are studied by providing direct patient care. Students will learn basic pediatric assessment, diagnosis, treatment and appropriate referral. The rotation will also provide exposure to developmental milestones, routine immunizations, common childhood illnesses, infant/child safety and patient/parent education. Seminars, conferences, lectures and case presentations provide additional learning experiences. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 4

**PHA - 588 Behavioral Health**

Provides exposure to major psychiatric disorders focusing on diagnosis and management. Emphasis on aspects of psychology and psychiatry relevant to primary practitioner with a holistic approach to patient care, recognizing significant biological, psychological and social/environmental factors contributing to the patient's illness. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 4

**PHA - 589 Long Term Care/Geriatrics**

Supervised clinical practice experience is provided in long term care/geriatrics, with a focus on rehabilitative medicine, geriatric medicine and the care of patients with chronic and/or terminal disease. Physical therapy, occupational therapy and rehabilitation of patients with physical, psychological and social disabilities is also introduced. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 4

**PHA - 590 Emergency Medicine**

Students will see patients in all areas of the emergency department under supervision of attending physicians, PAs or advanced practice nurses. Students will perform histories and physical examinations, record their findings and discuss patients with assigned preceptors. Students will formulate diagnosis and treatment plans, bearing in mind the inherent time, patient risk and cost factors. Students will learn the assessment, diagnosis and treatment of common emergency room patients and their complaints. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 4

**PHA - 591 Elective I**

Elective rotation I may include any medical or surgical practice area as approved by the director of Clinical Education.

This four-week rotation may provide a more in-depth study of one clinical practice area of interest to the student. Students are expected to provide patient care under the supervision of the preceptor. Learning experiences should include taking histories and performing physical exams, formulating a differential diagnosis, assessment and treatment plan. Experiences may also include performing common procedures in the specific area of practice or going to the operating room (if applicable). Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 4

**PHA - 592 Elective II**

Elective rotation II may include any medical or surgical practice area as approved by the director of Clinical Education. This four-week rotation may provide a more in-depth study of one clinical practice area of interest to the student. Students are expected to provide patient care under the supervision of the preceptor. Learning experiences should include taking histories and performing physical exams, formulating a differential diagnosis, assessments and treatment plans. Experiences may also include performing common procedures in the specific area of practice or going to the operating room (if applicable). Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 4

**PHA - 593 Advanced Clinical Practice I**

This course is part one of a two-part course series in an advanced area of PA practice. This course consists of a 15-week rotation in a single, focused area of advanced PA clinical practice. Students will select from several areas of medicine or surgery as they are available. Availability of advanced practice clinical areas and locations are determined by the director of Clinical Education. Advanced clinical rotations will generally require a minimum of 40 contact hours per week. Offered: fall and summer. Retake Counts for Credit: No. Credit(s): 15

**PHA - 594 Advanced Clinical Practice II**

This course is part two of the two-part course series and consists of a 15-week rotation in a single, focused area of advanced PA clinical practice. Students will select from several areas of medicine or surgery as they are available. Availability of advanced practice clinical areas and locations are determined by the director of Clinical Education. Advanced clinical rotations will generally require a minimum of 40 contact hours per week. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 15

**PHA - 595 Master's Research Project I**

This is the first of a two-part course sequence that will integrate the critical thinking, application of research data analysis and presentation skills taught throughout the program in a formative research capstone project. Students are expected to apply knowledge obtained from PHA 521 Research and Statistics and participation in journal club activities in the development of their project. Students will work with an assigned faculty adviser to develop a clinical research question and gather, analyze and critique relevant research literature related to the proposed question to develop an extensive literature review paper. Students will use this information in the next part of the course sequence to prepare a master's capstone project designed to develop a potential research study. Offered: fall and summer. Retake Counts for Credit: No. Credit(s): 1

**PHA - 596 Master's Research Project II**

This is the second of a two-part course sequence that will integrate the critical thinking, application of research data analysis and presentation skills taught throughout the program in a formative research capstone project. Students are expected to apply knowledge obtained from PHA 521: Research and Statistics and participation in journal club activities in the development of their project. Students will work with an assigned faculty adviser to develop a feasible research project based on the research question and literature review developed in PHA 595. Students will then prepare a master's capstone paper and presentation based on their original research study design. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 1

**PHA - 999 Continuous Enrollment**

The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1

**PHY - 511 Graduate Physiology I**

Comprehensive physiology course dealing with all major systems except the CNS. Concept formation and problem solving are stressed. Lectures are supplemented by small group discussions and laboratory exercises. Students are expected to discuss assigned study questions in group discussions. Laboratory exercises are divided between conventional experiments and computer simulations of physiological systems. Offered: as needed. Retake Counts for Credit: No. Credit(s): 5

**PHY - 512 Graduate Physiology II**

This is the second of two courses that focuses on cellular, tissue and organ-based physiology. The first half of the course discusses renal physiology, acid-base balance, gastrointestinal physiology, gastrointestinal and reproductive physiology. Prerequisite: PHY-511. Offered: as needed. Retake Counts for Credit: No. Credit(s): 3

**PMR - 781 Research in Physical Medicine and Rehabilitation**

Students will complete an individual research activity to be in collaboration with faculty at Rush. The student must develop a proposal that includes the student's activities, responsibilities, amount of supervision and expected time commitment. The proposal must be signed by the faculty supervisor and submitted to Office of Integrated Medical Education for approval at least four weeks before the start of term. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**PMR - 791 Physical Medicine and Rehabilitation**

This course introduces the student to the field of physical medicine and rehabilitation (PM&R). The rotation is structured between inpatient and outpatient experiences. Students are exposed to the rehabilitation care of people with disabilities due to traumatic brain injury, stroke, spinal cord injuries, amputations, neurodegenerative conditions, debility, acute and chronic pain, pediatrics and cancer rehabilitation. The experiences are diverse, and students can ask to have the focus of their rotation entirely on any one of the aforementioned subspecialties. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PMR - 792 Physical Medicine and Rehabilitation Virtual Away Elective**

This two-four week online PM&R course is designed to allow non-Rush fourth-year students interested in auditioning in PM&R at Rush to explore the field in addition to interacting with faculty & residents. The course is centered around 1 week learning modules on a single diagnosis (i.e. Stroke) where the students are given a clinical case they will use as a backdrop for their learning. Each day, the students will be required to submit 1-2 paragraph responses to questions, complete a group discussion (students only), group discussion with a resident and receive a didactic lecture from an attending physician. In addition, the course will incorporate concepts of disability, have mock oral boards cases and have a virtual get-together with residents from the program. At the end of the course, the students have to present a 20 minute presentation on a topic of their choice. They will be evaluated based upon the quality of their presentation, daily submissions and quality of interaction/participation in group discussions. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1-2

**PSY - EXM Psychiatry Exam Remediation**

Remediation of course examination. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**PSY - REM Psychiatry Clinical Remediation**

Remediation of clinical weeks. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**PSY - 7EI Psychiatry Individualized Elective**

Students may receive credit for an individually arranged elective with a Rush faculty member. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter stating the student's activities, responsibilities, amount of supervision and specific dates of the rotation. The sponsoring faculty member must complete an evaluation of the student's performance at the conclusion of the elective. Students must submit a proposal to the Office of Clinical Curriculum for approval at least eight weeks before the rotation and must have written approval from the assistant dean of Clinical Education before beginning the rotation. Students may receive four weeks of credit for an individually arranged elective. Credit for a maximum of only one individually arranged elective will count toward graduation requirements. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PSY - 701 Core Clerkship: Psychiatry**

This course provides basic medical and didactic exposure to the major psychiatric disorders focusing on diagnosis and management. Emphasis is placed on aspects of psychiatry relevant to the primary practitioner with a holistic approach to patient care, recognizing the significant biological, psychological and social/environmental factors contributing to the patient's illness. Systems concepts of care are presented in an integrated manner through graded, intensive clinical experiences. Inpatient settings employed for assignment of patient responsibility include general adult, intensive adult,

consultation-liaison services and clinical research. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**PSY - 750 Neuromodulation**

This two- or four-week elective course is for third- and fourth-year medical students and is designed to expose to transcranial magnetic stimulation (TMS), electroconvulsive therapy (ECT) and ketamine clinic. Students will observe ECT, TMS and ketamine administration. Students will evaluate patients and assess effects of treatment. Students will also complete online modules and read articles to supplement their clinical work. Students will be assessed on their clinical skills and a presentation at the end of this course. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PSY - 755 Gender Affirming Health Care**

This is a course that provides fourth-year students with an opportunity to gain exposure to the breadth of the LGBTQ+ patient care experience. Students will engage in a multidisciplinary elective that includes exposure to endocrinology, psychiatry and surgery. Students will primarily be engaging in patient care experiences at Rush University Medical Center, but other off-site opportunities and nonclinical experiences, such as working with Affirm's patient care navigators, are included. Students will complete reflective writing assignments for evaluation. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PSY - 783 Research in Psychiatry**

The student is exposed to basic clinical psychiatric research and be involved with patients with a wide spectrum of psychiatric disorders. Most of the research is based on using medical treatment that is investigational. The objectives of this clerkship are to become familiar with basic clinical research, including use of psychiatric rating scales and basic research design. Prerequisite: PSY-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PSY - 792 Psychiatric Consult (Med/Psych)**

This course is designed for students interested in the internal medicine/psychiatry residency or psychiatry in a consultation/liaison setting. Adults hospitalized on medical, surgical, obstetric and neurological services are studied with supervised diagnostic evaluation and continuing management. Integration of medical, psychological and family issues are emphasized, including the role of the milieu-home, community and hospital. Special work is done with dialysis patients, transplant patients, patients with malignancy and those undergoing intensive care. The course is planned as an experience in all areas, with emphasis depending upon student interest and needs. Those interested in the combined internal medicine/psychiatry residency may choose to have additional experiences to acquaint them with the residency and this combined approach to patient care. Prerequisite: PSY-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-6

**PSY - 793 Child Psychiatry**

In this course, students will work with the treatment teams of the 4 Kellogg Child Psychiatric Inpatient Unit, the Rush Therapeutic Day School, the Medication Clinic, a residential treatment center for emotionally and behaviorally disturbed students and outpatient services for children and adolescents. Students attend seminars in child development, psychopathology, psychopharmacology and therapeutic modalities. Students participate in multidisciplinary staffing's case conferences, departmental grand rounds and the journal club. Optional experience in school consultation at a therapeutic school for autistic children and forensic consultant at the Juvenile Detention Center is available. Students are supervised by faculty members and child psychiatry fellows. Prerequisite: PSY-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**PSY - 794 Adult Psychiatry**

The objective of this course is to increase the student's knowledge of various psychiatric disorders and to improve knowledge and skills in drug therapy, individual psychotherapy and group therapy. Emphasis is placed on crisis management and brief therapy in inpatient settings. Prerequisite: PSY-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PSY - 795 Geriatric Psychiatry**

Objectives of this course are: (1) to increase the amount of experience in treating elderly patients with psychiatric diagnostic skills and the use of psychotherapy and pharmacotherapy with elderly patients; (2) to learn the psychological changes that accompany the aging process; and (3) to become familiar with normal and abnormal states and processes in the elderly. These objectives are accomplished via: (a) readings in the field of Geriatric Psychiatry and (b) direct treatment of selected patients with supervision by attending psychiatrists, fellows and residents. Prerequisite: PSY-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4



**PSY - 796 Addiction Medicine**

The Rush Addition Medicine elective is designed for medical students to learn: the role of outpatient addiction medicine treatment, including the role of opioid replacement treatment for treatment of opioid use disorders, the role of psychosocial and dual diagnosis treatments and the barriers to starting the medication and linking with treatment, the general approach to patients poisoned by drugs of abuse, including recognition of basic toxidromes, the evaluation and treatment of overdoses and toxicities related to drugs of abuse and the treatment of opioid and alcohol withdrawal syndromes in the inpatient, outpatient and emergency department setting, the role of harm reduction in treating addiction, including the prescription of the opioid overdose antidote naloxone and apply skills in application motivational interviewing and the stages of change model to patients with substance use disorders. They will have the opportunity to work directly with the Rush Substance Use Intervention Team and gain an understanding of the breadth of treatments available in the outpatient setting. Students will be trained with materials adapted from the PCSS buprenorphine x-waiver training course in order to make sure are aware how medication assisted treatment for opioid use disorders affects and could benefit their patients. Students have a choice of taking this elective for two or four weeks. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PSY - 797 Advanced Psychiatry: Road Home Program**

The Advanced Psychiatry Elective: the Road Home Program elective is designed to further students' education by: 1) providing students with an opportunity to work with veterans, a vulnerable population with unique needs; 2) giving students first-hand exposure to the processes involved in group psychotherapy, specifically cognitive processing therapy for post-traumatic stress disorder but also alternative treatments such as yoga and mindfulness; and 3) providing students the experience of being on a treatment team that manages combat-related issues such as suicidality, depression, post-traumatic stress disorder, traumatic brain injury, military sexual trauma and substance use disorders. Students have a choice of taking this elective for two or four weeks. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2-4

**PSY - 798 Substance Abuse Unit Team (SUIT)**

A large focus of the Rush Substance Abuse Intervention Team (SUIT) Elective is designed for students to be exposed to the emergency department or inpatient hospital. Our treatments in the outpatient setting will also help learners gain an understanding of the breadth of treatment that is available. We will bring in materials from the PCSS buprenorphine x-waiver training course in order to make sure all learners who rotate with us have a knowledge of how medication assisted treatment for opioid use disorders affects and could benefit their patients. Goals of this course include: (1) Describe the role of outpatient addiction medicine treatment, including the role of opioid replacement treatment for treatment of opioid use disorders, the role of psychosocial and dual diagnosis treatments and the barriers to starting the medication and linking with treatment; (2) Describe the general approach to patients poisoned by drugs of abuse including recognition of basic toxidromes, the evaluation and treatment of overdoses and toxicities related to drugs of abuse and the treatment of opioid and alcohol withdrawal syndromes in the inpatient, outpatient and emergency department setting; (3) Describe the role of harm reduction in treating addiction, including the prescription of the opioid overdose antidote naloxone; (4) Apply skills in application motivational interviewing and the stages of change model to patients with substance use disorders. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PSY - 799 Virtual Addiction Medicine**

Addiction is highly prevalent in the United States and around the world, impacting diverse people of all ages and backgrounds. Despite this, the health care workforce is largely ill-equipped and under-informed regarding assessment, diagnosis and treatment of substance use disorders and other behavioral addictions. Misinformation, bias and stigma contribute to poor outcomes for individuals suffering with addiction. This course provides an advanced curriculum in addiction medicine to supplement content in the core medical curriculum. Diagnosis, treatment and special topics in addiction medicine are covered through several online modules that are supplemented with videos, audio and case-based exercises. This course will increase knowledge, attitudes and comfort surrounding addiction medicine. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PTH - 7EI Pathology Individualized Elective**

Students may receive credit for individually arranged activities with Rush faculty members, outside faculty personal, private physicians or researchers, or persons in medically related field such as medical historians, ethicists, attorneys and medical journalists. In order to receive credit for such a

rotation, the person to whom the student will be responsible must write a letter stating the student's activities, responsibilities, amount of supervision, specific dates of the rotation and that the student will not receive any monetary compensation. Students must submit a proposal to the Office of Clinical Curriculum for approval at least eight weeks before the rotation and must have written approval from the director of Clinical Curriculum before beginning the rotation. Students may receive four weeks of credit for an individually arranged elective. Credit for a maximum of only one individually arranged elective will count toward graduation requirements. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**PTH - 781 Research in Pathology**
Students will complete an individual research activity in collaboration with faculty at Rush. The student must develop a proposal that includes the student's activities, responsibilities, amount of supervision and expected time commitment. The proposal must be signed by the faculty supervisor and submitted to Office of Integrated Medical Education Curriculum for approval at least four weeks before the start of term. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**PTH - 791 Pathology**
This course is aimed at students who are considering postgraduate training in Pathology and students who desire to enhance and complement their knowledge of general pathology. The student experiences what training in pathology is all about and realizes there are many aspects in this intriguing field. The student has hands-on experience in the techniques of grossing specimens in surgical pathology, molecular diagnostic techniques, image analyses and clinical laboratory procedures. The student is encouraged to get involved in the performance of autopsies, including weekends, if so desired. On the last day of the course, the students prepare a 20-minute presentation to the department on a topic mutually agreed upon with the course director. The students have intimate contact with the residents and attending staff. Their activities will be supervised by the course director on a regular basis. Prerequisite: MED-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**PVM - 750 Preventive Medicine**
The Preventive Medicine elective is designed to equip students with the essential skills and knowledge to proactively address chronic diseases through evidence-based practices. Focused on the six pillars of lifestyle medicine, this course delves into the application of evidence-based interventions to provide students a comprehensive understanding of the six pillars of lifestyle medicine: a whole-food, plant-predominant eating pattern, regular physical activity, restorative sleep, stress management, avoidance of risky substances and fostering positive social connections. The elective includes dedicated independent study time, allowing learners to explore and grasp the core concepts independently using a framework from the American College of Lifestyle Medicine. Students will also have the opportunity to spend several days per week in the Rush Preventive Medicine Clinic, gaining hands-on experience in applying preventive medicine strategies in a clinical setting. This course is ideal for those seeking to make a meaningful impact on public health by preventing, treating and even reversing chronic diseases through a holistic and evidence-based approach. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**PVM - 781 Research in Preventive Medicine**
Students will complete an individual research activity in collaboration with faculty at Rush. The student must develop a proposal that includes the student's activities, responsibilities, amount of supervision and expected time commitment. The proposal must be signed by the faculty supervisor and submitted to Office of Integrated Medical Education for approval at least four weeks before the start of term. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**RAD - 7EI Diagnostic Radiology Individualized Elective**
Students may receive credit for an individually arranged elective with a Rush faculty member. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter stating the student's activities, responsibilities, amount of supervision and specific dates of the rotation. The sponsoring faculty member must complete an evaluation of the student's performance at the conclusion of the elective. Students must submit a proposal to the Office of Clinical Curriculum for approval at least eight weeks before the rotation and must have written approval from the assistant dean of Clinical Education before beginning the rotation. Students may receive four weeks of credit for an individually arranged elective. Credit for a maximum of only one individually arranged elective will count toward graduation requirements. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4



**RAD - 711 Interventional Radiology**
This clinical clerkship exposes the student to all aspects of interventional radiology (IR) with an emphasis on patient care. Time will be split between procedural rotations, IR clinic and the consultation service. Students are incorporated into the clinical team, gaining experience in the preprocedural and postprocedural care within the broad scope of vascular and nonvascular interventions. Clerkship responsibilities include assigned readings, morning educational conferences and participating in various inpatient and outpatient procedures. At the conclusion, students will present a short case to faculty and trainees. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**RAD - 721 Radiation Oncology**
In this course students participate in the normal activities of the department including consultations, treatment planning and follow-up care of cancer patients. The student is assigned to multiple services, allowing exposure to different cancer sites. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**RAD - 781 Research in Radiology**
Students will complete an individual research activity in collaboration with faculty at Rush. The student must develop a proposal that includes the student's activities, responsibilities, amount of supervision and expected time commitment. The proposal must be signed by the faculty supervisor and submitted to Office of Integrated Medical Education for approval at least four weeks before the start of term. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**RAD - 791 Diagnostic Radiology**
In this course basic radiologic principles are demonstrated and the role of the diagnostic radiologist in the clinical setting of general patient care, and medical and surgical specialty consultations is emphasized. Each student prepares one case for the teaching file and gives one oral presentation. Students have assigned readings to complete, and they are tested by a written final examination. Students are also urged to attend the two daily departmental teaching conferences. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**RAD - 796 Nuclear Medicine**
In this course all facets of the disciplines of nuclear medicine are studied, with particular emphasis on radionuclide scanning of organ systems for diagnostic and research purposes. Emphasis is on pathophysiologic correlation and case study. Literature review and individual topics are encouraged to provide in-depth study in the broad field of nuclear medicine. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2

**RCP - 501 Foundations of Professional Practice**
This course is designed to provide the student with the knowledge and skills to appropriately utilize evidence-based communication, teamwork and conflict resolution concepts. The opportunities and challenges of social media in professional and personal contexts will also be explored. Additionally, the course will provide an overview of informatics topics that are most relevant to professional practice, namely, informatics standards, standardized clinical terminology, electronic health records and information literacy. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**RCP - 511 Introduction to Respiratory Care**
In this course, students apply specific principles of chemistry and physics to respiratory care and are introduced to patient assessment, laboratory findings, radiography and pathophysiology related to common cardiopulmonary disorders. Specific modes of respiratory care are examined to understand principles of application to common cardiopulmonary disorders and related interventions indications, hazards, contraindications and evaluation. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**RCP - 512 Cardiopulmonary Anatomy And Physiology**
Students will pursue an in-depth study of cardiac and pulmonary anatomy and physiology, as well as diagnostic procedures commonly used in the hospital to evaluate these systems. Topics include function of the respiratory system, ventilatory mechanics, gas transport in the blood, natural and chemical regulation of breathing, circulation, blood flow and pressure and cardiac output. The heart-lung relationship and clinical applications of these phenomena in the pulmonary system will be emphasized. Offered: fall. Retake Counts for Credit: No. Credit(s): 5

**RCP - 515 Respiratory Care Pharmacology**
This course introduces the physiologic and pharmacologic basis of pulmonary and cardiac medications. Students will study the preparation, as well as the calculation of dosages and mixtures. General principles of pharmacology as a basis for an in-depth discussion of bronchoactive, mucus controlling drugs, surfactant and aerosolized anti-infective agents and the drug groups related to the cardiopulmonary system such as neuromuscular blocking agents, central nervous

system depressants, cardiovascular agents, diuretics and antimicrobial agents will be included. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**RCP - 520 Respiratory Care Equipment and Techniques**
This course provides students with the opportunity to gain hands-on experience with respiratory care equipment. Students select, assemble and check equipment for proper function, operation and cleanliness. Equipment malfunctions and actions to correct malfunctions will also be covered. Equipment will include oxygen delivery devices, humidifiers, aerosol generators, pressure ventilators, gas delivery, metering and analyzing devices, percussors, vibrators, environmental devices, manometers, gauges and vacuum systems. Maintenance of artificial airways, fiberoptic bronchoscopy, thoracentesis, chest tube maintenance and arterial blood gas sampling will also be discussed. Basic and advanced life support will be covered to include cardiopulmonary resuscitation, artificial ventilation and circulation, endotracheal intubation, airway care, recognition and treatment of arrhythmias and cardiovascular pharmacology. Related equipment will also be reviewed to include manual resuscitators, artificial airways, defibrillators and cardiac monitors. Prerequisites: RCP-511 and RCP-512. Offered: spring. Retake Counts for Credit: No. Credit(s): 4

**RCP - 521 Patient Assessment**
Fundamentals of respiratory assessment will be covered to include review of existing data in the patient record, patient history, physical examination, oximetry, blood gases, respiratory monitoring, pulmonary function assessment, laboratory studies, chest and upper airway radiographs, ventilation/perfusion scans, bedside EKG interpretation and cardiovascular monitoring. Prerequisites: RCP-511 and RCP-512. Offered: spring. Retake Counts for Credit: No. Credit(s): 4

**RCP - 522 Pulmonary Disease**
Topics include the etiology, pathophysiology, diagnosis, treatment and prognosis of common pulmonary diseases and conditions. Respiratory care management of non-respiratory disorders commonly encountered in the critical care unit will also be covered. Pulmonary and critical care medicine, obstructive and restrictive pulmonary disease, neoplastic disease of the lung, infectious diseases, neurological and neuromuscular disorders, drowning, burns, smoke inhalation, carbon monoxide poisoning, drug overdose and respiratory care of the postoperative patient will be reviewed. Prerequisite: RCP-512. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**RCP - 523 Mechanical Ventilation**
Provides instruction in the theory, setup, operation and maintenance of mechanical ventilators, their associated modes of ventilation and related equipment. Topics include the following: mechanical ventilator theory, ventilator operation, modes of ventilation, ventilator maintenance and trouble shooting. Prerequisites: RCP-511 and RCP-512. Offered: spring. Retake Counts for Credit: No. Credit(s): 4

**RCP - 530 Cardiac Diseases**
Topics include the etiology, pathophysiology, diagnosis, treatment and prognosis of common cardiac and cardiovascular conditions. Respiratory care management of cardiac and cardiovascular disorders, shock, trauma, renal failure, acute G.I. disturbances and invasive cardiovascular procedures will be reviewed. Additionally, learners will learn to interpret 12-lead ECGs and obtain their ACLS credentials. Pre or Corequisite: RCP-512. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**RCP - 531 Critical Respiratory Care**
Provides instruction on all phases of adult critical care and continuous mechanical ventilation. Topics include physiology and classification of mechanical ventilation, acid base balance, indications for mechanical ventilatory support, implementation, monitoring, ventilator weaning and discontinuance will be covered. Advanced critical care techniques for invasive and non-invasive patient monitoring will be covered. Hemodynamic monitoring will include arterial pressure monitoring, central venous and pulmonary artery catheters and cardiac output measurement. Non-invasive monitoring techniques, including oximetry, transcutaneous monitoring, capnography, ventilator graphic analysis and assessment of the critical ill patient will also be reviewed. Pre or Corequisites: RCP-512, RCP-520, RCP-521, RCP-522 and RCP-523. Offered: summer. Retake Counts for Credit: No. Credit(s): 4

**RCP - 532 Pulmonary Function Testing**
Provides a hands-on experience conducting and interpreting complete pulmonary function tests to include spirometry, lung volumes and diffusing capacity. Common variations such as bronchoprovocation testing and bronchial responsiveness along with tests for muscle weakness are also included. In addition, the student will learn the operation, maintenance and quality control principles for all common pulmonary function and gas analysis equipment. Bronchoscopy, exercise testing and metabolic testing will also be reviewed. Prerequisites: RCP-512 and RCP-522. Offered: summer. Retake Counts for Credit: No. Credit(s): 3



**RCP - 533 Pediatric and Neonatal Respiratory Care**
This course is designed to provide the student with the opportunity to utilize evidence-based knowledge and critical thinking skills in the planning and provision of comprehensive respiratory care to newborns, infants, children and adolescents along the health-illness continuum. Topics include fetal growth and development, neonatal and pediatric cardiopulmonary physiology and pathophysiology, respiratory care assessment of the newborn, infant and pediatric patient, as well as respiratory care diagnostic and therapeutic interventions targeted to specific cardiopulmonary pathologies. Prerequisites: RCP-512, RCP-520, RCP-521, RCP-522 and RCP-523. Offered: fall. Retake Counts for Credit: No. Credit(s): 4

**RCP - 534 Clinical Practice I**
Students will observe and achieve competencies related to respiratory procedures in general medical/surgical floors and adult intensive care units. Introduces students to clinical respiratory care procedures. Topics include the following: introduction to the clinical affiliate, patient assessment, medical gas therapy, aerosol therapy, incentive spirometry, positive pressure breathing, chest physiotherapy and airway care. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**RCP - 563 Research Methods**
This course introduces the student to methods of scientific research to include review of literature, research designs, sampling techniques, variables and measurement, appraisal of the quality of existing evidence, research ethics and formulation of a problem statement and hypothesis. Students will also produce the first draft of a research proposal. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**RCP - 565 Research Project I**
Guided activities to complete the research protocol, create data collection instruments and begin data collection. Prerequisite: RCP-563. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**RCP - 566 Education**
This course introduces basic principles and techniques used in respiratory care education. Topics include patient education, in-service education, needs assessment, writing objectives, lesson plan development, development of learning activities, use of media, development of presentations and evaluation. Motivational interviewing and smoking cessation are also introduced. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**RCP - 567 Management**
Management theory and practical application is explored. Supervisory, management and leadership qualities and responsibilities are studied, as well as organizational structures. Students are shown how these principles apply to organizations generally, and respiratory care departments specifically. Students are introduced to hospital organization, health care finance, quality assurance and improvement and health care regulation. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**RCP - 569 Clinical Practice II**
This course provides students the opportunity to further develop both basic and advance skills required in the intensive care of the respiratory patient. Topics include the following: patient assessment, medical gas therapy, aerosol therapy, incentive spirometry, positive pressure breathing, chest physiotherapy, airway care using nasal, endotracheal, tracheal tubes, initiation of mechanical ventilation, patient stabilization and monitoring, evaluation of hemodynamic variables, bronchial hygiene, evaluation for weaning, endotracheal intubation, extubation, arterial line sampling, arterial puncture, blood gas analysis and noninvasive monitoring. The students will also complete a pulmonary function, bronchoscopy observation, long-term care and pediatric rotations. Prerequisite: RCP-534. Offered: fall. Retake Counts for Credit: No. Credit(s): 7

**RCP - 570 Cardiopulmonary Diagnostics**
This advanced cardiopulmonary diagnostics course covers a range of tests that assess different body systems. Topics include polysomnography and sleep disorders, metabolic testing, ultrasound and echocardiography. Learners will observe tests, identify indications, interpret findings and describe the equipment required for each. Prerequisites: RCP-512, RCP-522 and RCP-530. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**RCP - 573 Research Project II**
Guided activities to continue data collection, begin data analysis, interpret findings and begin manuscript preparation. Pre or Corequisite: RCP-565. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**RCP - 575 Clinical Practice III**
This course provides an opportunity to acquire clinical experience in the intensive care of neonatal and pediatric patients. Topics include the following: patient assessment, medical gas therapy, aerosol therapy, incentive spirometry, chest physiotherapy, airway care, initiation of mechanical

ventilation, patient stabilization and monitoring, evaluation of hemodynamic variables, bronchial hygiene, evaluation for weaning, endotracheal intubation, monitoring (invasive and non-invasive), labor and delivery assistance and transport. Students are also given the opportunity to further develop their adult critical care skills. Prerequisite: RCP-569. Offered: spring. Retake Counts for Credit: No. Credit(s): 7

**RCP - 577 Clinical Seminar**
Learners review respiratory care across the life span with an emphasis on problem-solving and decision-making. Practice board credentialing examinations will be administered. Current issues relevant to respiratory care will be explored to include new trends in management, new treatments and technologies, ethical issues in health care and issues related to professional development and practice. Prerequisites: RCP-534 and RCP-569. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**RCP - 583 Research Project III**
Guided activities to answer an appropriate research question, data analysis, research presentation and develop a manuscript for completion of the required program research requirements. Pre or Corequisite: RCP-573. Offered: summer. Retake Counts for Credit: No. Credit(s): 1

**RCP - 585 Clinical Practice IV**
This course provides an opportunity to advance the students clinical experience in neonatal and pediatric respiratory care in the areas of patient assessment and monitoring (invasive and non-invasive), mechanical ventilation, ECMO, airway care, labor and delivery assistance and transport. Students will also have an opportunity for reinforcement of adult intensive care. In addition, students are provided with an opportunity in home health, skilled nursing facility, pulmonary rehabilitation and sleep. Prerequisite: RCP-575. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 4-8

**RCP - 589 Disease Management/Home Health Care**
This course places emphasis on decision-making and problem-solving as they relate to clinical respiratory care and disease management. Current issues relevant to respiratory care will be discussed such as ethical issues in health care, smoking cessation, palliative care and issues related to professional development and practice. Prerequisites: RCP-520, RCP-521, RCP-522, RCP-530 and RCP-565. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**RCP - 999 Continuous Enrollment**
The requirement for Continuous Enrollment applies to all admitted students after completing one semester. Master's or doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Retake Counts for Credit: No. Credit(s): 1

**RMC - 5EI Basic Biomedical Research**
Students who have been selected to complete the RMC Summer Research Fellowship program will meet weekly to discuss their independent research projects. Discussions will emphasize how to give a poster presentation, crafting an abstract and creating a poster. Students will work with each other in small groups to discuss progress of their individual projects and troubleshoot problems they encounter with their research. Offered: summer. Retake Counts for Credit: No. Credit(s): 1

**RMD - EXM Primary Care Exam Remediation**
Remediation of course examination. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**RMD - REM Primary Care Clinical Remediation**
Remediation of clinical weeks. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**RMD - 519 Capstone III**
The Capstone Project is a self-directed, longitudinal activity that will commence during the M1 year and culminate in a presentation at the end of the M3 year. At the conclusion of medical school, each RMC student will be the Rush Medical College expert on their specific topic. Rush will support students who opt to publish their project with their faculty mentor. Potential publication types include case reports, book chapters, abstracts and research papers. During the M1 year, each medical student will identify a main theme they are interested in investigating throughout the three years of the project. Each year, students will be responsible for developing topics related to their theme. For each topic, the student identifies and completes learning objectives, works with a faculty adviser and submits documentation to the faculty member, who will provide advice, feedback and mentoring. Themes can be re-shaped learning objectives that correspond to their current course work. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**RMD - 520 Capstone IV**
The Capstone Project is a self-directed, longitudinal activity that will commence during the M1 year and culminate in a presentation at the end of the M3 year. At the conclusion of medical school, each RMC student will be the Rush Medical College expert on their specific topic. Rush will support students who opt to publish their project with their faculty mentor. Potential publication types include case reports, book chapters, abstracts and research papers. During the M1 year, each medical student will identify a main theme they are interested in investigating throughout the three years of the project. Each year, students will be responsible for developing topics related to their theme. For each topic, the student identifies and completes learning objectives, works with a faculty adviser and submits documentation to the faculty member who will provide advice, feedback and mentoring. Themes can be re-shaped learning objectives that correspond to their current course work. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**RMD - 538A Basic Spanish for Medical Professionals I**
The Basic Spanish for Medical Professionals course addresses the needs of medical students with little or no experience in Spanish. Students develop communicative proficiency and accuracy in the use of the Spanish language in medical settings with Spanish-speaking patients. Students are exposed to pertinent information about Hispanic cultures as well. Students also participate in language tasks through listening, reading, writing and conversation. Classes will be taught in Spanish in order to immerse students in the target language. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**RMD - 538B Basic Spanish for Medical Professionals II**
The Basic Spanish for Medical Professionals course addresses the needs of medical students with little or no experience in Spanish. Students develop communicative proficiency and accuracy in the use of the Spanish language in medical settings with Spanish-speaking patients. Students are exposed to pertinent information about Hispanic cultures as well. Students also participate in language tasks through listening, reading, writing and conversation. Classes will be taught in Spanish in order to immerse students in the target language. Prerequisite: RMD-538A. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**RMD - 538C Basic Spanish for Medical Professionals III**
The Basic Spanish for Medical Professionals course addresses the needs of medical students with little or no experience in Spanish. Students develop communicative proficiency and accuracy in the use of the Spanish language in medical settings with Spanish-speaking patients. Students are exposed to pertinent information about Hispanic cultures as well. Students also participate in language tasks through listening, reading, writing and conversation. Classes will be taught in Spanish in order to immerse students in the target language. Prerequisites: RMD-538A and RMD-538B. Offered: summer. Retake Counts for Credit: No. Credit(s): 1

**RMD - 539A Intermediate Spanish for Medical Professionals I**
The Intermediate Spanish for Medical Professionals course designed for first-year medical students to increase their comfort level with Spanish-language interviews, examination and patient education. The course is primarily focused on developing medical Spanish language communication skills for students with pre-existing Spanish conversational skills but will also incorporate the socio-cultural context of Hispanic/Latino patients. Students also participate in language tasks through listening, reading, writing and conversation. Classes will be taught in Spanish in order to immerse students in the target language. Medical Spanish requires longitudinal practice and which learners can enhance (or lose) over time. As a result, the course is also intended to help medical students understand and self-assess their proficiencies and limitations in medical Spanish and access help when needed. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**RMD - 539B Intermediate Spanish for Medical Professionals II**
The Intermediate Spanish for Medical Professionals course designed for first-year medical students to increase their comfort level with Spanish-language interviews, examination and patient education. The course is primarily focused on developing medical Spanish language communication skills for students with pre-existing Spanish conversational skills but will also incorporate the socio-cultural context of Hispanic/Latino patients. Students also participate in language tasks through listening, reading, writing and conversation. Classes will be taught in Spanish in order to immerse students in the target language. Medical Spanish requires longitudinal practice and which learners can enhance (or lose) over time. As a result, the course is also intended to help medical students understand and self-assess their proficiencies and limitations in medical Spanish and access

help when needed. Prerequisite: RMD-539A. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**RMD - 539C Intermediate Spanish for Medical Professionals III**

The Intermediate Spanish for Medical Professionals course designed for first-year medical students to increase their comfort level with Spanish-language interviews, examination and patient education. The course is primarily focused on developing medical Spanish language communication skills for students with pre-existing Spanish conversational skills but will also incorporate the socio-cultural context of Hispanic/Latino patients. Students also participate in language tasks through listening, reading, writing and conversation. Classes will be taught in Spanish in order to immerse students in the target language. Medical Spanish requires longitudinal practice and which learners can enhance (or lose) over time. As a result, the course is also intended to help medical students understand and self-assess their proficiencies and limitations in medical Spanish and access help when needed. Prerequisites: RMD-539A and RMD-539B. Offered: summer. Retake Counts for Credit: No. Credit(s): 1

**RMD - 540A Humanities in Medicine I**

This course examines how empathy, observation and interpretation impact one's experience of literature and the arts. Particular attention will be paid to the ways in which observation and engagement with the arts parallels observation and engagement in patient care. Individual sessions will focus on the role of temporal and professional perspective in describing medical events, differences and similarities in observational skills in the arts and medicine and the use of movement and drama exercises to examine how one experiences and is experienced by others. Course activities will include museum visits, movement activities, acting exercises and reading and writing about selected works of literature. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**RMD - 540B Humanities in Medicine II**

This course examines how empathy, observation and interpretation impact one's experience of literature and the arts. Particular attention will be paid to the ways in which observation and engagement with the arts parallels observation and engagement in patient care. Individual sessions will focus on the role of temporal and professional perspective in describing medical events, differences and similarities in observational skills in the arts and medicine and the use of movement and drama exercises to examine how one experiences and is experienced by others. Course activities will include museum visits, movement activities, acting exercises and reading and writing about selected works of literature. Prerequisite: RMD-540A. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**RMD - 540C Humanities in Medicine III**

This course examines how empathy, observation and interpretation impact one's experience of literature and the arts. Particular attention will be paid to the ways in which observation and engagement with the arts parallels observation and engagement in patient care. Individual sessions will focus on the role of temporal and professional perspective in describing medical events, differences and similarities in observational skills in the arts and medicine and the use of movement and drama exercises to examine how one experiences and is experienced by others. Course activities will include museum visits, movement activities, acting exercises and reading and writing about selected works of literature. Prerequisite: RMD-540A and RMD-540B. Offered: summer. Retake Counts for Credit: No. Credit(s): 1

**RMD - 545 Sonographic Anatomy I**

The course will enhance understanding of key preclinical anatomy and physiology concepts through introducing students to living normal sonographic anatomy and physiology, clinically relevant pathophysiologic conditions and common ultrasound guided clinical procedures. Topics will be presented in parallel with the Rush M1 anatomy curriculum. We will utilize a monthly to biweekly, interactive, hands-on workshop review of (1) normal anatomy and physiology: direct sonographic visualization of anatomic structures and real-time physiology on normal paid human models, (2) abnormal anatomy and pathophysiology: sonographic visualization of pathologic conditions through the use of a portable ultrasound simulator and review of actual clinical case images, (3) ultrasound guided clinical procedures: performance of common ultrasound guided clinical procedures on cadaver and simulation models. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 1

**RMD - 546 Sonographic Anatomy II**

The course will enhance understanding of key preclinical anatomy and physiology concepts through introducing students to living normal sonographic anatomy and physiology, clinically relevant pathophysiologic conditions and common ultrasound guided clinical procedures. Topics will be presented in parallel with the Rush M1 anatomy curriculum. We will utilize a monthly to biweekly, interactive, hands-on workshop review of (1) normal anatomy and physiology: direct sonographic visualization of anatomic structures and real-time physiology on normal paid human models, (2) abnormal anatomy and pathophysiology: sonographic visualization of pathologic conditions through the use of a portable ultrasound simulator and review of actual clinical case images, (3) ultrasound guided clinical procedures: performance of common ultrasound guided clinical procedures on cadaver and simulation models. Prerequisite: RMD-545. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 1

**RMD - 550 Capstone V**

The Capstone Project is a self-directed, longitudinal activity that will commence during the M1 year and culminate in a presentation at the end of the M3 year. At the conclusion of medical school, each RMC student will be the Rush Medical College expert on their specific topic. Rush will support students who opt to publish their project with their faculty mentor. Potential publication types include case reports, book chapters, abstracts and research papers. During the M1 year, each medical student will identify a main theme they are interested in investigating throughout the three years of the project. Each year, students will be responsible for developing topics related to their theme. For each topic, the student identifies and completes learning objectives, works with a faculty adviser and submits documentation to the faculty member who will provide advice, feedback and mentoring. Themes can be re-shaped learning objectives that correspond to their current course work. Offered: fall and summer. Retake Counts for Credit: No. Credit(s): 1

**RMD - 551 Capstone VI**

The Capstone Project is a self-directed, longitudinal activity that will commence during the M1 year and culminate in a presentation at the end of the M3 year. At the conclusion of medical school, each RMC student will be the Rush Medical College expert on their specific topic. Rush will support students who opt to publish their project with their faculty mentor. Potential publication types include case reports, book chapters, abstracts and research papers. During the M1 year, each medical student will identify a main theme they are interested in investigating throughout the three years of the project. Each year, students will be responsible for developing topics related to their theme. For each topic, the student identifies and completes learning objectives, works with a faculty adviser and submits documentation to the faculty member who will provide advice, feedback and mentoring. Themes can be re-shaped learning objectives that correspond to their current course work. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**RMD - 552 Capstone VII**

The Capstone Project is a self-directed, longitudinal activity that will commence during the M1 year and culminate in a presentation at the end of the M3 year. At the conclusion of medical school, each RMC student will be the Rush Medical College expert on their specific topic. Rush will support students who opt to publish their project with their faculty mentor. Potential publication types include case reports, book chapters, abstracts and research papers. During the M1 year, each medical student will identify a main theme they are interested in investigating throughout the three years of the project. Each year, students will be responsible for developing topics related to their theme. For each topic, the student identifies and completes learning objectives, works with a faculty adviser and submits documentation to the faculty member who will provide advice, feedback and mentoring. Themes can be re-shaped learning objectives that correspond to their current course work. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**RMD - 560 The Foundation of Medical Practice**

During this course, students are introduced to the structure and pedagogical methodology of the Rush Medical College preclerkship curriculum. Students will be introduced to the roles that define the Rush curriculum and how those roles function to organize the curriculum. Essential material that is foundational for the entire curriculum or that is prerequisite to beginning the next course will also be covered. Offered: summer. Retake Counts for Credit: No. Credit(s): 2

**RMD - 561 Host Defense and Host Response**

This course uses a multidisciplinary case-based approach to the structure and function of cells, tissues and organs as they pertain to infectious diseases and the immune system in the normal and disease state. Students learn to identify alterations and underlying pathophysiology that occur in the disease state, the significance of symptoms, signs and other ancillary data. Students also learn appropriate diagnostic modalities in evaluation of infectious disease and diseases of the immune system. Students are expected to describe the mechanism of action and use of antibiotics, antivirals and biologic drugs for the treatment of these diseases. Students are also expected to construct differential diagnoses for common presenting symptoms in infectious disease. Students learn how to collect an appropriate history and conduct a relevant physical exam and to recognize abnormal findings in this exam. Students will also learn about the roles a physician plays, such as an advocate, communicator, collaborator, educator, leader, professional, practitioner

and scholar. Offered: summer. Retake Counts for Credit: No. Credit(s): 6

**RMD - 563 Food to Fuel**

This course is a survey of the normal gross and microscopic anatomy and physiology of the digestive system and also a survey of intermediary metabolism including carbohydrate, amino acid and lipid metabolic pathways. This course material will be applied to understanding of disease states related to the dysfunction of organs of the digestive system, digestive system function or errors in metabolism. Students will also learn appropriate diagnostic modalities in evaluation of diseases that affect the digestive system and nutritional status. Students will be expected to describe the mechanism of action and use of pharmacologic agents for the treatment of these diseases. Students will be expected to construct differential diagnoses for common presenting symptoms in diseases of the digestive system or that relate to nutritional status. Students will learn how to collect an appropriate history and conduct a relevant physical exam and to recognize abnormal findings in this exam. Finally, students will also learn about the roles a physician plays, such as an advocate, communicator, collaborator, educator, leader, professional, practitioner and scholar. Offered: spring. Retake Counts for Credit: No. Credit(s): 6

**RMD - 563E Food to Fuel - Exam Makeup**

Exam Makeup Only. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 1

**RMD - 564 Movement and Mechanics**

This course will use a multidisciplinary, case-based format to approach the structure and function of cells, tissues and organs as they pertain to the function and regulation of the musculoskeletal system. Students will learn to identify alterations and underlying pathophysiology which occur in the disease state, the significance of symptoms, signs and other ancillary data. Students will also learn appropriate diagnostic modalities in the evaluation of diseases that affect the musculoskeletal system. Students will be expected to describe the mechanism of action and use of pharmacologic agents for the treatment of these diseases. Students will be expected to construct differential diagnoses for common presenting symptoms in musculoskeletal diseases. Students will learn how to collect an appropriate history and conduct a relevant physical exam and recognize abnormal findings in this exam. Finally, students will learn about the roles a physician plays, such as an advocate, communicator, collaborator, educator, leader, professional, practitioner and scholar. Offered: spring. Retake Counts for Credit: No. Credit(s): 6

**RMD - 564E Movement and Mechanics Exam Makeup**

Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 1

**RMD - 565A Brain, Behavior and Cognition A**

This course will use a multidisciplinary, case-based approach to the structure and function of cells, tissues and organs as they pertain to the function and regulation of the nervous system. Students will learn to identify alterations and underlying pathophysiology which occur in the disease state, the significance of symptoms, signs and other ancillary data. Students will also learn appropriate diagnostic modalities in evaluation of diseases that affect the nervous system. Students will be expected to describe the mechanism of action and use of pharmacologic agents for the treatment of these diseases. Students will be expected to construct differential diagnoses for common presenting symptoms and learn how to communicate with patients in order to take an appropriate history and conduct a relevant neurologic exam and to recognize abnormal findings in this exam and localize the abnormal findings to specific parts of the nervous system. Finally, students will learn about the roles a physician plays, such as an advocate, communicator, collaborator, educator, leader, professional, practitioner and scholar. Offered: spring. Retake Counts for Credit: No. Credit(s): 4

**RMD - 565B Brain, Behavior and Cognition B**

This course will use a multidisciplinary, case-based approach to the structure and function of cells, tissues and organs as they pertain to the function and regulation of the nervous system. Students will learn to identify alterations and underlying pathophysiology which occur in the disease state, the significance of symptoms, signs and other ancillary data. Students will also learn appropriate diagnostic modalities in evaluation of diseases that affect the nervous system. Students will be expected to describe the mechanism of action and use of pharmacologic agents for the treatment of these diseases. Students will be expected to construct differential diagnoses for common presenting symptoms and learn how to communicate with patients in order to take an appropriate history and conduct a relevant neurologic exam and to recognize abnormal findings in this exam and localize the abnormal findings to specific parts of the nervous system. Finally, students will learn about the roles a physician plays, such as an advocate, communicator, collaborator, educator, leader, professional, practitioner and scholar. Offered: summer. Retake Counts for Credit: No. Credit(s): 4



**RMD - 565E Brain, Behavior and Cognition Exam Makeup**

Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 1

**RMD - 566 Sexuality and Reproduction**

This course uses a multidisciplinary case-based approach to the expression of human sexuality and to the structure and function of cells, tissues and organs as they pertain to regulation of the reproductive systems, fetal development and renal function. Students learn to identify alterations and underlying pathophysiology that occur in the disease state, the significance of symptoms, signs and other ancillary data. Students also learn appropriate diagnostic modalities in evaluation of diseases that affect sexuality, reproductive systems, fetal development and renal function. Students are expected to describe the mechanism of action and use of pharmacologic agents for the treatment of these diseases. Students are also expected to construct differential diagnoses for common presenting symptoms of diseases related to sexuality, reproduction and renal function. Students learn how to collect an appropriate history and conduct a relevant physical exam and to recognize abnormal findings in this exam. Students also engage with the various roles a physician performs including advocate, communicator, collaborator, educator, professional, practitioner and scholar. Offered: summer. Retake Counts for Credit: No. Credit(s): 5

**RMD - 566E Reproduction and Sexuality - Exam Makeup**

Exam Makeup Only. Offered: as needed. Retake Counts for Credit: No. Credit(s): 5

**RMD - 567 Health Across the Life Span**

This course uses a multi-disciplinary case-based approach to normal health and disease from neonatal through geriatric stages of the life span. Students learn to identify alterations and underlying pathophysiology which occur in the disease state, and the significance of symptoms, signs and other ancillary data. Students also learn to identify criteria and appropriate diagnostic modalities for evaluation of normal development and processes associated with aging. Students are expected to describe the mechanism of action and use of pharmacologic agents and other therapies for the treatment of these conditions. Students are also expected to construct differential diagnoses for common presenting symptoms of conditions associated with specific stages of the life span. Students learn how to collect an appropriate history and conduct a relevant physical exam and to recognize abnormal findings in this exam. Students also learn key skills in communicating with patients, families and older adults. Finally, students examine epidemiological, socioeconomic and psychological aspects of health, disease and patient care throughout the life span and explore selected ethical issues related to the clinical cases presented in the course. Offered: fall. Retake Counts for Credit: No. Credit(s): 5

**RMD - 567E Growth, Development and the Life Cycle - Exam Makeup**

Exam Makeup Only. Offered: as needed. Retake Counts for Credit: No. Credit(s): 1

**RMD - 568 Introduction to Hematology and Oncology**

This course uses a multidisciplinary case-based approach to the structure and function of cells, tissues and organs as they pertain to the function and regulation of the hematological system and as they pertain to the function and regulation of the development and pathology associated with hematology and oncology. Students will explore the molecular mechanisms of normal and pathological events including, identification of alterations and underlying pathophysiology that occur in the disease state and the significance of symptoms, signs and other ancillary data, identify and perform appropriate diagnostic modalities in evaluation of hematologic diseases and describe the mechanism of action and use of pharmacologic agents for the treatment of these diseases. Additionally, students are expected to construct differential diagnoses for common presenting symptoms of hematologic and oncologic diseases. Finally, students will learn about the roles a physician plays, such as an advocate, communicator, collaborator, educator, leader, professional, practitioner and scholar. Offered: fall. Retake Counts for Credit: No. Credit(s): 8

**RMD - 569 Complex Cases and Transition to Clerkship**

This course has two segments. This first segment uses a multidisciplinary case-based approach to the structure and function of cells, tissues and organs as they pertain to the complex, multiorgan system cases. Students learn to identify alterations and underlying pathophysiology that occur in multiorgan system diseases, the significance of symptoms, signs and other ancillary data. Students also learn appropriate diagnostic modalities in evaluation of multiorgan system diseases. Students are expected to describe the mechanism of action and use of pharmacologic agents for the treatment of these diseases. Students are also expected to construct differential diagnoses for common presenting symptoms of the multiorgan system diseases presented in this course. Students learn how to collect an appropriate history and conduct a relevant physical exam and to recognize abnormal findings in this exam. Students will also learn about the

roles a physician plays such as an advocate, communicator, collaborator, educator, leader, professional, practitioner and scholar. The second segment consists of a focused preparation for the USMLE Step 1 Examination. Students use the NBME CBSSA, extensive online question banks and spaced timing study as resources to support an individualized study plan developed in conjunction with and monitored by course faculty and staff. Offered: spring. Retake Counts for Credit: No. Credit(s): 12

**RMD - 569E Complex Cases Exam Makeup**

Offered: spring. Retake Counts for Credit: No. Credit(s): 12

**RMD - 570 Clinical Genetics I**

The goal of this course is to enhance genomic education for medical students by employing a variety of pedagogical approaches. There will be a combination of literature review, as well as observation opportunities of genetic counseling sessions, including prenatal counseling, cancer, neurology and pediatric. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**RMD - 571 Clinical Genetics II**

Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**RMD - 574 Vital Fluids**

This course will use a multidisciplinary case-based approach to the structure and function of cells, tissues and organs as they pertain to regulation of blood pressure and its major constituents, the supply of tissue metabolic needs and the disposal of metabolic end products. To this end, the cardiovascular and renal systems in the normal and disease state will be presented. Students will learn to identify alterations and underlying pathophysiology which occur in the disease state, the significance of symptoms, signs and other ancillary data. Students will also learn to recognize the appropriate diagnostic modalities in evaluation of diseases that affect the cardiovascular and renal function. Students will be expected to describe the mechanism of action and use of pharmacologic agents for the treatment of these diseases. Students will be expected to construct differential diagnoses for common presenting symptoms in cardiovascular and renal diseases. Students will learn how to collect an appropriate history and conduct a relevant physical exam and to recognize abnormal findings in this exam. Students will also learn about the roles a physician plays such as an advocate, communicator, collaborator, educator, leader, professional, practitioner and scholar. Offered: fall. Retake Counts for Credit: No. Credit(s): 9

**RMD - 574E Vital Fluids - Exam Makeup**

Exam Makeup Only. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**RMD - 575 Vital Gases**

This course will use a multidisciplinary case-based approach to the structure and function of cells, tissues and organs as they pertain to the pulmonary system and oxygen transport in the blood, the major constituents of the system, the supply of tissue metabolic needs and the disposal of metabolic end products. To this end, the respiratory system in the normal and disease state will be presented. Students will learn to identify alterations and underlying pathophysiology which occur in the disease state, the significance of symptoms, signs and other ancillary data. Students will also learn appropriate diagnostic modalities in evaluation of diseases that affect the respiratory system. Students will be expected to describe the mechanism of action and use of pharmacologic agents for the treatment of these diseases. Students will be expected to construct differential diagnoses for common presenting symptoms in respiratory system diseases. Students will learn how to collect an appropriate history and conduct a relevant physical exam and to recognize abnormal findings in this exam. Students will also learn about the roles a physician play such as an advocate, communicator, collaborator, educator, leader, professional, practitioner and scholar. Offered: fall. Retake Counts for Credit: No. Credit(s): 5

**RMD - 575E Vital Gases - Exam Makeup**

Exam Makeup Only. Offered: spring and summer. Retake Counts for Credit: No. Credit(s): 1

**RMD - 576 Introduction to Hematology**

This course uses a multidisciplinary case-based approach to the structure and function of cells, tissues and organs as they pertain to the function and regulation of the hematological system. Students will: explore the molecular mechanisms of normal and pathological events in hematology; identify alterations and underlying pathophysiology that occur in the disease state, and the significance of symptoms, signs and other ancillary data; identify and perform appropriate diagnostic modalities in evaluation of hematologic diseases; describe the mechanism of action and use of pharmacologic agents for the treatment of these diseases. Additionally, students are expected to construct differential diagnoses for common presenting symptoms of hematologic diseases. Students will also learn about the roles a physician play such as an advocate, communicator, collaborator, educator, leader, professional, practitioner and scholar. Offered: fall. Retake Counts for Credit: No. Credit(s): 5

**RMD - 576E Introduction to Hematology - Exam Makeup**

Exam makeup only. Offered: as needed. Retake Counts for Credit: No. Credit(s): 5

**RMD - 577 Introduction to Oncology**

This course uses a multidisciplinary case-based approach to the structure and function of cells, tissues and organs as they pertain to the function and regulation of the development and pathology associated with oncology. Students learn to identify alterations and underlying pathophysiology that occur in the disease state, the significance of symptoms, signs and other ancillary data. Students also learn appropriate diagnostic modalities in evaluation of oncologic diseases. Students are expected to describe the mechanism of action and use of pharmacologic agents for the treatment of these diseases. Students are also expected to construct differential diagnoses for common presenting symptoms of oncologic diseases. Students learn how to collect an appropriate history and conduct a relevant physical exam and to recognize abnormal findings in this exam. Students also learn key techniques in communicating with patients, families and colleagues. Finally, students examine epidemiological and socioeconomic aspects of oncologic diseases and explore selected ethical issues related to the clinical cases presented in the course. Offered: spring. Retake Counts for Credit: No. Credit(s): 4

**RMD - 577E Introduction to Oncology Exam Makeup**

Exam makeup only. Offered: spring. Retake Counts for Credit: No. Credit(s): 4

**RMD - 580 Foundations of Research Methods**

The goal of this course is to provide students with knowledge about the steps necessary to successfully design and execute a research project. Students learn to work collaboratively with other students and develop skills in oral presentation, both of which are critical aspects of research. Students will be mentored by faculty with research experience as well as clinical faculty, who will provide clinical contact for all research. There is a self-directed learning component in that students select their topic area and work in teams to design their research proposals. Offered: fall and spring. Retake Counts for Credit: No. Credit(s): 1

**RMD - 590A Professional Development: Academic Enrichment**

Development of a strong base of medical knowledge is fundamental to becoming an effective doctor. Under supervision of their academic adviser, students will develop a plan to enrich their medical knowledge to be completed during the course. Students may focus on improving their knowledge in an area of perceived weakness or develop a more extensive knowledge base in an area of specific interest. The study plan may include concentrated study, tutoring, working with their peer adviser, repeating a summative assessment or other activities in support of academic enrichment. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**RMD - 590B Professional Development: Clinical Experience**

Development of excellent clinical skills are fundamental to becoming an effective doctor. Under supervision of their academic adviser, students will develop a plan to enrich their clinical knowledge and/or skills to be completed during the course. Students may focus on improving their clinical skill in an area of perceived weakness or enhance clinical skills in an area of specific interest. The plan may include participation under faculty supervision in a new clinical experience, continued participation in an ongoing clinical experience, practicing clinical skills in a simulated environment or other clinically related activities. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**RMD - 590C Professional Development: Community Service**

Development of excellent skills in community service are fundamental to becoming an effective doctor. Under supervision of their academic adviser, students will develop a plan to engage in community service activity and participate in the activities in the described plan. The plan may include development of a proposal for a new community service activity, participation in a new activity or continued participation in an ongoing community service activity. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**RMD - 590D Professional Development: Research**

Development of excellent research skills are fundamental to becoming an effective doctor. Under supervision of their academic adviser, students will develop a plan to enrich their knowledge and/or skills required to be engaged in research. The plan may include development of a research proposal, completion of training activities required for research, participation in a new research project, continued participation in an ongoing research project, preparation of a research poster, manuscript, or presentation or other research-related activities. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**RMD - 600 USMLE Step 1 Enhanced Preparation Course**
This course is specifically designed to support students who have already completed all the requirements of the M1 and M2 year as well as prior dedicated time for USMLE Step 1 examination preparation and are not yet meeting the benchmarks on practice examinations to suggest that they will successfully pass the USMLE Step 1 examination or who have received a failing grade on a previous administration of the USMLE Step 1 examination. The Office of Integrated Medical Education will identify students who are ideal candidates for this course. Students will work closely with the assistant dean of Clerkship Education and the student support team to identify the knowledge and skill gaps around test preparation and connect to resources needed to fill those gaps. Students will be responsible for meeting regularly with the student support team and developing and executing a study plan in collaboration with them. Students will be expected to successfully sit for and pass the Step 1 examination at the end of the course. Offered: summer. Retake Counts for Credit: No. Credit(s): 4

**RMD - 701 Core Clerkship: Primary Care**
This is a required core clerkship for all third-year medical students. Students will be imbedded in either a Family Medicine or Internal Medicine ambulatory office for four weeks. Students will independently evaluate, present and care for patients while working directly with attending preceptors. This will be a primarily outpatient experience and is meant to immerse students in the primary care of patients on all levels, including acute care, chronic illness care and preventive care. Curriculum will highlight the unique relationships and specialized patient care that occurs in this setting. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**RMD - 705 Health Equity Program: Global and Local Perspective**
The Health Equity and Social Justice Leadership Program is a four-year, longitudinal curriculum focused on both global and local health equity issues. The program is designed to empower students with knowledge, skills and experiences that they can use to fight against health inequity throughout their careers. Students in the program will be immersed in a supportive environment through which they can collaborate with Rush community health and global health initiatives. For the first two years of the Health Equity program, students will participate in an elective composed of both classroom and community experiences, as well as a longitudinal project with a community organization. The third year will include a self-study curriculum as well as quarterly seminars. In the fourth year of the program, students will complete an equity focused elective that can be global or local in addition to monthly seminars with local and national experts. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**RMD - 720 Careers in Medicine**
Students interested in the Careers in Medicine elective will identify one specialty to pursue for the two-week clerkship. The students will be paired with one or two attendings for the two-week period. Students will be expected to spend 85% of their time with physicians participating in patient care to experience the daily life of a practitioner in both the inpatient and the outpatient settings, as appropriate for the specialty. They will spend the remaining 15% of their time in independent study researching the specialty and completing exercises on the Careers in Medicine website. The specialties available will be those into which students can match upon graduation from medical school (either into a categorical or advanced program) including anesthesia, radiology, dermatology, pathology, physical medicine and rehabilitation, ophthalmology, cardiothoracic surgery, neurosurgery, orthopedic surgery, otolaryngology, radiation oncology and urology. Specialties not eligible for this course include the Core clerkships (psychiatry, neurology, family medicine, obstetrics and gynecology, pediatrics, surgery, internal medicine and emergency medicine). Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2

**RMD - 722 Clinical Bridge**
This course is designed to bridge the gap between medical student knowledge and expectations of day-one interns. Through small group, case-based discussions, this elective will expose fourth-year medical students to common intern-level concepts with an emphasis on high yield information and the thought process that drives clinical reasoning. Offered: spring. Retake Counts for Credit: Yes. Credit(s): 4

**RMD - 723 Medical Informatics**
Students will be introduced to the field of clinical informatics and complete a research project in informatics. An overview of health care information technology will be provided with an emphasis on elements relevant to clinical careers and informatics research. Students will complete a research project evaluating an informatics application for efficacy, usability or impact on clinical outcomes. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4



**RMD - 726 Mindfulness in Medicine**
Mindfulness-based stress reduction is a curriculum taught for more than 30 years that teaches skills, drawn largely from mindfulness (or insight) meditation traditions, that: promote the capacity for holding experience in non-judgmental awareness; and cultivates patience, compassion (to self and other), clarity during moments of emotional distress, quicker resolution of stress reactivity and creative responses to stressors. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1

**RMD - 727 Advanced Medical Education**
The role of physicians as care givers is deeply connected to their role as educators of patients, students and peers. The goal of this elective is to introduce students to their role as teachers before they start residency and to better prepare them for this role. Students will develop an individualized plan to participate in medical education to be completed during the term. This can include curriculum development, direct teaching activities and/or educational scholarship such as a video, a publication, a presentation or a poster. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**RMD - 731 Simulation in Health Care**
This elective is designed to introduce the student to this modality of teaching. Students have the opportunity to understand the different learners in the hospital (nurses, medical students, residents, faculty physicians, etc.) and how simulation may help with not only their own objectives, but also in interprofessional and interdisciplinary communication and teamwork. They will have the opportunity to participate, perform and assist in the use of medical simulation at John H. Stroger, Jr. Hospital of Cook County Simulation Center and occasionally at Rush Center for Clinical Skills and Simulation. During the medical simulation labs, the student will help train physicians, nurses and medical students in various areas, including but not limited to ACLS, PALS, BLS, ATLS, resuscitative efforts, common pathological presentations and professional communication. They will learn applied methods of debriefing and assessment. This will serve as a beginning course on learning how to teach using simulation-based medical education principles. Students are expected to develop simulation cases by the end of their rotation. This project should function to help with a challenge in the hospital or a group of learners for the sake of quality assurance and/or patient safety. This may include a simulation case, or a series of cases designed as a mini curriculum for a set of learners. As a final project evaluation, the student will run the case and use proper debriefing techniques after the case has finished. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**RMD - 732 Service and Leadership During a Health Crisis**
This elective is available for third-year or fourth-year medical students to be working collaboratively with RMC faculty to appropriately evaluate and triage suspected patients but also to experience other important aspects of the management of patients during a pandemic, including but not limited to administration of diagnostic tests, telephone triage, hospital workflow and underserved community outreach. Students can take this elective for up to eight weeks with permission from the course director. In addition to direct patient care activities, students will participate in interactive didactic sessions with assigned reading that are led by Rush leadership. Students will also participate in small group discussions around key issues identified during the pandemic as well as involving other levels of medical students in the infectious disease care system. In order to pass the course, students must complete the four didactic modules, including the readings and didactic sessions, which will be offered both synchronously and asynchronously, complete 48 hours of clinical work and submit a small group project (two to four pages) in the format provided. Students will be responsible for scheduling their clinical work and will attest to the completion of 48 hours of clinical work as well as the four modules. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-8

**RMD - 735 Health Care and Homelessness**
There are innumerable health care disparities within the homeless community that many medical students want to address over the course of their careers. The Health Care and Homelessness elective is designed to have M4 students develop the skills and knowledge necessary to practice social medicine, specifically as it relates to homeless health. Social medicine focuses on understanding how social and economic conditions impact health, disease and the practice of medicine and on fostering conditions in which this understanding can lead to a healthier society. As such, the planned curriculum will have students rotate through Heartland Alliance Health's federally qualified health centers and adjunct community resource sites. Objectives will span topics in housing, addiction, social services, benefits eligibility, mental health treatment structures, food and nutrition, harm reduction and trauma informed care. The breadth of experiences is intended to give students an understanding of the social determinants of health, as well as assist in answering

relevant questions such as “How do we help patients obtain benefits?” and “How can we help our patients obtain housing?” Prerequisites: MED-703, NEU-701, OBG-703, PED-701, PSY-701, RMD-701 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**RMD - 737 Outpatient Multi-Subspecialty Elective**

After the conclusion of a needs assessment, it was determined that there is a need for increased M4 elective opportunities and ambulatory opportunities. This elective would afford third year or fourth year medical students a broad exposure to outpatient subspecialties, broad pathology and pathophysiology, one-on-one interaction with attending physicians, experience with some outpatient testing. Prerequisite: MED-703 or RMD-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**RMD - 749 Rush Integrated Clinical Experiences**

This course provides third-year medical students the opportunity to develop the necessary skills to become physicians who are able to excel in clinical medicine, education, research and service. This course connects clinical skills and knowledge to the many roles a physician plays. Students will explore the complex and integrated role of the physician as scholar, leader, collaborator, educator and advocate, among others. Students will also consider their personal and professional development, both as individuals and as members of the medical and larger community. Students will also develop skills in self-directed learning. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**RMD - 750 Transition to Residency**

This course will provide fourth-year medical students the opportunity to gain the necessary skills to prepare and navigate the residency program placement process. Students will participate in enrichment activities that will assist in the preparation and completion of USMLE Step CK. They will receive residency interview guidance in individual and small group sessions and subsequently participate in mock interviews. Course content also includes thematic topics to complete Rush University Medical Center designated horizontal, vertical and role curriculum. Students will develop a portfolio, including but not limited to the following: letters of recommendation requests, noteworthy characteristics for MSPE, completion and submission of ERAS applications, curriculum vitae and personal statements. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 4

**RMD - 780A Basic Biomedical Research I**

One of a three-course series that will introduce the student to various aspects of the theory and practice of biomedical research. Includes lectures, Journal Club, a written project proposal, practical experience and a written paper on a laboratory technique. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**RMD - 780B Basic Biomedical Research II**

Two of a three-course series that will introduce the student to various aspects of the theory and practice of biomedical research. Includes lectures, Journal Club, a written project proposal, practical experience and a written paper on a laboratory technique. Prerequisite: RMD-780A. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**RMD - 780C Basic Biomedical Research III**

Three of a three-course series that will introduce the student to various aspects of the theory and practice of biomedical research. Includes lectures, Journal Club, a written project proposal, practical experience and a written paper on a laboratory technique. Prerequisites: RMD-780A and RMD-780B. Offered: summer. Retake Counts for Credit: No. Credit(s): 1

**RMD - 784 Innovation in Medicine for Medical Professionals I**

This course will offer first-year medical students the opportunity to explore topics central to human-centered design, entrepreneurship and innovation in medicine. Students will learn the fundamental skill sets associated with these topics and will apply them toward their own ideas through class activities and a final project. Students will have the opportunity to learn from the experiences of local start-up company innovators within supplementary guest lectures. Utilizing the network of health care start-up company innovators established by the course director, students will gain insight into the struggles encountered, strategies deployed and successes obtained by these start-up companies. Students will have networking opportunities with these individuals, where they can gain key insight to how to successfully bring an idea from the drawing board to fruition. Students will gain the foundation necessary to identify, brainstorm and implement innovative ideas in today’s complex health care environment. Offered: fall. Retake Counts for Credit: No. Credit(s): 1



**RMD - 785 Innovation in Medicine for Medical Professionals II**

This course will offer first-year medical students the opportunity to explore topics central to human-centered design, entrepreneurship and innovation in medicine. Students will learn the fundamental skill sets associated with these topics and apply them toward their own ideas through class activities and a final project. Students will have the opportunity to learn from the experiences of local start-up company innovators within supplementary guest lectures. Utilizing the network of health care start-up company innovators established by the course director, students will gain insight into the struggles encountered, strategies deployed and successes obtained by these start-up companies. Students will have networking opportunities with these individuals, where they can gain key insight to how to successfully bring an idea from the drawing board to fruition. Students will gain the foundation necessary to identify, brainstorm and implement innovative ideas in today’s complex health care environment. Prerequisite: RMD-784. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**RMD - 900 Independent Study**

Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1-16

**RMD - 999 Continuous Enrollment**

The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**SBB - 560 Human Blood Group Systems and Principles and Methods of Antibody Identification**

Focus on human blood group systems: biochemistry, inheritance, serologic activity, clinical significance and disease associations. Topics include, but are not limited to, fundamentals of immunology, molecular biology, red blood cell membrane structure, genetics, antibody identifications as they relate to blood group systems. Taught only online. Extensive computer use required. Offered: fall. Retake Counts for Credit: No. Credit(s): 4

**SBB - 561 Clinical Immunohematology and Transfusion**

Focus on transfusion medicine practice and therapy. Topics include, but are not limited to, human circulatory system, effects of shock, blood component therapy, special transfusion, perinatal, neonatal and pediatric transfusion practice, hemolytic disease of the newborn, transplantation, anemias, infectious and noninfectious complications of blood transfusion. Taught only online. Extensive computer use required. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**SBB - 562 Blood Procurement and Blood Product Manufacturing**

The focus of this course is on theoretical and practical concepts used in human blood procurement and blood product manufacturing. Topics include, but are not limited to, red blood cell and platelet preservation, the oxygen dissociation curve, basic coagulation, allogeneic and autologous blood donor selection, whole blood collection and component preparation, labeling, storage, distribution and use, donor testing, transfusion infectious diseases, storage lesions, hematopoietic progenitor cell (HPC) collection and use. Taught only online. Extensive computer use required. Offered: spring. Retake Counts for Credit: Yes. Credit(s): 2

**SBB - 563 Blood Bank/Transfusion Service Operation**

Review of theoretical and practical concepts used in blood bank and transfusion service operation. Topics include, but are not limited to, safety and federal regulatory requirements, disaster management, administration of blood components process validation, automation, human resources management, budgeting, competency assessment. Focus on quality management systems: QC, QA, QM, blood utilization management, error management. Taught only online. Extensive computer use required. Offered: spring. Retake Counts for Credit: Yes. Credit(s): 3

**SBB - 564 SBB Project and Clinical Practicum**

Independent investigation of a topic relevant to an area in immunohematology. Student will submit a written research paper as well as prepare and deliver a presentation based on the topic selected. Field experience under supervision of a professional expert in a blood center and/or hospital transfusion service setting is required for the clinical practicum. Clinical sites include, but are not limited to, apheresis centers, donor centers, stem cell processing centers and transfusion service centers. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**SBB - 565 Blood Bank Comprehensive Review**
A comprehensive review and exam are provided for students completing the SBB program and who are eligible to sit for the ASCP SBB certification examination. Taught only online. Extensive computer use required. Offered: summer. Retake Counts for Credit: Yes. Credit(s): 2

**SBB - 900 Independent Study**
Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**SBB - 999 Continuous Enrollment**
The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate-level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1

**SLP - 503L Auditory Skills Lab for the Speech-Language Pathologist**
This course reviews the anatomy and physiology of hearing and the basics of hearing science for the speech-language pathologist. Types of hearing loss, forms of hearing assessment and principles of prevention, intervention and rehabilitation are presented as foundations for practicing speech-language pathologists. Skills related to assessment and interventions are developed through laboratory activities. Course may be audited by thesis-track students. Prerequisites: SLP-506L and SLP-537L. Offered: summer. Retake Counts for Credit: No. Credit(s): 1

**SLP - 506L Clinical Methods Lab**
This course emphasizes basic clinical methods and skills for beginning graduate students in speech-language pathology with an emphasis on assessment and evidence-based intervention. Topic areas include Rush clinical protocols and operational procedures, note writing and documentation. In addition, students will practice administering, scoring and interpreting a battery of common standardized assessments. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**SLP - 510 Professional Issues in Speech-Language Pathology**
This course provides an overview of professional issues for speech-language pathologists. Topics include regulatory guidelines, licensure, scope of practice, professional code of ethics, health care reimbursement and fiduciary responsibility, risk management and legal issues, effective communication skills, best professional practice (HIPPA and FERPA) and other current professional areas. Course may be audited by thesis-track students. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**SLP - 511P SLP Practicum I**
This is a supervised on-campus clinical experience with patients and clients presenting with speech, language, cognitive-communication, voice, motor speech and/or swallowing impairments. Practicum students will examine and apply evaluative, therapeutic, counseling and report-writing procedures observation, hands-on training and simulated learning opportunities. Direct contact with clients and patients may be an opportunity for students as appropriate. Relationships between speech-language pathology and health care, education and other professions are examined. Introductory experience includes exposure to patients and clients across the life span and from diverse cultural backgrounds, in a variety of on-campus settings. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**SLP - 512P SLP Practicum II**
This is a supervised clinical experience with clients/patients/students presenting with speech, language, cognitive-communication, voice, motor-speech and/or swallowing impairments. Practicum students demonstrate evaluative, therapeutic, counseling and report-writing skills for early practicum experiences. Relationship of speech-language pathology to health care, education and other professions is further examined. Experience includes patients/clients/students across the life span and from diverse cultural backgrounds, in a variety of settings. Opportunities for continuous professional and interprofessional education (IPE) and development to enhance team performance and outcomes are available. Prerequisites: SLP-506L and SLP-511P. Offered: spring. Retake Counts for Credit: No. Credit(s): 2

**SLP - 513P SLP Practicum III**
This is a supervised clinical experience with clients, patients and students presenting with speech, language, cognitive-communication, voice, motor-speech and/or swallowing impairments. Students further develop evaluative, therapeutic, counseling and report-writing skills. Relationship of speech-language pathology to health care, education and other professions is further examined. Experience includes patients, clients and students across the life span and from diverse cultural backgrounds, in a variety of settings. Opportunities for continuous professional and interprofessional education (IPE) and development to enhance team performance and outcomes are available. Prerequisites: SLP-506L, SLP-511P and SLP-512P. Offered: summer. Retake Counts for Credit: No. Credit(s): 3-6

**SLP - 521 Language Disorders in Children I: Birth Through Age Five**
This course covers language development and disorders from birth through 5 years of age. Students learn definitions and characteristics of both primary and secondary language disorders, including autism spectrum disorder. Assessment and intervention techniques across the developmental period will be presented. Offered: fall. Retake Counts for Credit: No. Credit(s): 3

**SLP - 522 Language Disorders in Children II: Age Six Through Adolescence**
This course covers language development and disorders in children aged 6 years and older. Primary and secondary language disorders in both oral and written modalities are presented. Skills for assessment and intervention will be developed. Prerequisite: SLP-521. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**SLP - 523L Instrumentation Lab**
This is a lab course, which focuses on hands-on learning of various instruments that are routinely used in diagnosis and treatment of speech and voice disorders in clinical and research settings. The course will serve as an introduction to the use of digital technology to document assessment findings and provide outcome data for clinicians. Offered: spring. Retake Counts for Credit: No. Credit(s): 1

**SLP - 524 Fluency, Dysfluency and Stuttering**
This course addresses developmental and acquired fluency disorders. Current research findings on stuttering will be discussed. Students learn to describe pertinent characteristics of speech fluency, identify the presence of a clinically significant fluency problem and determine etiologic and maintaining factors. Differential diagnosis of neurogenic and psychogenic stuttering will also be discussed. Strategies and approaches for prevention and management are considered. Course may be audited by thesis-track students. Offered: summer. Retake Counts for Credit: No. Credit(s): 2

**SLP - 526 Speech Sound Disorders**
This course covers development and disorders of speech sound production in pediatric populations. Possible etiologies and subtypes, including childhood apraxia of speech, are discussed. Assessment skills are developed. Theories and procedures of contemporary interventions are presented. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**SLP - 535 Clinical Issues in Cultural and Language Diversity**
This course surveys topics in cultural and linguistic diversity relevant to clinical practice in the profession of speech-language pathology. It is designed to extend students' foundational clinical knowledge to diverse populations, including individuals who speak nonmainstream dialects and those who speak a language other than, or in addition to, English. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**SLP - 537L Anatomy Lab**
This course reviews the anatomy and physiology of the speech systems of respiration, phonation and articulation in the context of studying the human body through cadaver specimens. This one-hour weekly laboratory experience is supplemented by didactic information focusing on the physiology of speech production and swallowing. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**SLP - 540 Head and Neck Cancer Management**
This course covers the unique challenges of evaluating and treating speech, voice and swallowing disorders resulting from treatment for head and neck cancer. Basic understanding of surgical and chemoradiation effects and all forms of alaryngeal speech are studied. Emphasis will be placed on communication and swallowing evaluations and rehabilitation using case studies. A team approach to patient care will be stressed. Course may be audited by thesis-track students. Prerequisites: SLP-523L and SLP-537L. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**SLP - 542L Tracheostomy and Ventilator Lab Ventilator Dependent Patients**
This lab-based course covers the unique challenges of evaluating and treating speech, voice and swallowing

impairments demonstrated by patients requiring tracheostomy tube placement with and without mechanical ventilation. Hands-on education will include task training with various tracheostomy tubes, one-way speaking valves and ventilators/ventilator settings; as well as interprofessional case studies using high-fidelity mannequins and simulated patient modalities/technologies. Course may be audited by thesis-track students. Prerequisites: SLP-523L and SLP-537L. Offered: summer. Retake Counts for Credit: No. Credit(s): 1

**SLP - 558 Dysphagia**

This course covers the normal anatomy and physiology of swallowing, evaluation of disordered swallowing and management/rehabilitation of swallowing disorders. Topics include clinical and imaging evaluations with special emphasis on videofluoroscopic swallow study procedures and analysis and evidenced-based rehabilitation protocols and adjunctive modalities. Swallowing disorders in various populations across the age span are discussed. Prerequisites: SLP-523L and SLP-537L. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**SLP - 562 Craniofacial Anomalies and Genetic Syndromes**

This course reviews the embryology, anatomy and physiology of normal and abnormal development of orofacial structures. The focus is on cleft-palate and craniofacial anomalies with associated syndromes. Surgical, dental, audiological and feeding aspects are addressed. Speech, language and resonance evaluation and intervention strategies are discussed with a focus on current literature. The emphasis is on a multidisciplinary approach to treatment through the craniofacial team. Course may be audited by thesis-track students. Prerequisites: SLP-523L and SLP-537L. Offered: fall. Retake Counts for Credit: No. Credit(s): 2

**SLP - 563 Voice Disorders**

This course examines the acoustic, perceptual and physiological dimensions of normal and abnormal voice. Predisposing, precipitating and perpetuating etiologic factors are considered. Skills for assessment, differential diagnosis and management of hyperfunctional, psychogenic and organic voice disorders are developed. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**SLP - 564 Aphasia**

Adult onset aphasia, apraxia of speech and related language disorders are examined. Emphases include theoretical foundations, neuroanatomy and pathophysiology, symptomatology, assessment/diagnosis and clinical management. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**SLP - 567 Dysarthria**

This course will focus on the diagnosis and treatment of a group of speech disorders that affect either single or combined speech subsystems of respiration, phonation, resonance, articulation and prosody. The speech disorders are caused by changes in speech musculature or its movement patterns due to central or peripheral nervous system damage. This course includes lectures, class discussions, laboratory work, hands-on class projects and literature review papers. Prerequisites: SLP-523L and SLP-537L. Offered: spring. Retake Counts for Credit: No. Credit(s): 3

**SLP - 568 Cognition of Acquired Language and Communication Disorders**

This course examines the attentional, memorial, linguistic and executive processes involved in language and communication functioning. The language and communication characteristics of individuals presenting with neurologic conditions that alter these processes are also described. Assessment and treatment of these disorders is presented. Offered: summer. Retake Counts for Credit: No. Credit(s): 3

**SLP - 582 Topics in Research Methods In Communication Disorders**

This course is a supplement to CHS 610, the common research methods course for the College of Health Sciences. It is intended to cover topics other than those in the common core course that are important to audiology and speech-language pathology professionals. Content includes an introduction to systematic reviews and meta-analysis and single subject research designs, with a focus on quality indicators and evidence-based practice in communication disorders. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**SLP - 589P SLP Practicum IV**

This is a supervised clinical experience with clients/patients/students presenting with speech, language, cognitive-communication, voice, motor-speech and/or swallowing impairments. Practicum students demonstrate evaluative, therapeutic, counseling and report-writing skills with patients/clients/students across the life span and from diverse cultural backgrounds in a variety of settings. Opportunities for continuous professional and interprofessional education (IPE) and development to enhance team performance and outcomes are available. Prerequisite: SLP-513P. Offered: fall. Retake Counts for Credit: No. Credit(s): 4

**SLP - 590P SLP Practicum V**

This is an advanced supervised clinical experience with clients, patients and students presenting with speech, language, cognitive-communication, voice, motor-speech and/or swallowing impairments. Practicum students further develop and formulate evaluative, therapeutic, counseling and report-writing skills and procedures for advanced practicum experiences. Relationship of speech-language pathology to health care, education and other professions is further examined. Experience includes patients, clients and students across the life span and from diverse cultural backgrounds, in a variety of settings. Opportunities for continuous professional and interprofessional education (IPE) and development to enhance team performance and outcomes are available. Prerequisite: SLP-589P. Offered: spring. Retake Counts for Credit: No. Credit(s): 8-10

**SLP - 592 Applied Topics in Communication Disorders**

Scientific, clinical and professional issues in audiology and speech-language pathology are examined using a variety of formats that include student case presentations presented in a clinical rounds format, expert guest speakers and journal club. Oral presentation skills as well as analytical and clinical problem-solving skills are highlighted. Offered: fall. Retake Counts for Credit: No. Credit(s): 1

**SLP - 598 Thesis**

Under the guidance and direction of a faculty member and committee, the student originates, proposes and executes a scientific investigation. Emphasis is on a review of current research literature and appropriate research design and methods in support of the stated research objectives. These projects reflect a high degree of scholarship. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2

**SLP - 900 Independent Study**

This Independent study course will give a student the opportunity to pursue an area of study not commonly included in the curriculum. Independent study is often the initial focused study of a student interested in completing a master's thesis project. Those students interested in pursuing an independent study must meet with a faculty member to discuss, define and document the coursework and expectations for this experience. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1-6

**SLP - 999 Continuous Enrollment**

The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 1

**SUR - EXM Surgery Exam Remediation**

Remediation of course examination. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 8

**SUR - REM Surgery Clinical Remediation**

Remediation of clinical weeks. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 8

**SUR - 7EI Surgery Individualized Elective**

Students may receive credit for an individually arranged elective with a Rush faculty member. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter stating the student's activities, responsibilities, amount of supervision and specific dates of the rotation. The sponsoring faculty member must complete an evaluation of the student's performance at the conclusion of the elective. Students must submit a proposal to the Office of Clinical Curriculum for approval at least eight weeks before the rotation and must have written approval from the assistant dean of Clinical Education before beginning the rotation. Students may receive four weeks of credit for an individually arranged elective. Credit for a maximum of only one individually arranged elective will count toward graduation requirements. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**SUR - 701 Core Clerkship: Surgery**

The Core Clerkship in Surgery will consist of an eight-week general surgery component in the M3 year. During Surgery, the principles of preoperative and postoperative care, diagnosis of surgical disease, indications for surgery, recognition and response to surgical emergencies and the physiological principles of surgery are stressed through the case study method. Students will be involved in the care of approximately three patients per week. Technical experience

is provided in the operating rooms and clinical skills lab. Outpatient clinics, lectures and conferences provide additional direct contact with faculty. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 8

**SUR - 710 Subinternship: General Surgery**
Under supervision, the student assumes many of the duties and responsibilities of a resident physician. This includes responsibility for preoperative and postoperative care, participation in surgery and rotating on the night on-call schedule. On-call responsibilities for the surgical sub-intern are at the level of the first year resident, namely, sub-interns will be the first member of the surgical team to see in-hospital consults, emergency room patients and answer calls from the nurses. They will be supervised by in-house residents. The work is primarily with hospitalized patients; however, there is an opportunity to work with ambulatory and elective surgical patients. Independent library investigative projects are assigned. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**SUR - 711 Cardiovascular Surgery**
This course emphasizes the clinical diagnosis and surgical management of adult and pediatric cardiac disorders. Preoperative evaluation, including review of cardiac catheterization data, intraoperative management and postoperative care are discussed at conferences and in the operating room. Indications for surgery, preoperative evaluation and postoperative care are discussed at patient rounds, in conferences and on an individualized basis. Prerequisites: SUR-701 and SUR-795. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**SUR - 712 Surgical Intensive Care**
This rotation exposes the experienced student to comprehensive management of critically ill surgical patients. Application of advanced life support techniques, including vaso-active drugs, mechanical aids to circulation, pacing and respiratory therapy are reviewed. Pathophysiologic discussion and integration with cardiopulmonary analysis of data obtained from invasive monitoring are emphasized. Radiologic, medical and surgical aspects of critical care medicine are also incorporated. Students will attempt to function as sub-interns with direct patient responsibilities. Prerequisites: MED-703 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**SUR - 713 Peripheral Vascular Surgery**
This course emphasizes the clinical non-invasive laboratory and radiologic diagnosis of peripheral vascular disorders considered for surgical management. Indications for surgery, preoperative evaluation and postoperative care are discussed at patient rounds, in conferences and in the operating room. This rotation allows extensive time in the operating room with open cases. The student will work closely with the Vascular Fellow and Attendings. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**SUR - 716 Plastic and Reconstructive Surgery**
The primary goal of this clerkship is to introduce the surgical subspecialty of plastic and reconstructive surgery in as many of its various elements and diverse applications as possible. Plastic surgery covers a broad array of surgical/medical problems, including wound healing; burns, both acute and long-term care; congenital anomalies such as cleft lip and palate and other craniofacial defects; breast surgery including breast reduction, augmentation and reconstruction following mastectomy; microsurgical procedures for a free flap transfer, nerve repair and other means of tissue transposition; hand surgery, ranging from acute industrial accidents to long-term rehabilitation for neuromuscular problems; care of facial fractures, both acute and delayed repair; care for trunk and extremity problems, relating both to trauma and tumor extirpation; and aesthetic surgery of the face, extremities and trunk. Prerequisite: SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**SUR - 721 Pediatric Surgery**
The pediatric surgery elective is available to fourth year medical students. The students that can benefit most from this rotation include students interested in general surgery and pediatrics. The elective will provide an opportunity to become familiar with the pathogenesis, diagnosis and management of common conditions requiring surgery in the neonatal and pediatric population. Prerequisites: MED-703, NEU-701, OBG-703, PED-701, PSY-701, RMD-701 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**SUR - 725 RMD Virtual Urology Away (non-Rush)**
Two-week elective for away students to participate in Rush Urology educational and clinical activities. We will host didactics via WebEx and also aim to include students in surgeries by Vidyo streaming and virtual outpatient clinical encounters via Vidyo and Epic. We will assess students on oral presentation and an exam. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 1-2

**SUR - 726 Principles of Urology**
This clerkship provides students with an introduction to the field of Urology. Students will experience a wide variety of urological diagnoses in all subspecialties. This elective is meant to supplement the basic clerkship in surgery. As such, principles of perioperative management of surgical patients will be emphasized. Prerequisite: SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**SUR - 727 Genitourinary Neoplasia**
This course is designed to present the basic concepts of neoplasia, using the genitourinary neoplasms as models. The student actively participates in the management of both hospitalized and ambulatory patients. Multidisciplinary seminars and individual projects are available. Approval to take this course must be obtained from Dr. Coogan prior to registration. Prerequisite: SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**SUR - 731 Pain Management**
This rotation exposes the experienced student to the care and management of patients with low back pain, postherpetic neuralgia, complex regional pain syndrome and other common pain problems. This is a busy office setting where students will see new and returning patients to take histories, perform physical exams and assist in various nerve block procedures. Student will function as a junior house officer. Prerequisite: SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**SUR - 751 Orthopedics**
This fourth-year elective rotation in Orthopedic Surgery is intended for students considering a career path requiring knowledge of musculoskeletal problems. Students are assigned to work with individual attendings on the adult reconstructive, foot and ankle, hand, sports medicine, pediatric and tumor or spine services. Students work with individual attendings in an office/clinic setting, assist in surgery and round on inpatients. Students are required to attend the various clinical and resident education conferences. Educational goals include review of functional anatomy, understanding of injury triage and concepts of treatment. Prerequisite: SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**SUR - 752 Research in Orthopedics**
Students will complete an individual research activity in collaboration with faculty at Rush. The student must develop a proposal that includes the student's activities, responsibilities, amount of supervision and expected time commitment. The proposal must be signed by the faculty supervisor and submitted to Office of Integrated Medical Education for approval at least four weeks before the start of term. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**SUR - 756 Neurosurgery**
This clinical clerkship expands upon and demonstrates the practical application of neurological sciences. The diagnosis and management of both simple and complex neurosurgically oriented disorders are addressed. Conferences with both the resident and attending staff are held weekly. Prerequisite: SUR-701 or OBG-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**SUR - 757 Principles of Ophthalmology**
The purpose of this course is to acquaint students with the surgical specialty of Ophthalmology. They will learn basic ophthalmic terminology, history and examination principles, attend daily rounds and other didactic sessions and observe surgery. It is intended that the students will not only learn techniques of examination that will be useful in their own medical practices but will also understand the capabilities and limitations of the ophthalmologist in order to make better use of ophthalmic consultations. This clerkship may also be taken as a four-week clerkship if prior approval is received from the associate chairman for education in the Department of Ophthalmology. During the second two-week period, the student will gain experience in performing history and physical examinations and will work up patients to present to resident and attending physicians. The student will learn to perform more sophisticated techniques of examination, including slit lamp funduscopic examination and indirect ophthalmoscopy. In general, the student will gain hands-on experience in ophthalmic examination, diagnosis and theory. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**SUR - 759 Otolaryngology**
Clinical experience is provided in the diagnosis and management of patients with diseases of the ear, nose, throat, head and neck. Students will work with both residents and attendings in outpatient clinics, inpatient rounding and consulting

services and in the operating room. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**SUR - 761 Surgical Oncology**

Concentrated experience in the surgical diagnosis and management of patients with tumors is provided. Correlation of surgical problems with anatomic and pathological physiology is stressed, including examination of gross and microscopic tissue. Attendance at the tumor clinic and tumor conference is required. Students may also enroll in this clerkship for six weeks by contacting the Office of Medical Student Programs. Prerequisite: SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4-6

**SUR - 765 Colon and Rectal Surgery**

Close one-on-one instruction between the student and physician in an apprentice-teacher relationship. The student accompanies the physician in all outpatient clinic office hours, as well as surgical procedures and hospital rounds. This involves spending approximately 15 hours per week in a clinic environment, assisting in approximately 50 surgical and endoscopic procedures over the month and daily in-hospital rounds. No night call required. The grade will be determined by an essay exam, course clinical evaluations, submitted history and physical exams and classroom participation. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**SUR - 771 Thoracic Surgery**

Students will gain exposure in the management of both benign and malignant disease of the chest including the lungs, esophagus, trachea, chest wall, diaphragm and mediastinum. The student will participate and assist in the preoperative, operative and postoperative care of these patients as part of a team in both ambulatory and inpatient settings. Students will participate in weekly education conferences and be assigned topics for discussion and presentation. Prerequisites: SUR-701 and OBG-703. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**SUR - 781 Research in Surgery**

Students will complete an individual research activity in collaboration with faculty at Rush. The student must develop a proposal that includes the student's activities, responsibilities, amount of supervision and expected time commitment. The proposal must be signed by the faculty supervisor and submitted to Office of Integrated Medical Education for approval at least four weeks before the start of term. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**SUR - 782 Research in Anesthesiology**

Students will complete an individual research activity in collaboration with faculty at Rush. The student must develop a proposal that includes the student's activities, responsibilities, amount of supervision and expected time commitment. The proposal must be signed by the faculty supervisor and submitted to Office of Clinical Curriculum for approval at least eight weeks before the start of term. Offered: fall, spring and summer. Retake Counts for Credit: No. Credit(s): 2

**SUR - 793 Acute Pain and Regional Anesthesia**

This two or four-week elective is designed for fourth year medical students. It provides students an opportunity to: demonstrate an understanding of the anatomical and physiological basis for regional anesthetic interventions; demonstrate basic competency with the utilization of ultrasound to identify key anatomical structures for common regional anesthetic procedures; demonstrate professionalism in daily interactions with patients in the perioperative setting; demonstrate effective communication and collaboration with the interprofessional health care team in the perioperative setting; demonstrate the capacity for self-directed learning, including the identification of knowledge gaps and the formulation of specific questions related to perioperative patient care; demonstrate knowledge about indications for appropriate consultation for the acute pain service. By the end of this rotation, the student will formulate a pain management plan for the perioperative patient; participate in patient care alongside the acute pain service at a senior medical student level; utilize ultrasound technology in regional anesthesia within supervised hands on education; present patient presentation and develop medical plan; demonstrate the technical ability to utilize ultrasound probes and identify sono anatomical structures; and demonstrate competency in understanding basic neuro-anatomy and physiology. Students will also have educational experiences in the development and implementation of pain management plans for the perioperative patient and participate in supervised hands on education regarding the provision of regional anesthesia as a part of the overall pain management plan in perioperative patients. Prerequisites: MED-703, OBG-703 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4



**SUR - 794 Advanced Surgery**

Advanced Surgery offers an opportunity for Rush students and outside students to become familiar with the Department of General Surgery at Rush University Medical Center. The student will participate in the rotation in a manner like the third-year students and will assume some of the duties and responsibilities of the junior residents, in preparation for intern year and residency. Students will be involved in preoperative and postoperative care, may participate in surgery and outpatient clinic. Students rotating in Advanced Surgery will have the option to take part in the in-house call schedule. This rotation will closely mirror the day of a junior resident on a surgical service. Prerequisites: MED-703, PED-701 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**SUR - 795 Anesthesiology**

The program enables medical students to learn airway management; recognize circulatory inadequacy and initiate support of the failing circulation; induce topical and infiltrative anesthesia safely; understand the actions and interactions of depressant and stimulant drugs commonly encountered or used by anesthesiologists; and participate in preoperative evaluation preparations of surgical and obstetric patients. Prerequisites: MED-703, OBG-703 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**SUR - 796 Transplantation**

The clinical aspects of transplantation, including donor and recipient surgery and preoperative and postoperative care are studied. The student participates in organ preservation care as well. Seminars on the fundamental and clinical aspects of transplant are held. Prerequisite: SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**SUR - 798 Trauma/Critical Care Surgery**

This rotation is designed to provide the fourth year medical student with an in-depth clinical experience in the care of injured patients. Critical decision making and surgical training are the key elements taught during resuscitation, operative management and the critical care phase. The student will follow patients from the ambulance to their discharge home. Multilevel supervision and teaching are available from attending physicians and residents. Prerequisites: MED-703, NEU-701, OBG-703, PED-701, PSY-701, RMD-701 and SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4

**SUR - 808 Trauma/Critical Care Surgery**

The Cook County Trauma Unit is one of the busiest urban trauma centers in the nation and offers an exceptional clinical experience for both medical students and residents. The trauma surgery rotation is designed to provide the senior-level medical student with an in-depth clinical experience in caring for the severely injured patient. The clerkship focuses on the initial management and associated decision-making, the necessary procedures and operative interventions and the critical care necessary for survival of the trauma patient. The student is expected to take an assertive role in patient care from the initial encounter with EMS until the patient is discharged from the hospital. Multilevel supervision and guidance are provided by the attending physicians and residents as well as the clinical support staff. Prerequisite: SUR-701. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 4-8

**SUR - 911 Individualized Elective in Anesthesiology**

This elective offers students the opportunity to design a personalized learning experience tailored to their specific interests and career goals within Anesthesiology. Under the guidance of a faculty mentor, students will develop a customized curriculum that may include clinical experiences, research projects, case studies and/or academic readings. This flexible course structure allows students to explore areas of interest in depth, enhance specific skills and gain insights into potential career paths. The elective is ideal for students seeking to expand their expertise or explore niche areas within their field of study. Offered: fall, spring and summer. Retake Counts for Credit: Yes. Credit(s): 2-4

**VAS - 305 Vascular Anatomy, Physiology and Pathophysiology**

This course is a detailed survey of the large, small and microscopic vasculature of the human body including variations. Surrounding structures are also studied in their relationship to the vasculature. The purpose and normal mechanism of arterial and venous systems are explored. Disease mechanisms of a wide variety of disorders of arteries and veins are examined, with emphasis on those diseases that can be assessed by noninvasive vascular studies. Risk factors, symptoms and treatment of these pathophysiologic processes will also be presented. Retake Counts for Credit: No. Credit(s): 2

**VAS - 310 Patient Care**
Vascular sonographers interact with patients continually through the workday. Patient care responsibilities include physical care and comfort as well as respectful communication and interactions with all. Patient attitudes in both health and disease are examined in order to make the sonographer more conscious of interactions in a diverse world. Activities are provided to practice patient care and safety skills that students may encounter in a vascular lab, such as, but not limited to, patient transport and comfort, CPR training, universal precautions, infection control and wound wrapping. Retake Counts for Credit: No. Credit(s): 2

**VAS - 320 Ultrasound Physics and Physical Principles I**
This is the first of two courses in ultrasound physics and principles. The topics covered in this course include the basic parameters of sound and ultrasound, B-mode ultrasound, the Doppler effect, continuous and pulsed wave Doppler, color flow, basic hemodynamics and ergonomics in the vascular lab. Math equations are utilized to examine the relationships of variables in the physics concepts. The relationship of these principles to guide appropriate, efficient and intelligent use of the instrument controls is emphasized. Retake Counts for Credit: No. Credit(s): 2

**VAS - 320L Physics and Instrumentation Lab**
Students will actively learn basic ultrasound techniques and use of equipment controls in this lab course. Duplex ultrasound controls for B-mode, Doppler and color image production will be utilized by students to create interpretable images and waveforms. Scanning skills such as appropriate vessel orientation, moving from transverse to longitudinal view on vessels, scanning in long and transverse planes, appropriate ergonomics, are also covered. Student efficiency and problem solving in use of equipment controls are evaluated in the lab proficiency exams. Retake Counts for Credit: No. Credit(s): 1

**VAS - 325 Ultrasound Physics and Physical Principles II**
This is the second of two courses in ultrasound physics and instrumentation. A continuation of the basic principles of B-mode, pulsed wave and color Doppler are discussed emphasizing the components of the duplex scanner. Math equations are utilized to examine the relationships of variables in the physics concepts. The interaction of ultrasound and tissue, including ultrasound artifacts and bio-effects are also examined. Prerequisite: VAS-320. Retake Counts for Credit: No. Credit(s): 2

**VAS - 330 Venous Ultrasound Procedures**
The theories, techniques and processes for performing deep vein thrombosis (DVT), chronic venous insufficiency (CVI) and vein mapping (VM) studies of the lower and upper extremities (LE/UE) are presented primarily through the use of duplex ultrasound. Topics also include anatomy, diseases, terminology, indications, patient history taking, diagnostic criteria, reporting and problem-solving procedures. These skills will be addressed in this didactic course and applied in the related laboratory course. Retake Counts for Credit: No. Credit(s): 2

**VAS - 330L Venous Ultrasound Procedure Lab**
The venous ultrasound techniques and procedures for LE DVT duplex ultrasound learned in the didactic course will be practiced on models in the student laboratory. Scanning activities will also include history taking, data analysis, reporting and problem-solving and appropriate ergonomics. Chronic venous insufficiency, vein mapping and upper extremity procedures skills will be practiced in VAS-345L Advanced Procedures Lab. Students will observe actual patient exams in the hospital laboratory. Retake Counts for Credit: No. Credit(s): 1

**VAS - 340 Arterial Physiologic and Duplex Procedures**
The theories, techniques and processes of performing physiologic and duplex arterial examinations of the lower and upper extremities are presented. The physiologic exams include segmental pressures, continuous wave Doppler waveforms, plethysmography, exercise testing and some less frequently performed exams. Duplex scanning of the lower and upper extremities includes native arteries, postoperative, pseudoaneurysm, arteriovenous fistula and other less common patient exams. Topics also include anatomy, diseases, terminology, indications, patient history taking, diagnostic criteria, reporting, treatment and problem-solving procedures. These skills will be addressed in this didactic course and practiced in the related laboratory courses VAS 340L and VAS 345L. Retake Counts for Credit: No. Credit(s): 2

**VAS - 340L Arterial Physiologic Procedures Lab**
The upper and lower extremities native artery physiologic techniques and procedures in learned in the didactic course will be practiced on models in the student laboratory. Scanning activities will be emphasized but activities also include history taking, data analysis, reporting and problem-solving. Students will observe actual patient exams in the hospital laboratory. Retake Counts for Credit: No. Credit(s): 1



**VAS - 345L Advanced Duplex Ultrasound Procedures Lab**
Advanced vascular procedures, including upper extremity venous, chronic venous insufficiency, vein mapping, upper and lower extremity arterial duplex techniques and photoplethysmography (PPG) venous reflux exams are practiced in this course. The advanced vascular procedures, appropriate ergonomics, data analysis and problem-solving will be practiced on models in the laboratory using duplex and PPG equipment. Students will observe actual patient exams in the hospital's outpatient vascular lab. Retake Counts for Credit: No. Credit(s): 1

**VAS - 350 Cerebrovascular Procedures**
The theories, techniques and processes of performing cerebrovascular studies using duplex ultrasound of extracranial arteries and transcranial doppler (TCD) for intracranial arteries are covered in this course. Topics also include anatomy, diseases, terminology, indications, patient history taking, diagnostic criteria, reporting, treatment and problem-solving procedures. These skills will be addressed in this didactic course and practiced in the related laboratory course. Retake Counts for Credit: No. Credit(s): 2

**VAS - 350L Cerebrovascular Procedures Lab**
The extracranial duplex ultrasound and intracranial (TCD) techniques and procedures will be practiced on models in the student vascular lab. Scanning activities will be emphasized but activities also include history taking, data analysis, reporting and problem-solving. Students will observe actual patient exams in the hospital laboratory. Retake Counts for Credit: No. Credit(s): 1

**VAS - 360 Abdominal Vascular Procedures Class and Lab**
Duplex ultrasound procedures used to assess the aorta, iliac, renal, mesenteric, inferior vena cava and hepatoportal vessels will be addressed in this course. Topics also include anatomy, diseases, terminology, indications, patient history taking, diagnostic criteria, reporting, treatment and problem-solving procedures. The abdominal vascular procedures will be practiced on models in the laboratory using duplex equipment. Scanning activities will be emphasized but activities also include history taking, data analysis, reporting and problem-solving. Students will observe actual patient exams in the hospital laboratory. Retake Counts for Credit: No. Credit(s): 2

**VAS - 370 General Pathophysiology**
Pathologic processes for general and organ system pathology in the human body are covered in this course, including the manifestations of disease, etiology, pathogenesis, clinical features, diagnostic tools, prognoses and therapeutic options. This is an online course comprised of primarily distance learning with some face to face activities on campus. Retake Counts for Credit: No. Credit(s): 3

**VAS - 380 Professional Practices in Ultrasound**
This course is designed to prepare students for a career in vascular ultrasound by generating knowledge and skills in a broad overview of topics that will assist in their professional development under four general headings: professional standards and resources, laboratory management, personal professional skills and applying ethical principles. Retake Counts for Credit: No. Credit(s): 3

**VAS - 390 Introduction to Research**
The student is expected to be a life-long learner, evaluate research and data reports and contribute to the knowledge base of the field. This course addresses basic knowledge and understanding of the methods of research available and how to use them. It introduces the student to research processes, basic analysis of research papers, evidence based practice and the application of quality improvement information. Test validation accuracy procedures, including calculations, are also covered. Retake Counts for Credit: No. Credit(s): 2

**VAS - 400 Independent Study**
Independent study courses give students a unique opportunity to pursue a course of study not commonly included in the curriculum. If you are interested in pursuing an independent study, meet with the faculty member you want to work with to define the coursework and expectations. Retake Counts for Credit: Yes. Credit(s): 1-12

**VAS - 411 Clinical Skills in Vascular Ultrasound I**
In this clinical course, the student learns to perform vascular exams on patients in the first clinical rotation in the program. A plan of practice focuses the student on learning particular types of vascular exams from a list of required and elective patient exams according to the program's clinical experience handbook. The student will first observe, then perform sections of the planned vascular exams on patients and go on to perform complete exams under the supervision of the clinical instructor. Retake Counts for Credit: No. Credit(s): 11

**VAS - 412 Clinical Skills Vascular Ultrasound II**
In this clinical course, the student continues to learn to perform vascular exams on patients. A plan of study for the rotation focuses the student's learning activities on particular required and elective patient exams according to the

clinical experience handbook. Students will first observe, perform sections and finally perform complete vascular exams as their skills improve under supervision of a clinical instructor. Retake Counts for Credit: No. Credit(s): 7

**VAS - 413 Clinical Skills-Vascular Ultrasound III**

In this clinical course, the student continues to learn to perform vascular exams on patients from the list of required and elective patient exams according to the clinical experience handbook. Students will first observe, perform sections and finally perform complete vascular exams as their skills improve under supervision of a clinical instructor. Retake Counts for Credit: No. Credit(s): 8

**VAS - 421 Professional Skills I**

Students will practice professional skills during each semester of the senior year at clinical sites and be evaluated on particular characteristics such as honesty/integrity, interrelationships with patients and staff, communication, cleanliness, initiative, efficiency, confidence, judgement, constructive criticism, learning from mistakes, professional growth, HIPAA compliance, patient mindfulness and personal responsibility. Retake Counts for Credit: No. Credit(s): 1

**VAS - 422 Professional Skills II**

Students will practice professional skills during each semester of the senior year at clinical sites and be evaluated on particular characteristics such as honesty/integrity, interrelationships with patients and staff, communication, cleanliness, initiative, efficiency, confidence, judgement, constructive criticism, learning from mistakes, professional growth, HIPAA compliance, patient mindfulness and personal responsibility. Retake Counts for Credit: No. Credit(s): 1

**VAS - 423 Professional Skills III**

Students will practice professional skills during each semester of the senior year at clinical sites and be evaluated on particular characteristics such as honesty/integrity, interrelationships with patients and staff, communication, cleanliness, initiative, efficiency, confidence, judgement, constructive criticism, learning from mistakes, professional growth, HIPAA compliance, patient mindfulness and personal responsibility. Retake Counts for Credit: No. Credit(s): 1

**VAS - 441 Senior Topics/Cases I**

Students will prepare, write and present multiple case studies from the patient exams they have performed at their clinical sites. Students will also attend lectures on advanced topics. Retake Counts for Credit: No. Credit(s): 1

**VAS - 442 Senior Topics/Cases II**

Students will prepare, write and present multiple case studies from the patient exams they have performed at their clinical sites. Students will also attend lectures on advanced topics. Retake Counts for Credit: No. Credit(s): 1

**VAS - 443 Senior Topics III/Comprehensive Review**

Students will attend multiple review classes in preparation for the comprehensive Rush comprehensive exam and the ARDMS credentialing exams. Students are required to submit a case study abstract to the national professional and complete the national credentialing examinations. Retake Counts for Credit: No. Credit(s): 1

**VAS - 451 Cumulative Clinical Skills in Vascular Ultrasound I**

After students master clinical skills in newly learned patient exams with a passing grade, they must continue to demonstrate consistent performance at an appropriate skill level. During this course, students will continue to perform previously learned clinical skills at new and/or current clinical sites, demonstrating their ability to adjust to new protocols and clinical settings and be evaluated for proficiency in these skills each semester. Retake Counts for Credit: No. Credit(s): 4

**VAS - 452 Cumulative Clinical Skills in Vascular Ultrasound II**

After students master clinical skills in newly learned patient exams with a passing grade, they must continue to demonstrate consistent performance at an appropriate skill level. During this course, students will continue to perform previously learned clinical skills at new and/or current clinical sites, demonstrating their ability to adjust to new protocols and clinical settings and be evaluated for proficiency in these skills each semester. Retake Counts for Credit: No. Credit(s): 4

**VAS - 999 Continuous Enrollment**

The requirement for Continuous Enrollment applies to all students admitted or readmitted for fall 2015 or later. Doctoral students should follow program requirements for continuous enrollment and degree completion. Students who have not completed their degree requirements are required to maintain Continuous Enrollment through the college of their program until the degree is earned. Continuous Enrollment courses are graduate level courses set up by departments at Rush University for students who need to remain actively enrolled in the university while they finish their graduate work. Retake Counts for Credit: No. Credit(s): 1

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