RUSH UNIVERSITY

University Catalog 2018-2019



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The Rush University Catalog is published as a guide for the faculty and students of Rush University. 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 30, 2018.

RUSH UNIVERSITY

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2018-2019 Academic Calendar

Term/Event

Fall 2018	
Labor Day Holiday	Monday, Sept. 3, 2018
Classes Begin for All Students	Tuesday, Sept. 4, 2018
Last Day for Late Registration	Friday, Sept. 7, 2018
Thanksgiving Recess (No classes on these days)	Thursday and Friday Nov. 22 - 23, 2018
Classes Resume at 8 a.m.	Monday, Nov. 26, 2018
Classes End (CON, CHS)	Friday, Dec. 7, 2018
Classes End (RMC, GC)	Friday, Dec. 14, 2018
Final Exams (CON, CHS)	Dec. 10 - 14, 2018 Monday - Friday
Final Exams (RMC, GC)	Dec. 17 - 21, 2018 Monday - Friday
End of Term for All Students	Friday, Dec. 21, 2018
Conferral of Fall Degrees	Saturday, Dec. 22, 2018
Term Break (No classes during this period)	Sunday - Tuesday Dec. 23, 2018 - Jan. 1, 2019

Spring 2019	
Classes Begin for All Students	Wednesday, Jan. 2, 2019
Last Day for Late Registration	Friday, Jan. 4, 2019
Martin Luther King Jr. Holiday	Monday, Jan. 21, 2019
Spring Break (No classes in session this week)	Monday - Friday Feb. 25 - March 1, 2019
Classes Resume at 8 a.m.	Monday, March 4, 2019
Classes End (CON, CHS)	Friday, April 12, 2019
Classes End (RMC, GC)	Friday, April 19, 2019
Final Exams (CON, CHS)	April 15 - 19, 2019 Monday - Friday
Final Exams (RMC, GC)	April 22 - 26, 2019 Monday - Friday
End of Term for All Students	Friday, April 26, 2019
Conferral of Spring Degrees	Saturday, April 27, 2019
Spring Commencement	Saturday, April 27, 2019
Term Break (No classes during this period)	Sunday - Sunday April 28 - May 5, 2019

2018-2019 Academic Calendar

Term/Event

Summer 2019	
Classes Begin for All Students	Monday, May 6, 2019
Last Day for Late Registration	Friday, May 10, 2019
Memorial Day Holiday	Monday, May 27, 2019
Classes End for Eight-Week Term (RMC-M1)	Friday, June 21, 2019
Final Exams for 8-Week Term (RMC-M1)	June 24 - 28, 2019 Monday - Friday
Fourth of July Holiday	Thursday, July 4, 2019
Classes End (CON, CHS)	Friday, Aug. 9, 2019
Classes End (RMC, GC)	Friday, Aug. 16, 2019
Final Exam (CON, CHS)	Aug. 12 - 16, 2019 Monday - Friday
Final Exam (RMC, GC)	Aug. 19 - 23, 2018 Monday - Friday
End of Term for All Students	Friday, Aug. 23, 2019
Conferral of Summer Degrees	Saturday, Aug. 24, 2019
Term Break (No classes during this period)	Sunday - Monday Aug. 25 - Sept. 2, 2019

Calendar dates are subject to change without notice.

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ly Favorite thing to do is: Play zombie video games!

MP

something important to me is: My dog Bailey, a Sycar old Edden Rennis

About Rush

Welcome to Rush University

Rush University Medical Center Mission, Vision and Values

History of Rush University Medical Center

Renowned Patient Care

Educating Future Health Care Providers

Committed to Community

Rush University Mission, Vision and Values

History of Rush University

The Seal of Rush University

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Accreditation, Authorization and Licenses

Alumni Relations

Drug-Free Campus and Workplace

Tobacco-Free Work Environment

Diversity, Equal Opportunity and Inclusion

Office of Student Disability Services

Prohibition Against Harassment, Discrimination and Sexual Misconduct

Office of Institutional Research, Assessment and Accreditation

6

Welcome to Rush University



Rush University is dedicated to training in the clinical and basic sciences of health care and medical research. Our four colleges - Rush Medical College, Rush University College of Nursing, the College of Health Sciences and the Graduate College — together train more than 2,400 students. In addition, Rush University Medical Center trains more than 700 residents and fellows in the graduate programs of clinical education for physicians.

Students have the opportunity to train at Rush University Medical Center, one of the nation's leading academic medical centers. The desire to participate in the education of trainees at all levels has attracted some of the most outstanding scientists, physicians, nurses and allied health professionals in the country to Rush, where our primary interest is to provide the very best in patient care.

Trainees in the clinical disciplines will be prepared for the challenges they will face by actively participating in clinical care at the Medical Center throughout most of their training. Basic scientists work as part of those teams. The link between basic science and clinical programs often stimulates each side to find creative solutions to the health care challenges of today and the future.

I am pleased you have chosen Rush University for your training. We take the responsibility seriously. At any time during your training, please feel free to contact one of your deans or myself for any suggestions or to address any issues. Training is exciting as well as challenging. All of us are here to support you.

Thanks for choosing Rush.

lary God

Larry Goodman, MD President, Rush University; Chief Executive Officer, Rush System and Rush University Medical Center

Rush University Medical Center Mission, Vision and Values

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

Innovation Collaboration Accountability Respect Excellence

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 September 2003.

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

Renowned Patient Care

Rush University Medical Center encompasses a 675-bed hospital serving adults and children, including the Johnston R. Bowman

Health Center, which provides medical and rehabilitative care to older adults and people with short- and long-term disabilities.

It includes Rush's 376-bed Tower hospital building, which opened in 2012 as part of the Medical Center's major campus renovation. Rush's commitment to sustainability innovation earned the Tower LEED Gold certification. It is the largest new construction health care project in the world to be LEED Gold certified. Rush's renovation also includes Rush's Orthopedic Building, which opened in 2010, and the ongoing campus-wide implementation of an electronic medical record system, enhancing patient care and safety.

A unique combination of research and patient care has earned Rush national rankings in eight of 16 specialty areas in U.S. News & World Report's 2017-18 America's Best Hospitals issue, among other recognitions of our quality of care and accreditations.

Our nurses are at the forefront of our efforts to provide quality care, receiving Magnet status four times for making outstanding nursing care the standard at the Medical Center. Rush was the first hospital in Illinois serving adults and children to receive Magnet status - the highest honor in nursing.

And some of the world's best athletes trust themselves to the hands of our physicians. Rush is proud to be the preferred hospital for the Chicago Bulls and the Chicago White Sox.

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.

Committed to Community

In addition to patient care, education and research, Rush maintains a strong commitment to the community. Many students, faculty and staff at Rush generously donate their time and skills both within and outside of our campus. Their efforts include numerous health outreach projects in which Rush collaborates with neighborhood clinics, churches, schools and other organizations to provide health screenings and vital health information for underserved children and adults. Our education and research endeavors, community service programs, and relationships with other hospitals are dedicated to enhancing excellence in patient care for the diverse communities of the Chicago area — now and in the future.

Rush University Mission, Vision and Values

Mission

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.

Vision

The Rush learning community will be the leading health sciences university committed to transforming health care through innovative research and education.

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 four colleges and more than 2,400 students. It includes Rush Medical College, Rush University College of Nursing, the College of Health Sciences and the Graduate College.

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 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.

The Graduate College was established as a separate academic unit in January 1981, having previously been organized as the Graduate School within the College of Health Sciences. The Graduate College is responsible for educational efforts in the basic sciences and offers three master's degree programs and one doctoral degree program.

The Seal of Rush University

The seal of Rush University 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 professionals who preserve life

and protect patients. Its two colors, green and gold, merge the tradition of the past with the custom of the present: 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." The Board of Trustees adopted this 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 upon the merger of Rush Medical College and Presbyterian-St. Luke's Hospital. The final elements are Chicago, the city that is home to the University, and the date of the University's founding, 1972. The Rush University Board of Overseers adopted the seal in 1999.

Student Characteristics

Statistics below are based on fall 2017 enrollment figures.

Fall 2017 Enrollment	Men	Women	Total	
Rush Medical College	277	250	527	
College of Nursing	149	981	1130	
College of Health Sciences	167	501	668	
The Graduate College	84	92	176	
Non-Degree Seeking	7	61	68	
Grand Total			2,569	

Students by Race and Ethnicity	Total
American Indian or Alaska Native	2
Asian	339
Black or African-American	155
Hispanic	239
Native Hawaiian or Other Pacific Islanders	1
White	1606
Two or More Races	72
Unknown	155
Grand Total	2,569
Student Financial Aid Data	%

Student Financial Aid Data	%
Title IV Aid Recipients (total student body):	57%
Pell Grant Recipients (undergraduates only):	37%

Accreditations

Rush University

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 (MS, DNP, Post-graduate certificate) 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 25400 US Highway 19 North, Suite 158 Clearwater, FL 33763 (727) 210-2350 (727) 210-2354 www.caahep.org

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

Health Systems Management (MS)

Commission on Accreditation of Health Care Management Education 6110 Executive Blvd., Suite 614 Rockville, MD 20852 (301) 298-1820 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)

American Occupational Therapy Association 4720 Montgomery Lane, Suite 200 Bethesda, MD 20814 (301) 652-2682 www.acoteonline.org

Perfusion Technology (MS)

Accreditation Committee - Perfusion Education 6663 South Sycamore St. Littleton, CO 80120 (303) 794-6283 www.ac-pe.org

Respiratory Care (MS)

Commission on Accreditation for Respiratory Care 1248 Harwood Road Bedford, TX 76021 (817) 283-2835 www.coarc.com

Religion, Health and Human Values (MA and Certificate CPE)

Association for Clinical Pastoral Education One West Court Square, Suite 325 Decatur, GA 30030 (404) 320-1472 www.acpe.edu

Vascular Ultrasound (BS)

Joint Review Committee on Education in Diagnostic Medical Sonography 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 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 401 N. Michigan Ave., Suite 1850 Chicago, IL 60611 (312) 527-9200 hwww.accme.org

Continuing Education (Nursing)

American Nurses Credentialing Center American Nurses Association 8515 Georgia Ave., Suite 400 Silver Spring, MD 20910 (800) 284-2378 www.nursingworld.org/ancc

Continuing Education (Social Work, Physical Therapy, Psychology) Illinois Department of Financial and Professional Regulation 100 W. Randolph St., Ninth Floor Chicago, IL 60601 (888) 473-4858 www.idfpr.com

Continuing Education (Pharmacy)

Accreditation Council for Pharmacy Education 135 S. LaSalle Street, Suite 4100 Chicago, IL 60603 (312) 664-3575 www.acpe-accredit.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

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, Maryland 21703 (301) 696-9626 www.aaalac.org

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 18,000 degrees in the health professions. The Office of Alumni Relations provides channels for Rush Medical College, the College of Nursing, the College of Health Sciences, the Graduate College and our predecessor school alumni as well as former Medical Center house staff to stay connected to Rush as follows:

- Remain informed of current developments at the 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
- Respond positively through both financial and philosophical support
- Promote and perpetuate the high standards of excellence in patient care, education and scientific advancement consistent with the objectives of Rush University Medical Center

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

- The Rush Medical College Alumni Association
- The Rush-Presbyterian-St. Luke's Nurses Alumni Association
- Rush University Health Systems Management Alumni Association (HSMAA)

For more information concerning Rush University alumni associations, programs and events, contact the Office of Alumni Relations at (312) 942-7199 or alumni@rush.edu or visit the alumni websites at www.rushu.rush.edu/alumni.

Drug Free Campus and Workplace

Rush University and Rush University Medical Center (hereinafter, collectively referred to as Rush) comply with the requirements of the Drug-Free Schools and Communities Act, or DFSCA, and the Drug-Free Workplace Act, and our policy implements those requirements. In accordance with the DFSCA, Rush shall review its compliance efforts on a biennial basis to measure effective-ness and to ensure that the standards of conduct and conduct sanctions have been consistently enforced.

All members of the Rush community are encouraged to review the information on the following pages. This information is distributed annually on every first Monday of October, and it is provided on an ongoing basis during student, faculty and staff orientations and meetings. Distribution occurs in a variety of ways including, but not limited to, U.S. mail, electronic transmission, within registration and/or orientation materials, as a Leap Online module, on Blackboard, and/or by personal distribution during classes or meetings.

Hard copies of this policy are also available at the Office of Human Resources, Suite 403, Armour Academic Center, 600 S. Paulina St., Chicago, IL 60612.

Tobacco-Free Work Environment

Rush University Medical Center supports the surgeon general's report on use of tobacco products as a major cause of preventable death. Tobacco use has been documented to contribute significantly to health problems for those who engage in the practice and those who are subjected to an environment where tobacco smoke is present.

Rush University Medical Center, to be consistent with its mission, seeks to promote the health, safety and quality of life of all people who visit the Rush campus.

- In accordance with these standards, Rush University Medical Center prohibits smoking or the use of tobacco by all employees, patients, visitors, physicians, students, faculty, volunteers and contractors on the Medical Center campuses.
- Regarding premises outside Rush University Medical Center campuses, smoking or the use of tobacco is prohibited in all other buildings or on grounds owned, leased, or controlled by Rush University Medical Center wherever located, including adjacent public sidewalks and adjoining properties. This policy may be limited by the policies of the landlord or thirdparty tenants of such premises.
- Smoking or tobacco use is prohibited in Rush University Medical Center owned, leased, or controlled vehicles wherever located.
- 4. Smoking or tobacco use is prohibited within 15 feet of all Rush shuttle bus stops, immediately adjacent to Rush University Medical Center campuses.
- 5. Signs are posted at each entrance indicating Rush University Medical Center is a tobacco-free environment.
- 6. Potential new hires will be informed of the tobacco-free work environment at the time of employment application.

- 7. Current tobacco use will be asked at time of health screening. Those with a positive history will be given referral information for smoking cessation.
- 8. The tobacco-free work environment and policy will be reviewed at new employee orientation.
- While this policy does not require employees to quit tobacco use, Rush University Medical Center supports and encourages all efforts by employees to quit tobacco use.
- The Medical Center offers a smoking cessation and coping programs to employees and encourages them to participate. For more information, please contact ChooseHealth@rush. edu or (312) 942-7479.
- 11. It is the responsibility of all Medical Center staff, faculty, students and employees to ensure compliance with this policy. Enforcement of this policy is a shared responsibility of all hospital personnel.
- 12. Employees violating this policy will be subject to disciplinary action (see Human Resources Policy and Procedure Code of Conduct).

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 University 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 other employees on a nondiscriminatory, equitable basis.

Discrimination or harassment against any member of the Rush University Medical Center community because of age, ancestry, color, 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, race, religion, sexual orientation, veteran's status or any other category protected by federal or state law is prohibited and will not be tolerated, nor will any person for those reasons be excluded from the participation in, or denied the benefits of any program or activity within Rush University.

Shanon Shumpert, associate vice president for Institutional Equity, has been designated to oversee the implementation of this policy for Rush University and can be contacted by telephone at (312) 942-5239 or via email at Shanon_Shumpert@rush.edu.

Additional resources may be found in Human Resources along with the following University individuals/offices:

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

(312) 942-0725

Paula J. Brown, MBA Manager, Diversity and Inclusion Rush University Medical Center Professional Office Building, Room 128 (312) 942-7094 Paula_J_Brown@rush.edu

Office of Student Disability Services

In keeping with its goal to promote diversity among its student population, Rush University is committed to attracting and educating 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 ADA and Section 504 of the Rehabilitation Act of 1973. Students are encouraged to apply to the Office of Student Disability services as soon as possible to discuss reasonable accommodations for their specific academic programs.

To learn more about accommodations at Rush University, please visit: www.rushu.rush.edu/office-student-disability-services or contact:

Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services 600 S. Paulina St. Suite 440 Chicago, IL 60612 (312) 942-5237 marie_s_ferro-lusk@rush.edu

Prohibition Against Harassment, Discrimination and Sexual Misconduct

Rush University Medical Center (Rush) strictly prohibits all forms of unlawful discrimination and harassment of and by any member of the community, including but not limited to students, faculty, employees, volunteers, guests and vendors. Rush complies with Title IX of the Higher Education Amendments of 1972, which prohibits discrimination on the basis of sex in educational programs or activities, admission and employment. Sexual misconduct (and its various forms, as defined below) constitutes sexual discrimination and is also covered under this policy.

This policy does not only prohibit discrimination and harassment of employees by employers but prohibits discrimination and harassment between any members of the Rush community, including between a member of the faculty and a student, between two students, between an employee and a campus guest or between a student and an applicant. This policy applies to all Rush programs and activities including, instruction, grading, housing and employment. It is central to the values of Rush that any member of the community who believes that they have witnessed or been the target of unlawful discrimination or harassment, feel free to report their concerns for an appropriate response and investigation, without fear of retaliation or retribution.

All complaints and concerns about conduct that may violate this policy (including retaliation for reports made pursuant to this policy) should be filed with Rush's equal opportunity officer. Confidential reports can also be made through the Rush Hotline at (877) 787-4009 or via the Rush web reporting tool at rush. ethicspoint.com. Anonymous reporters do not need to identify themselves, but are asked to provide enough information to enable an investigation. Upon receipt of a complaint, the equal opportunity officer will evaluate the information received and determine what further actions should be taken consistent with the procedures outlined. The complete policy can be found here.

Resources

For more information on the Rush University Medical Center policy against harassment, discrimination and sexual misconduct, contact:

Shanon Shumpert Equal Opportunity Officer and Title IX Coordinator Rush University Medical Center Armour Academic Center 600 S. Paulina St., Suite 403 Chicago, IL 60612 (312) 942-5239 Shanon_Shumpert@rush.edu

Office of Institutional Research, Assessment and Accreditation

Rush University's Office of Institutional Research, Assessment and Accreditation, or OIRAA, provides leadership and support in the area of institutional research, accreditation, assessment and regulatory mandates.

The OIRAA fulfills its mission through the following:

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

Contact the OIRAA staff at OIRAA_@rush.edu.







Rush University Campus Information

Rush University's Campus Office of Student Life and Engagement **Center for Student Success** Center for Teaching Excellence and Innovation Rush University Counseling Center International Student Services **Office of Student Diversity and Multicultural Affairs Campus Housing Rush Community Service Initiatives Program** Student Lounge **Student Lockers Student Organizations Voter Registration** Worship Opportunities **Rush University Bookstore Office of General Education Resources Quick Copy Center Library and Archives** McCormick Educational Technology Center Media Services **Rush Production Group Rush Fitness Center University Facilities**

Rush University's Campus

The main campus of Rush University and Rush University Medical Center is located on the Near West Side of Chicago, not far from downtown (often referred to as 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 Rush's 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.

Rush is centrally and conveniently located. The main campus now 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 Educational Affairs suite, the Office of Student Life and Engagement, the Office of Diversity and Inclusion, the Rush University bookstore, a cafeteria, and the administrative offices of Rush Medical College, Rush University College of Nursing, the College of Health Sciences and the Graduate College.

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 main campus, the Rush System 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 Communication, the Data Center and other functions of the Medical Center.

The Office of Student Life and Engagement distributes a campus map to new students and publishes the *Rush University Student Handbook*, which includes locations and telephone numbers of people, offices, departments and buildings of interest to students.

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; develops and implements University orientation for new students; assists with the development and implementation of commencement events; oversees Rush University-sponsored housing; and sponsors educational, multicultural and social activities for all students.

Office of Student Life and Engagement Armour Academic Center 600 S. Paulina St., Suite 984 Chicago, IL 60612 Phone: (312) 942-6302 Fax: (312) 942-9283 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 cocurricular life of the Rush student community. In the past, the office has sponsored a variety of events, including Welcome Back Week, career workshops and a Current Issues in Health Care series, as well as Fall Into Rush (student organization fair), Constitution Day and Student Appreciation Week.

In addition, the office encourages exploration of Chicago's many cultural, educational and social resources by regularly offering discounted museum, theatre, sports and movie tickets to students. Student Life and Engagement staff welcome input and assistance from students in planning and implementing events. Students wishing to become involved are encouraged to contact the Office of Student Life and Engagement at (312) 942-6302 or student_life@rush.edu.

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. Monthly career workshops are offered, and a variety of career resources are available in the office for student use, including workbooks, handouts and guidebooks.

Many resources are also available on the Rush University Portal. Students wishing to make a one-on-one appointment (video appointments are available for distance learners) for career assistance should contact the Office of Student Life and Engagement at student_life@rush.edu or (312) 942-6302.

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

Publications

The Office of Student Life and Engagement oversees the publication of student-related materials, such as the Rush University Student Handbook and the Online Picture Book. Both the Student Handbook and the Online Picture Book are accessible on the Rush University Portal.

Center for Student Success

The Center for Student Success is a new program at Rush University. It provides academic support services and connects students to key resources to help them maximize their academic potential. Services are free and available to all students enrolled at Rush University.

The center offers workshops and webinars to foster student success, with topics including study skills, test-taking strategies, and time management and procrastination. The center uses the web-based TutorTrac system to schedule and evaluate in-person or remote peer tutoring and writing tutoring sessions. In addition, the center assists students in navigating other support services at Rush.

The center's administrative services and staff will soon be housed within the Library of Rush University Medical Center (fifth floor of the Armour Academic Center). For more information, call (312) 563-1800, email StudentSuccess@rush.edu or visit www.rushu.rush.edu/center-student-success.

Center for Teaching Excellence and Innovation

The Center for Teaching Excellence and Innovation, or CTEI (pronounced '*city*'), launched in 2018 to work in partnership with faculty on instructional design and development, and to expand the use of educational technologies and optimize the learning management system to enhance course goals. The center is committed to supporting faculty with their course design, whether instruction is delivered online or uses a blended modality. CTEI staff support faculty through highly personalized one-on-one consultations 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, to request services or view scheduled training sessions.

Rush University Counseling Center

The Rush University Counseling Center is open all year and provides professional counseling at no charge to all currently enrolled students. Individuals and couples explore a variety of concerns ranging from academic problems to issues encountered in the course of clinical training. Students also seek help for anxiety, depression, relationship problems, insomnia, sexual orientation and coming out issues, bereavement, family mental illness and career decisions.

The Counseling Center maintains strict standards of confidentiality. No information regarding a student is released to anyone — inside or outside of Rush — without prior consent of the student, within the limits of Illinois law. Contact with the Counseling Center does not become part of any other University record.

The Counseling Center is located in Kidston House at 630 S. Hermitage Ave., Suite 701 (front door is on Harrison Street). Call (312) 942-3687 to schedule an appointment.

International Student Services

International Student Services, housed within the Office of the Registrar and located in Suite 440 of the Armour Academic Center, provides services for international students who are planning to study at Rush and need authorization from the United States Citizenship and Immigration Service, or USCIS, to do so.

International Student Services serves students in the following ways:

- Represents Rush to the Student and Exchange Visitors Program regarding the attendance of international students
- Helps prospective students navigate issues concerning international admission
- Issues USCIS documents for F-1 students to assure compliance with established governmental policies and procedures
- Consults with current and potential students, academic and administrative offices, staff and faculty regarding nonimmigrant student issues
- Orients new students to the Rush community in collaboration with the Office of Student Life and Engagement
- Helps international students be an integral part of the diversity and culture of the Rush community

In addition, the International Student Services office is available to serve the needs of prospective international students and alumni. Please visit Rush's International Student Services webpage or call (312) 942-2030 for additional information.

Office of Student Diversity and Multicultural Affairs

The Office of Student Diversity and Multicultural Affairs, or SDMA, strives to create an environment that is welcoming, inclusive and supportive for all Rush University community members. SDMA aims to develop a community culture that embraces diversity, equity and inclusion in the campus environment.

Accordingly, SDMA collaborates with students, faculty, each of Rush's four colleges and University stakeholders to incorporate diversity and multicultural principles within the campus culture. These aims are undergirded by the goal and vision of the office:

Goal

Shape and sustain an inclusive and multicultural campus environment for all students at Rush University.

Vision

Rush University will serve as a leader in creating and fostering an inclusive and multicultural campus 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 SDMA, there is a commitment to the following:

Student Professional Development: Provides 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: Offers 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: Assists in developing culturally inclusive cocurricular support programs that complement the learning environment and foster academic achievement.

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

SDMA is located in the Armour Academic Center, Room 984G. For additional information, please call (312) 942-0725 or email student_diversity@rush.edu.

Campus Housing

Rush University provides a limited block of apartments at Tailor Lofts Student Apartments (315 S. Peoria St., Chicago, IL 60607) to address current student housing needs while the University undergoes a new master facility plan. Tailor Lofts Student Apartments are located one mile east of Rush's campus, just two stops away on the CTA's Blue Line train.

The amenities at Tailor Lofts Student Apartments include, but are not limited to, the following:

- 24-hour security presence on first-floor entrance
- Wi-Fi throughout the entire building
- 24-hour Mac computer center with printing capabilities
- Laundry center and recycling facilities on every floor
- Kitchens in every unit (including microwave, stove and full-size refrigerator)

To ensure additional convenience, registered Rush students residing at Tailor Lofts Student Apartments have their housing costs, in addition to their tuition, billed through the University.

Rush has worked with Tailor Lofts Student Apartments to negotiate special rates for Rush students, so these conveniently located and competitively priced student apartments do go quickly. Interested Rush students should contact Tailor Lofts to begin the application process.

For more information please visit www.tailorlofts.info.

Brokers

Rush University also works with two brokerage companies to provide additional assistance to students, free of charge, with locating and securing other off-campus housing. Both companies work with a variety of properties in the Chicago area and have been awarded for their great customer service. Be sure to mention that you are a Rush student.

Downtown Apartment Company

www.downtownloop.com rush@downtownloop.com

The Apartment People

www.apartmentpeople.com Please contact Lynn Kummerer at lynnk@apartmentpeople.com or (312) 335-9800.

Off-Campus Student Housing Guide

Additional information about off-campus student housing, Chicago neighborhoods, and transportation has been compiled in a guide that can be accessed by visiting the Student Life and Engagement housing webpage, via email at student_life@rush. edu or by telephone at (312) 942-6302.

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
- Accessing 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 Lounge

The Student Lounge, located in the north end of the ninth floor of the Armour Academic Center (Room 992), is equipped with couches, a flat-screen television, an email workstation, tables and chairs, a multifunction printer/copy machine and a kitchen (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

During orientation, Student Life and Engagement will assign lockers for the storage of coats, books and other miscellaneous articles. Students who keep a change of clothing in their lockers should use the restrooms as changing rooms.

Lockers are located throughout the Armour Academic Center, and most lockers are shared with another student. Be advised that Rush University assumes no responsibility for the loss of personal property from lockers. If any difficulties arise with a locker, contact the Office of Student Life and Engagement, located in the Armour Academic Center, Room 984.

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 stop by the office and speak with a staff member.

Currently, there are more than 35 active organizations, including the RU Student Senate, American Medical Student Association, the Graduate College Student Council, National Student Speech Language Hearing Association, Rush Medical College Student Council, Rush Muslim Students' Association, 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.

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 www.cookcountyclerk.com/agency/register-vote. Voter registration materials allow students to vote in local, state and federal elections.

Worship Opportunities

The Department of Religion, Health and Human Values provides weekly opportunities for worship 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. A meditation room, available at all times as a refuge for the spirit, is located in the fourth floor Atrium Lobby.

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 Bookstore

The Rush University Bookstore, located on the ground level of the Armour Academic Center, is a health sciences bookstore serving the needs of students, faculty and staff at Rush University Medical Center. The bookstore stocks the required and recommended textbooks for courses offered at Rush University, as well as an assortment of reference and review books.

Special orders are handled by the bookstore and will generally be fulfilled in one to two weeks. The bookstore also supplies Rush insignia items, medical apparel and equipment, school supplies and stationary, convenience items, U.S. Postal Service stamps and miscellaneous gifts.

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, the Emergency Cardiac Care Program and the Quick Copy Center. 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.

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 — including front and back copying, three-hole punched copies, booklets and multiple binding options, colored copying and a variety of large format posters/banners — are offered.

Personal work of one or more copies can be accommodated for faculty and students at a reasonable fee. Quick Copy Center is open Monday through Friday from 8 a.m. to 4:30 p.m.

Library and Archives

Library of Rush University Medical Center

The **library** is a collaborative learning and research commons. Our engaged staff provides high-quality instruction, services, support and space for our diverse community, as we align our work in the library to the Rush mission: improve the health of the individuals and diverse communities we serve. The library is located on the fifth floor of the Armour Academic Center, or you can visit rushu.libguides.com for more information.

The library offers a comprehensive collection of print and online materials covering all areas of the health sciences. Online library resources include full-text journals, e-books and databases. The database collection features resources such as CINAHL, PubMed, Ovid, Scopus, Medline and PsycINFO. Other online resources include point-of-care reference tools, such as UpToDate and Clinical Key, which provide concise topic reviews, clinical guidelines, extensive drug information and full text for a wide range of medical textbooks and journals.

Students, faculty, and staff at Rush University Medical Center can access online library resources from off-campus locations using their Rush NetID. For more information, please call (312) 942-5950, email lib_ref@rush.edu or visit rushu.libguides.com/help/offcampus.

If the library does not have an item you need, it can be requested from another library via interlibrary loan or I-Share. Books, journal articles, proceedings, dissertations and audiovisual materials can all be requested from other institutions. Turnaround time and loan period depend upon the lending library. For details, call (312) 942-5950 or email lib_ref@rush.edu.

Reference librarians provide personalized information services to all members of the Rush community and also are available to meet with distance education students online. Request assistance with a literature search or schedule individual or group instruction at your convenience to learn how best to use PubMed, evidence-based medical databases, RefWorks Citation Manager or any other library resources. Call (312) 942-5950 or email lib_ref@rush.edu to make arrangements for individual or course-related instruction.

Rush University Medical Center Archives

The archives tells Rush's story through its collections — 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 archives identifies, preserves, organizes and enables access to valuable Rush records from our earliest years to current digital assets.

The 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 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: rushu.libguides.com/rusharchives.

McCormick Educational Technology Center

The McCormick Educational Technology Center, or METC, is a media, computer and educational support center. Its mission is to facilitate University teaching and learning through the use of media, computer software and instructional design assistance.

A large collection of media for student and faculty use is available at the METC. Tablets, laptops, projectors, video and audio recorders, and other accessories are also available to students for limited checkout. Most media and equipment may be reserved in advance.

The METC is home to three multimedia classrooms — Room 902 (capacity 10), Room 903 (capacity 40) and Room 908 (capacity 17) — and three media viewing rooms. Rush faculty can reserve multimedia classrooms through the Astra room scheduling system. Students can use viewing rooms for study and group discussion. Workstations in Room 917 (computer lab) are also available for students and residents. Students with a valid Rush University ID have computer lab access on a first-come, first-served basis 24 hours a day, seven days a week. There are two printers in the METC. Software installed on workstations includes the Microsoft Office suite, web browsers, secure exam software, SPSS and various software requested by faculty for instruction. In addition, the METC coordinates the Academic Testing Center, or ATC, located in the Triangle Office Building. The ATC accommodates up to 75 students for testing and includes a multipurpose waiting area that can function as a collaborative learning space. The ATC is also reserved through the Office of the Registrar.

METC staff are available to partner with faculty to enhance instruction. Staff also assist with locating, previewing, evaluating and acquiring commercially produced software and media for use within courses, and can offer collaborative support with audiovisual projects using products such as Blackboard Collaborate, Camtasia and Panopto.

METC staff also provide assessment support through the scanning and reporting of testing results to faculty through optical mark reader, or OMR, as well as test forms and online testing.

Media Services

Media Services, located in the Armour Academic Center, provides a wide range of audiovisual support for classrooms, meeting rooms and auditoriums throughout the University and Medical Center. Additionally, Media Services provides recommendations to faculty, staff or students who are purchasing audiovisual equipment.

Please call (312) 563-2527 and press 1 at the prompt to reach Media Services. To schedule your event, please send your request to Media Services five business days in advance.

Rush Production Group

The Rush Production Group is an in-house multimedia department specializing in professional photography, videography and motion graphics. Our photography can be seen in print literature, brochures, publications such as Rush News and Inside Health, social media posts and on the Rush campus monitors. Our videos are created for use in patient education, recruitment, people profiles and in a variety of other areas.

In tandem with the Marketing and Communications, the Rush Production Group collaborates with departments throughout the Medical Center and University to effectively visualize and execute the Rush brand.

For headshots, please call (312) 942-8278 to schedule an appointment.

If you have a request for a photo or a video, please download and complete the Questionnaire for Photo/Video Proposals in the Document Library on Inside Rush and email it to RushProductionGroup@rush.edu.

Rush 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. Facilities include a variety of machines and equipment, a fitness studio, cardio and strength training, stretching areas, lockers rooms and showers.

Group exercise classes and personal training are also offered. For questions, please call (312) 947-2348 or email rushfitnesscenter@rush.edu.

University Facilities

University Facilities, located on the seventh floor of the Armour Academic Center (Room 720), provides a variety of services to the patrons and users of the Armour Academic Center, including building maintenance and scheduling repairs.

Additionally, University Facilities analyzes and allocates space, accommodates lab and classroom setup, oversees the Housekeeping group (DFS) and day-to-day classroom operations (3-CLAS). For questions, please email University_Facilities@rush.edu or call (312) 942-8631.







Rush University/Academic Policies

Administrative Offices

Office of the Provost Office of the Registrar

Academic Resources and Policies

Academic Honesty and Student Conduct Rush University Honor Code Inappropriate Degree Usage **Continuous Enrollment** Credit by Proficiency Academic Credit Grade Point Average Grade Report Grading and Numbering System Graduation and Commencement Thesis, Dissertation or Scholarly Project Requirements for Graduation Hazardous Exposure Procedures Health and Immunization Requirements Incomplete Grades Pass/No Pass Grading Option **Repeated Courses** Repeated Courses: Rush Medical College **Room Reservations** RULearning (Blackboard) Students-at-Large Student Email Accounts Student Account Management and Identity Security Student Identification Cards Transcripts Transfer Credit Enrollment

Registration

Adding or Dropping Courses Auditing a Course Course Schedule Independent Study Registration Process

Withdrawal/Leave of Absence

Administrative Withdrawal Voluntary Withdrawal Leave of Absence Returning From a Leave of Absence

Student Records

Name, Address and Phone Number Changes Privacy and Confidentiality of Student Records and FERPA

Administrative Offices

Office of the Provost

The provost is the chief academic officer of the University. The provost oversees academic policies and activities throughout the University. Responsible for strategic planning, the provost provides leadership in setting the vision for the University and for fulfilling the University's mission. Management of the colleges is accomplished through the deans, who report directly to the provost.

The vice provost for Research Affairs has overall responsibility for research activity and policy at the University and oversees all aspects of the research enterprise within the University. This investment is critical to achieving Rush University's vision to be the "leading health sciences university committed to transforming health care through innovative research and education." The Office of the Associate Provost for Research, working with the Office of Research Affairs, supports faculty and staff in collaborative research. The Office of Research Affairs is comprised of six distinct divisions intent on delivering high-quality service, support and counsel to the Rush research enterprise, faculty, staff and students.

The vice provost for Faculty Affairs is responsible for the University activities in Faculty Affairs, Mentoring Programs and Global Health. The office focuses on institutional integration, including but not limited to faculty development, satisfaction and engagement, implementation of the strategic plan, pursuit of diversity goals, and support for accreditations and faculty management, including onboarding, appointments and promotions.

The senior associate provost for Educational Affairs is responsible for University operations and planning, as well as the coordination of academic resources, programs and services in support of an exceptional, distinctive and inclusive student experience. Responsibilities include oversight of the chief student experience officer, chief enrollment management officer and University registrar, the McCormick Educational Technology Center, Library Services, the Center for Student Success, the Center for Teaching Excellence and Innovation, and University Facilities.

The chief student experience officer provides operational leadership in support of the following offices: Student Life and Engagement, Student Diversity and Multicultural Affairs, Student Disability Services and the Counseling Center. In addition, the chief student experience officer leads University initiatives for student services, wellness and support, student housing, health insurance and the University's Title IX initiatives. The chief enrollment management officer and University registrar leads the office of the Registrar, Student Financial Aid, University Enrollment Services, University Systems and Operations and International Student Services. This role also serves as a key adviser to the University and college leadership to integrate enrollment management services for the student body.

The director of the Office of Interprofessional Continuing Education is responsible for providing continuing education programs that advance Rush practitioners' contributions to quality health care, enhance professional growth and position Rush as a leader in providing continuing education to the larger health care community.

The associate provost for Institutional Research, Assessment and Accreditation is responsible for providing accurate and reliable data in support of planning, policy making, academic assessment and program reviews, in accordance with the institution's missions and strategic goals. The Office of Institutional Research, Assessment and Accreditation serves Rush University by providing leadership and support in the area of institutional research, accreditation, assessment and regulatory affairs.

Office of the Registrar

The Office of the Registrar (located in the Armour Academic Center, Suite 440) supports the academic mission of the University by facilitating the transition of students from matriculation to degree completion; interpreting and enforcing established academic and administrative policies and procedures; overseeing the Family Educational Rights and Privacy Act of 1974; scheduling all classroom space in the Armour Academic Center; 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 rushu.rush.edu/registrar.

Academic Resources and Policies

Academic Honesty and Student Conduct

Rush University students and faculty belong to an academic community with high scholarly standards. As essential as academic honesty is to the trust that is fundamental to the educational process, academic dishonesty 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 conduct that would subject a student to disciplinary action include but are not limited to the following:

- All forms of academic dishonesty including but not limited to the following: 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
- 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 alarms
- An accusation of student and/or faculty academic dishonesty or misconduct made in bad faith

Rush University Honor Code

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

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 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.

Inappropriate Degree Usage

A student may not indicate they have earned a specific degree until the following has been fulfilled:

- All degree requirements have been successfully completed
- A completed Degree Approval Form has been submitted to the Office of the Registrar and the official date of graduation for a particular term has been reached.

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

Rush University requires continuous enrollment in the majority 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 majors. Students who are not officially

enrolled or have not submitted a Petition for Leave of Absence or Voluntary Withdrawal form risk being administratively withdrawn from the University.

A student enrolled in a noncredit residency or academic enrichment program prior to receipt of a degree must be registered for the Continuous Enrollment course to retain student status.

Any degree or certificate student not enrolling in a new course but needing to replace an outstanding incomplete grade must register for the Continuous Enrollment course until the grade is satisfied.

A student who is auditing a course and not allowed in other courses during the same term must register for the Continuous Enrollment course to be charged appropriately.

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-PEP Challenge or Advanced Placement exams) and/or achieved prior learning (such as continuing education units). Rush Medical College does not offer credit by proficiency.

Credit 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 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 section, the credits awarded and a K grade.

Credit for the course will appear in the appropriate term as credit earned. Credit earned by this mechanism will not be used in calculating the student's grade-point average.

A fee or partial tuition may be assessed based on what the student would have been charged.

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 the following: 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, theses or dissertations; laboratory work; clinical practicums; 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 the following: not less than one hour of 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 term hour of credit or 10-12 weeks for one quarter hour of credit or the equivalent of at least 37.5 hours of work for one semester or one trimester hour of credit or 25 hours of work for one quarter hour of credit.

In this context, an hour of work is defined as 50 minutes.

Course credits are not calculated for Rush Medical College, or second- or third-year Physician Assistant Studies courses; however, the number of weeks of clinical experiences appears on the student's transcript. Credit hour assignment for time spent in clinical practicums, internships, seminars and laboratory work vary according to college or program requirements.

Grade-Point Average

A grade-point average, or GPA, is not reported for Rush Medical College students. Transfer credits from institutions outside of Rush University are not included in the 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 recalculated from 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.

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 the Rush University Portal for their grade report. Grade reports are not mailed to students. Printed 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
А	4.0	Excellent
В	3.0	Good
С	2.0	Satisfactory for undergraduates but may not be acceptable at the graduate level
D	1.0	Minimal pass for some undergraduate programs. May not be acceptable at graduate level. Not used at the graduate level by the College of Nursing, the Graduate College, or the Department of Health Systems Management.
F	0	Failure
Р	0	Passing
HP	0	High Pass (only used by Rush Medical College for third- and fourth-year clinical courses)
Ν	0	No Pass
Н	0	Honors (only used by Rush Medical College)
W	0	Withdrew between weeks 2 through 5; also used by Rush Medical College when a circumstance beyond the student's control prevents completion of course requirements regardless of withdrawal date during the quarter
К	0	Credit earned through proficiency examination
Т	0	Credit accepted in transfer from another college/university
CIP/IP	0	Course in progress and grade not reported
I	0	Incomplete
NR	0	No Record (not used after summer 2009)
СС	0	Course continues into the next term. Grade received at end of series is grade for entire course.
AU	0	Audit
XX	0	Participation in an ungraded course or residency
XIP	0	Mandatory training course completion is in progress.
XC	0	Satisfactory completion of mandatory training course.
XS	0	Student separated from the University prior to completing the mandatory training course.
XN	0	Administrative enrollment error. Student removed from the mandatory training course.
Graduation and Commencement

Registration

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

Application for Graduation

Only Rush University students who are candidates for a degree may participate in the commencement ceremony. Certificate candidates are ineligible to participate.

Although Rush University has multiple graduation dates during which degrees are conferred, the University has only one commencement ceremony.

Students are invited to participate in the commencement ceremony under the following conditions:

- They graduated in the fall or spring term immediately preceding the current academic year's ceremony
- They are anticipated to graduate at the end of the summer term that immediately follows the current academic year's ceremony (thesis and dissertation students see below)

Students completing a thesis or dissertation must have successfully defended six weeks prior to commencement and submitted a final copy of their thesis or dissertation to the Library of Rush University Medical Center two weeks prior to commencement in order to participate in the current academic year's ceremony.

Students who complete their degree requirements during the summer term after commencement are invited to participate in the following year's ceremony.

Students who are not required to complete a thesis or dissertation may participate in the current academic year's commencement ceremony if they anticipate graduating at the end of the summer term that immediately follows the ceremony.

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

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

All students 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.** Students who do not submit either the intent to graduate form or the degree approval form by the published deadline risk a delayed graduation and may be charged a processing fee.

Submission of the intent to graduate form signals that the student is ready to graduate; allows, only for purposes of the commencement ceremony, the release of directory information restrictions enacted by students through their signature on the directory information restriction form; permits release of the student's name and address 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
- Honors or awards received
- Previous colleges/universities attended
- Prior degrees earned

The degree approval form must be submitted after all academic degree requirements are completed. Requirements 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 defense (if required by college)
- Submission of the dissertation/thesis to the library (if applicable)
- Achievement of the minimum cumulative GPA of 2.0 for undergraduate students and 3.0 for graduate students (not applicable to Rush Medical College)

Awarding of Degrees

Rush University degrees are dated the day following 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 transcript, 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 GPA 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 the graduation exercises, including the commencement ceremony and at college/departmental convocation/awards ceremonies.

Graduation Prizes and Awards

Many prizes and awards are given at the time of graduation. Award winners are identified in the commencement ceremony program and in college/departmental convocation/awards ceremony programs.

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's programs require a thesis to meet degree requirements.

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 of the thesis/dissertation/scholarly project must precede the final approval by the thesis or dissertation committee.

A copy of the thesis or dissertation must be approved by the director of the Library of Rush University Medical Center for conformance to publishing requirements and copyright compliance. Scholarly projects are not reviewed by the library.

Hazardous Exposure Procedures

Exposure Incident Definition: Eye, mouth, mucous membrane, nonintact 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.
- 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.
- 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.
- 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 bill-ing. Follow-up care should be received at ECHS or Lifetime Medical Associates.

Phone Numbers Students May Need:

Rush University Counseling Center (312) 942-3687

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 Hotline (877) 787-4009

Office of Medical Student Programs (312) 942-6915

Lifetime Medical Associates (312) 942-8000

Crisis Lines:

Chicago Police Department 911

National Suicide Hotline (800) 273-8255

YWCA Rape Crisis Hotline (888) 293-2080

Alcoholics Anonymous 24-hour Hotline (312) 346-1475

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

Health and Immunization Requirements

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 will apply.

 Students should be aware that clinical sites outside of Rush may have additional requirements.

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

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.

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 the Continuous Enrollment course (XXX999) for zero credit hours. Upon completion of the course requirements, the incomplete grade will be replaced by the new 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 period 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.

Students in the College of Nursing, College of Health Sciences, the Graduate College and students-at-large must complete the unmet course requirements, typically within one term after the term in which the incomplete grade was assigned, and not to exceed one calendar year, unless an extension is approved. Students in the College of Nursing may not register for new courses if they have two or more incomplete grades.

Rush Medical College students will be informed by the course instructor and the Office of Medical Student Programs regarding the specific time frame in which an incomplete grade must be resolved.

Additional college-specific policies may apply.

Pass/No Pass Grading Option

Designated letter grade courses may be taken as pass/no pass based on approval by the course/program director. The pass/nopass 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 the 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.

Repeated Courses: Rush Medical College

All instances of a course are represented on the student's official transcript. Course and exam remediations are also represented.

Room Reservations

Individuals looking to schedule the use of classrooms, lecture halls and auditoriums in the Armour Academic Center should contact the Office of the Registrar, which will assist in making room reservations for classes, meetings and campus events based on room availability. Priority for rooms is given to instructional/ class meetings, followed by standing meetings, ad hoc meetings, student organizations and other requests on a first-come, firstserved basis.

Student events must have the approval of the Office of Student Life and Engagement regarding the date and time, and approval from either the organization faculty sponsor or the Office of Student Life and Engagement regarding the sponsorship of the event.

RULearning (Blackboard)

RULearning (Blackboard) is a web-based learning system for course management and delivery. Instructors may use Blackboard to provide students with course materials, discussion boards, online exams, virtual chats and more. The degree to which Blackboard is used in a course varies. Some courses may be conducted entirely online through Blackboard without any oncampus sessions while others may use Blackboard as a supplement to face-to-face sessions.

Account Creation

Students have RULearning accounts created for them automatically. Students will gain access to their RULearning account approximately a month prior to their first term at Rush, but they typically will not be able to review course content until the term begins.

Account Deactivation

Student RULearning accounts will remain active for the duration of their affiliation with the University. Students' accounts will be deactivated 14 days after their graduation or their affiliation with the University ends.

Course Availability and Retention

Courses in RULearning are available to students on the term's start date.

Courses will be retained in RULearning for one year past their expected end date. Courses will be archived and removed from RULearning after that time. Students will be informed how to download relevant information from their courses that they might need after leaving Rush.

System Availability

The Blackboard system is available on campus via the Rush network and off campus via public Internet. System maintenance is performed every Sunday between 2 a.m. and 6 a.m. CST. The system may be unavailable during this time.

Students-at-Large

Individuals who have not formally matriculated to a degree or certificate program but wish to enroll in a course may apply to do so by completing the student-at-large application within the Rush University Portal. 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 inform them of the decision. The Office of the Registrar will register all student-at-large applicants approved by their respective colleges.

Rush Medical College and clinical courses from all colleges are not available to students-at-large.

A final, transcripted grade will be assigned to any course taken as a student-at-large. Prospective students are responsible for being academically prepared for requested courses.

Current degree- and certificate-seeking students have enrollment priority over students-at-large, who 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.

A student may accumulate no more than 12 credit hours of academic credit as a student-at-large. These hours may be taken within one term or over a period of time. Registration as a student-at-large that results in more than the allowable number of hours in the student-at-large status can only be authorized by the dean or associate dean of the college offering the course(s).

Credit earned as a student-at-large will not necessarily apply toward a Rush degree or certificate program if the individual is subsequently admitted to a degree or certificate program.

Any incomplete (I) grade earned as a student at large 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 Student-at-Large application window for their courses being offered in a given term. Late applications will only be accepted if authorized by the dean or associate dean of the college offering the course(s).

If a student is admitted and enrolled as a student-at-large, their payment is due to the Office of Student Financial Affairs via the Rush University Portal by the end of the first week of classes of each term. Rush employees seeking to use internal tuition assistance (LEAP Online) should apply by the deadline designated by Human Resources.

Students cannot be admitted to a Rush University degree or certificate program if they have a current probationary event as a student-at-large. Students who have already been admitted when a probationary event occurs will have their admission rescinded or be dismissed from the program. An applicant must be considered in good academic standing in order to be considered for admission.

Student Email Accounts

Rush University creates an email account for each student prior to the student's first term. Students are expected to check their 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 the Help Desk at (312) 942-4357 or help@rush.edu.

Graduates of Rush University and students who end their affiliation with Rush prior to graduation should have access to their Rush email account for 14 days after graduation.

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 user name and password
- Attempting to gain access to another user's password, user name 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

Student Account Management and Identity Security

Every approved user will be provided an individual computer account with a unique password. Users are able to update their passwords at resetmynetworkid.rush.edu. 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. Accounts that are not used for nine months may be deactivated by Information Services without notice.

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; confidentiality; or the use or disclosure of patient, staff, physician, student or other data

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 attend a formal orientation program will be issued their ID card during the orientation. Otherwise, new students can request an ID card from the Rush Security Office starting the Friday before the term officially begins in which the student is matriculating.

The Armour Academic Center building opens at 5:30 a.m. and is locked at 7 p.m., Monday through Friday. On Saturday, the building opens at 8 a.m. and is locked at 1:30 p.m. The building is closed on Sundays and holidays. 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, an ID card reader has been installed on the ground floor of the Armour Academic Center near the bookstore. Rush student, faculty and employee ID cards are accepted by the card reader.

The Rush Security Office is open for ID card replacement: Monday from 2-4 p.m., Tuesday and Thursday from 1-3 p.m., Wednesday and Friday from 7:30-10:30 a.m.

Transcripts From Previous Institutions

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

Rush University requires an independent evaluation of foreign credentials when a student earned a degree outside of the U.S. or Canada.

Non-medical school graduates from foreign institutions require course-by-course U.S. 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 can provide proof of certification from the Educational Commission for Foreign Medical Graduates (www.ecfmg.org) in lieu of a course-bycourse evaluation from the list of approved evaluators below.

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 Rush University. 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 Rush University. NursingCAS applicants should submit all final transcripts directly to the CAS system.

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

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 if the student has an outstanding financial obligation to the University.

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. Processing typically takes five to six business days.

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 letter is included with these requests. Copies issued to students will be stamped in red ink as "Issued to Student." All transcripts bear the signature of the University Registrar

Transfer Credit

Rush University may accept up to 90 quarter hours or 60 semester hours of credit toward general education and other lower-level course requirements.

Graduate-level transfer credit is subject to the approval of the student's major adviser, program or division director, or designated college administrator based on an evaluation of quality and equivalence.

For graduate-level programs, no more than one-third of the total number of required credits may be granted to a student as transfer credit for work done at another graduate institution.

Rush University will not accept transfer credit from nonaccredited institution.

Continuing education units cannot be transferred in for credit.

Undergraduate courses must be completed with a C grade or better to be awarded credit.

Graduate courses must be completed with a B grade or better to be awarded transfer credit.

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 graduate-level course at Rush.

Transfer credits can only be applied to satisfy the degree requirements of one program. Once credits are applied, they can't 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., master's or PhD) 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 equal to two-thirds of a semester credit (e.g., three quarter-system credits equal two semester credits).

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.

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 based on the below credit criteria for each term.

	Full-time	Half-time
Medical Students	All enrolled medical students are considered full-time.	
Graduate Students	9 credit hours	4.5 credit hours
Undergraduate Students	12 credit hours	6 credit hours

Full-Time Registration for PhD Students

A full-time PhD student is one who is matriculated and meets the conditions noted below for each term:

- Registers for nine or more graduate credit hours in an academic term
- Or registers for a minimum of two hours of dissertation coursework in a fall, spring, or summer term. Note: A student may register for additional courses as needed or required. But if a student registers for less than nine hours, this must include a minimum of two dissertation hours to be considered full-time.

A student must be registered for one of the above-defined statuses during fall, winter, spring or summer term sessions to maintain status as a full-time matriculated student. Individual graduate programs may set guidelines on research enrollments, including which academic milestones must be passed before permitting enrollment in dissertation hours. Once students successfully defend their dissertation, no further research enrollments are necessary or allowable, and graduation should not be deferred.

• Each student will be allowed one term of enrollment to finalize all work related to the defense of their dissertation. During this term, the student should apply for graduation, and graduation should not be deferred beyond this point.

Effective fall 2015, all dissertation courses will be corrected to be similarly named following University guidelines and hold fixed credit hours starting at a minimum of 2.0, thereby always conferring full-time status.

Students should contact the Office of Financial Aid about full-time status for financial aid purposes.

Registration

Adding/Dropping Courses

The first Friday of the term is the last day a course can be added through the Rush University Portal without instructor approval. A course dropped during the first week of the term will not appear on the student's transcript. After that date, one of the following applies:

• Course(s) dropped beginning in week 2 through week 4 prior to the end of the term will be issued a grade of W for the course.

- Course(s) dropped during the three weeks prior to the end of the term: the student will receive the grade earned for the coursework.
- No course may be dropped after the last day of classes or after a final evaluation of the student has been delivered. No withdrawals are allowed during the final examination period.

Rush Medical College students wishing to change their clinical schedules must contact the Office of Medical Student Programs at least four weeks before the start of the scheduled rotation.

For additional information concerning tuition refunds, please refer to Financial Affairs: Tuition Refund Policy.

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 program director. 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.

Fees associated with auditing a course are listed in the tuition and fee schedule.

Auditing of laboratory or clinical courses is prohibited.

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. If the student does not attend the class, a grade of W will be assigned.

A student who has audited a course may not apply for credit for that course at a later time. 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.

Rush Medical College does not allow students to audit its courses except with the permission of the Committee on Student Evaluation and Promotion.

Course Schedule

The course schedule is available on the Rush University Portal. Typically, the course schedule is available one week before the registration period begins. The Office of the Registrar will generally send an email announcement to students' Rush University email accounts regarding availability of the course schedule. Registration dates and deadlines are also published in the academic calendar. Changes to the course schedule, including updates to meeting times, instructors, classrooms and added/closed/canceled courses will be updated on the Rush University Portal.

Independent Study

To register for independent study, the education coordinator or course instructor offering the course will approve the course and its objectives. Then please forward the independent study course request form - including instructor, course title, course description, number of credit hours and grading system - to the Office of the Registrar.

The Office of the Registrar will create the course in the student information system. Once the course has been created, the Office of the Registrar will contact the education coordinator or course instructor and inform them of the status of the course. The education coordinator or course instructor will inform the student when the course is available, and the student will register for the course using the Rush University Portal.

Nursing students complete an independent study contract form, which is available in the Office of the Registrar or online. 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.

Health Systems Management students also complete a separate independent study form, which is available in the Department of Health Systems Management.

Registration Process

Each term the course schedule is available on the Rush University Portal.

Classes are filled on a first-come, first-served basis according to the following order of priority:

- 1. Continuing students
- 2. New students
- 3. Students-at-large

It is the responsibility of continuing students to register using the Rush University Portal each term during the registration period for continuing students. Late fees will be applied to students who register during the late registration period.

To register for any given term, students cannot have a registration hold (i.e., missing transcripts, missing/out-of-date immunizations, insurance waivers, financial holds). If the hold is removed before the end of the registration period, the student can register without penalty. If the hold is not removed by the end of the registration period, the student will need to register with the Office of the Registrar as soon as the hold is resolved and will be assigned a late registration fee.

Registration is complete only when tuition and other charges for the term are paid or satisfactory arrangements for payment are made. Tuition is always due on the first day of the term.

Students who register for a class and subsequently decide to withdraw without completing an add/drop, leave of absence or voluntary withdrawal form will receive a failing grade (F or N) for that course.

Withdrawal and Leave of Absence

Administrative Withdrawal

Administrative withdrawal refers to a student's permanent, University-initiated departure from the University. that 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. All students are required to maintain continuous enrollment or risk administrative withdrawal after one unregistered term. A leave of absence, or LOA, is approved and granted for the term for which the LOA is desired or as otherwise approved by the college.

It is the student's responsibility to communicate directly with their college 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 or clinical placements, or both.

Students may be eligible for an LOA only after they have completed and submitting to the Office of the Registrar the petition for leave of absence required by each college. Failure to complete and submit the petition for leave of absence form will make the student ineligible for any refunds and obligated for the full term's insurance charges. The date that the student begins the process of applying for an LOA 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 an LOA form submitted during the current term for the next term or during a break period.

For all approved LOAs, the last date of actual class attendance will be the date of record for calculating financial aid disbursements and returns.

A student who initiates a petition for leave of absence form after the first week of the term will receive a withdrawal 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 registered courses and will be subject to an academic progression review based on the assigned grades.

Each degree has a time limit for completion that includes LOA time. The decision to include the LOA in calculating the time limits for completion of the degree is within the discretion of each college. The maximum time that will be approved for a single LOA is 12 consecutive months. Each college may have a maximum length of accumulated LOA.

Returning From a Leave of Absence

Students are responsible for registering themselves for the term in which return from an approved LOA. This registration must occur during the designated priority registration period. Registration outside of this period will result in a late registration fee. Students are responsible to consult with their adviser or program director regarding required courses for the term of re-entry. Rush Medical College students should consult with the appropriate assistant 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.

A request to extend an LOA requires a new clearance form submission. A request to extend an LOA requires only the signatures of the student's program director, adviser or designated administrator of the college. The completed form must be submitted to the Office of the Registrar no later than the first Friday of the term for which the extension is requested.

Students who cannot return and who do not have an LOA extension \ approved must withdraw from the institution. Students who don't return from their LOA on the originally approved date risk administrative withdrawal.

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: valid driver's license, marriage license (the official government document), passport, Social Security card, court order or dissolution decree.

Privacy and Confidentiality of Student Records and FERPA

Rush University takes seriously its commitment to protect the 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. 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 has a legitimate educational interest to know this information in order 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 in the Office of the Registrar or online.

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:

 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. 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 in order 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), Office of Student Financial Affairs (financial account payment information), Office of International 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





Tuition and Financial Aid

Office of Financial Affairs

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Tuition and Fees

Office of Financial Affairs

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 Office of Financial Affairs within two academic terms from the term in question in order for the appeal to be considered. The Office of Financial Affairs will investigate the situation and will consult with other offices including, the Office of the Registrar, the Office of Student Financial Aid and the student's program, as needed.

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 Office of the Senior Associate Provost for Educational Affairs. The decision of the senior associate provost for Educational Affairs is final.

Payment of Tuition and Fees

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

Charges can be viewed and payment for tuition, fees and oncampus housing can be completed through the Rush University Portal, the University's online system. Payment can be made by credit card or e-check. 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 Office of Financial Affairs. Students may not attend classes until after registration is complete. Any exception to this policy must be approved in writing by the senior associate provost for Educational Affairs.

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, fees and on-campus housing charges for the term.
- 2. Complete a deferred payment plan contract. This plan requires the first payment and a \$15 service charge be paid on or before the first Friday of the term. Additional payments are due every four weeks. The length of the contract is dependent on the length of the term. Contact the Office of Financial Affairs to set up a payment plan.
- 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 application for a guaranteed student loan program must have been completed and submitted to the Office of Student Financial Aid). 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 one or two above.

Failure to follow one of the steps above will result in a \$100 late fee. A \$50 late payment fee will be assessed 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:

- Not receive transcripts/diplomas
- Lose all University privileges
- 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. Non-Rush Medical College students must provide proof of existing coverage before registering for their first term and then every fall term thereafter.

Students who do not submit proof of confirmation of verification of their coverage will 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 2018-19 school year, the cost of the student health insurance plan is approximately \$3,562 per academic year for single coverage. Coverage is also available for dependents at the rate of \$3,562 annually per dependent. 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. When using an in-network provider, there is an annual deductible of \$250 and coverage of 80 percent for most patient services, including hospitalization and surgery, as well as outpatient services such as office visits, laboratory and X-ray. Preventative care services are covered at 100 percent. When using a pharmacy in the Prime Therapeutics network, there is a \$20 co-pay for generic prescriptions, a \$50 copay for brand-name prescriptions and an \$80 copay for brand-name prescriptions when generic is available. An optional dental insurance plan is also available to all Rush University students. Details of the plan are available in the Office of Financial Affairs. Dental plan enrollment is available at the beginning of each term.

Student Insurance Plan Rates for the 2018-2019 Academic Year

Medical Insurance	Approximate Yearly Rate
Student	\$3,562
Each dependent	\$3,562
Dental Insurance	Approximate Monthly Rate
Student Plan	\$19.93
Student and one dependent	\$39.06
Family plan	\$74.50

Student accounts will be billed on a per-term basis for a prorated amount of the annual health insurance premiums. For example, the fall premiums will cover September through December and will be billed to your account at the beginning of the fall term.

Plan details are available in the Office of Financial Affairs or online at the Rush University Office of Student Financial Affairs web-page.

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 diseases 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

Official withdrawal or dismissal from a course or from the University entitles a student to a refund of tuition according to the schedule below. Fees are not refundable. A student may receive a 100 percent refund if withdrawal occurs during the term's first calendar week. Otherwise, refunds will be made as follows:

- Second week: 80 percent refund
- Third week: 60 percent refund
- Fourth week: 40 percent refund
- Fifth week: 20 percent refund
- After fifth week: no refund

Alternate Refund/Grading Policy

This alternate refund/grading policy does not apply to Rush Medical College students.

Pure Compressed Weekend Course

(Friday/Saturday/Sunday without any preclass or postclass work)

- Before first class meeting: 100 percent and not transcripted
- After first class meeting: no refund and W grade

Two-Week Course

- Before first class meeting: 100 percent and not transcripted
- Week 1: 50 percent refund and W grade
- Week 2: no refund and the grade earned in the course

Five-Week Course

- Before or during week 1: 100 percent and not transcripted
- Week 2: 50 percent and W grade
- Weeks 3-5: no refund and the grade earned in the course

Refunds will be shown as credits on the student's account. A check or direct deposit for the amount of refund, less any amount still owed for other charges, will be sent to the student. Normally, checks are processed within two weeks and mailed to the student's address listed on the Rush University Portal. Students wishing to appeal the published schedule of refunds must appeal in writing to the senior associate provost for Educational Affairs.

Tuition Waivers

Rush Medical College Students Enrolling in Courses at the Graduate College

Rush Medical College students who take a leave of absence from their MD program may enroll in courses at the Graduate College as part of a formal MS or PhD program, or simply for additional knowledge. Medical students are exempt (tuition waiver) from the additional tuition costs associated with enrollment in these classes.

Doctoral Students in the Graduate College

The Graduate College offers a full tuition scholarship for students enrolled in a doctoral program in the basic sciences (anatomy and cell biology, biomechanics, biochemistry, immunology/microbiology, medical physics, molecular biophysics and physiology, neuroscience and pharmacology). The scholarship is only for tuition. Health insurance and other fees are the student's responsibility.

To receive this scholarship, students must maintain full-time status. A requirement of at least 12 hours per term is needed to be a full-time student. If a student fails to register for 12 hours each term, the scholarship is rescinded, and the student is billed tuition. In addition, most students accepted by the Graduate College receive a stipend. The stipend awarded is a privilege and is contingent upon policies established by individual divisions. Stipends are processed by the Accounts Payable Department as received by the program.

Master of Science Students in the Graduate College

Students enrolled in master's programs in the basic sciences (anatomy and cell biology, biochemistry, biomechanics, biotechnology, immunology/microbiology, medical physics, neuroscience and pharmacology) pay tuition and fees. Master's students are generally not eligible for tuition scholarships and are expected to be enrolled full-time (12 hours per term) unless special arrangements have been made.

Third-Party Billing

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

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 prior to enrollment. The Student Financial Aid webpage contains in-depth information on policies, procedures and financial aid awarding methodology.

Students starting in a term other than fall should submit financial aid application materials at least two months prior to their start date. Students must be enrolled at least half-time and must be in a degree or approved certificate program to receive financial aid. To receive assistance, all appropriate forms and materials must be on file.

Students should expect to receive the majority of assistance in the form of loans. Because of limited institutional funding, financial aid awards will likely contain loans that accrue interest while the student is in school. For Rush Medical College students and College of Nursing students in the Generalist Entry Master's program, need-based grant assistance is available through the Office of Student Financial Aid. However, the funds are limited. All Rush Medical College applicants who will be under 30 years old prior to the start of their program must provide parental data and meet the institutional criteria for eligibility. Visit the Office of Student Financial Aid webpage for details: www.rushu.rush.edu/ office-student-financial-aid.

Undergraduate students who have not received a prior 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 possible throughout Rush University Medical Center. Federal Work-Study will be awarded as part of the financial aid package. 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 Medical Center.

Financial Aid Determination

Financial assistance programs at Rush University are provided to assist students who cannot otherwise afford to pay the full cost of education on their own. In general, financial need is the basic criterion for the awarding of funds. Accordingly, students and their families will be expected to contribute toward educational expenses to the fullest extent possible. The level of the expected contribution is determined by using a standard set of criteria to analyze financial information provided by students and their families.

Submission of parental data for institutional grants and loans is required for Rush Medical College students and any dependent undergraduate students. Complete information about this policy is found on the Office of Student Financial Aid webpage. Student Financial Aid counselors are available to consult with students and parents (with the student's authorization) about financing a Rush University education. Students and authorized parents are welcome and 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 federal, state and institutional funds they qualify for each academic year. In order to distribute available funds in the most equitable manner, the Office of Student Financial Aid establishes a formula that designates the sequence in which funds are awarded to students and the maximum amount awarded under each program. The formula provides for a specific amount of loans and employment before students are considered for grants. These formulas are applied consistently during any given year among all students at a given class level and in a given college, pending availability of funds. The formulas may be adjusted annually due to differences in the availability of funds from year to year and changes in eligibility requirements.

Veterans Benefits

Rush University participates in federal veterans education benefits through the U.S. Department of Veterans Affairs, or VA.

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 VA. Tuition and fees assistance is capped at the national maximum of \$23,671.94 per academic year (Aug. 1, 2018 - July 31, 2019). Benefit rates vary based on the veteran's circumstances. Some veterans may be able to transfer their benefits to a dependent.

Yellow Ribbon Program

Effective with 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 \$23,671.94 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)

A monthly benefit paid directly to the veteran.

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

A monthly benefit paid directly to the veteran.

Reserve Educational Assistance Program (REAP Chapter 1607)

A monthly benefit paid directly to the veteran.

Veterans Educational Assistance Program (VEAP Chapter 32)

A monthly benefit paid directly to the veteran.

Survivors' and Dependents' Assistance (DEA Chapter 35)

A monthly benefit paid directly to the survivor or dependent of the veteran.

If a student qualifies for participation in more than one veterans 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.
- Submit form 22-1995 or form 22-5495 (as appropriate) online: If the veteran has used veterans 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.

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 monitor

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 below criteria are checked at the end of each term. For medical students, the below criteria are checked annually at the end of spring term.

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 percent 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 (excluding 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 (not including the general education courses required prior to entry in the program), a student may attempt up to 160 hours.

Pace of Completion

Students must successfully complete at least 66.667 percent of the courses they attempt. 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.

- Proficiency credit (K grades) is 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 but remain enrolled at the University will not have those dropped courses counted in the attempted hours total if they are dropped prior to the census date. Dropped courses after the census date will be counted in the attempted hours total.
- 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 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 is monitored using three factors: 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 percent 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 US Department of Education.

Pace of Completion

Students must successfully complete at least 66.667 percent of the courses they attempt. 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.
- Proficiency credit (K grades) is 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 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

SAP for Rush Medical College students is monitored using three factors: maximum time frame measurement, pace of completion and grade requirements. SAP is measured at the end of each academic year once final grades are in and at the time of awarding.

Time Limits on Financial Aid Eligibility

The normal time frame for completion of required coursework for the MD degree is four academic years. Due to academic or personal difficulties, a student may require additional time. In such situations, the Rush Medical College Committee on Student Evaluation and Promotion may establish a schedule for the student that departs from the norm and may require repeating a year of study. For the purposes of this financial aid policy, no more than three years may be devoted to the first- and secondyear curriculum and no more than three years may be devoted to the third- and fourth-year curriculum, for a maximum time frame of six years. Summer enrollment, if required, is considered part of the academic year for the purposes of this measure. Approved LOAs do not count in this measure.

Completion of Requirements/Pace of Completion

- 1. First-year students must complete at least 66.667 percent of their first-year curriculum with a grade of Pass or better between the start of the year and the last day of spring term exams. This includes repeated courses.
- 2. To advance to the second year, students must complete all first-year courses with a grade of Pass or better by the start of the second year.
- 3. Second-year students must complete at least 66.667 percent of their second-year curriculum with a grade of Pass or better between the start of fall term and the last day of spring exams. This includes repeated courses.
- 4. To advance to the third year, students must complete all second-year courses with a grade of Pass or better by the start of the CRASH course.
- 5. A student who is repeating/splitting the first or second year according to a COSEP schedule is considered to be making SAP.
- 6. Third-year students must complete at least 66.667% of the clerkships they attempt with a grade of "Pass" or better.
- 7. To advance to the fourth year, students must complete all core clerkships with a grade of "Pass" or better.
- 8. A student who is repeating the third or fourth year according to a COSEP schedule is considered to be making SAP.

Grade Requirements

Rush Medical College academic progress is measured in terms of Honors, High Pass, Pass and Fail grades. A student must complete each required course/clerkship with a grade of Pass or better in order to graduate. A student who fails a course must retake it and earn a grade of at least Pass. A student who receives an Incomplete in a course must complete the course and earn at least a Pass.

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 who fail to meet the requirements of this satisfactory academic progress policy will be placed on financial aid warning for one additional 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.) Students will be allowed to continue on financial aid warning 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. Each appeal must include the following:

- The reasons why the standards of this policy were not met.
- What has changed in the student's situation that will allow satisfactory progress during the next evaluation.
- An academic plan for the remainder of the student's studies.

• Any supporting documentation the student feels would support the appeal. Documentation of any statements made in the appeal should be included, as appropriate.

The Office of Student Financial Aid will review the appeal and notify the student in writing of the appeal review. Students whose appeals are approved will be placed on a financial aid probationary period for one term or for the duration of an academic plan developed by the student's adviser, as appropriate. 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 their probationary period.

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.

LEAP Benefits

Tuition Benefits Programs

As part of its commitment to employee development and education, Rush University Medical Center offers tuition assistance to employees who want to take health care, business or vocational courses, as well as many onsite development programs.

Benefits include the following:

- Tuition reimbursement at Rush University
- Tuition reimbursement for coursework taken at other accredited institutions
- Tuition reimbursement for attendance at outside conferences
- Tuition reduction at Rush University for spouses and dependents

Eligibility Requirements

All benefits-eligible employees can participate in the tuition reimbursement programs once they satisfy one of the following length of employment requirements:

- Participants in the Employee Enhance Program must be employed by Rush for at least three months.
- Participants in the internal and external tuition programs must be employed by Rush for at least one year (Although employees hired or with job offers dated before January 11, 2016 must be employed by Rush for only three months).

• Employees with spouses, civil union partners or dependent children participating in the spouse or dependent tuition program **must be employed by Rush for at least one year.**

Employee Enhancement Tuition Reimbursement Program

The Employee Enhancement Tuition Reimbursement Program provides tuition assistance to Rush employees who desire to enhance their skills while supporting the Medical Center's business and clinical needs.

Program Details

Reimbursement Amount

- There is a benefit cap of \$1,000 per calendar year for fulltime employees (more than 72 hours per pay period) and \$500 for part-time employees (between 40 and 71 hours per pay period).
- Eligible costs are reimbursed at 90 percent. Employees are responsible for the 10 percent difference and for all noneli-gible costs.
- To receive reimbursement, an employee must obtain a grade of C or better, or a pass grade for a class with pass/fail grading.
- Employees must be active employees when incurring expenses and submitting for reimbursement.

Eligible Expenses

Employees can receive up to a 90 percent reimbursement for the following:

- Tuition, registration fees, lab fees, classroom fees and cost of required text book(s) for one-time, job enhancement classes (i .e ., classes not taken in anticipation of applying towards a degree program)
- Registration cost (only) for workshops, seminars, symposiums and conferences
- Classes or tests for board exams
- Job-related review courses, review study materials associated with job-related exams and certifications
- Basic skills (reading, writing, math, English as a Second Language or any second language)
- High school equivalency or GED coursework
- Courses leading to professional certificates (e.g., LPN, CAN, specialty certification or computer-related courses)
- Fees for initial certifications, re-certifications or board certifications

 Accredited correspondence or online courses and other distance learning options in business or medical fields

Please note: all job required CPR, ACLS, BLS, PALS, and food sanitation certificates will be reimbursed at 100 percent.

Non-eligible Expenses

The following expenses are not eligible for reimbursement under the Employee Enhancement Tuition Reimbursement program:

- Courses not related to the needs of the Medical Center and all courses involving sports, games or hobbies
- Travel, food, accommodations, parking, gas, mileage or any materials sold at conferences or symposiums
- Reference books, videos, CDs or DVDs
- Exam preparation classes (such as classes preparing for the GRE or MCAT)
- Memberships, journals and subscriptions
- Late fees as a result of late registration
- Sales taxes or shipping and handling costs
- Fees for initial or renewal of professional licenses

Reimbursement Deadline and Other Requirements

Email the following materials to enhancement@rush.edu within 30 days of the end of each event or term:

- A completed and manager-approved Enhancement Option Program Tuition Reimbursement Form Copies of all paid receipts or statements for the following:
- Tuition or cost of class
- Registration fee for school, class, workshop, seminar, symposium or conference
- Any separate lab or classroom fees
- Cost of required textbooks (only)
- Proof of attendance, such as, class final grade, completion certificate, CEU or copy of event name badge (registration documents are not accepted as proof of attendance)

No reimbursement forms will be accepted after the 30-day deadline.

Employees must be employed for at least three months to be eligible for the Employee Enhancement Reimbursement Program.

Rush University Internal Degree Prepaid Tuition Program Information

Rush provides employees with prepaid tuition benefits for those enrolled as students in one of the colleges of Rush University.

Eligibility

- Full-time employees (those who work at least 72 hours per pay period) can receive prepaid tuition for up to 9 credit hours per quarter or semester.
- Part-time employees (those who work between 40 and 71 hours per pay period) can receive prepaid tuition for up to 6 credit hours per quarter or semester.

(These limits include credit hours associated with prerequisites required for a student-at-large of Rush University).

Please note:

- Prerequisites and required courses taken externally are subject to the External Degree Program eligibility criteria and cannot be taken concurrently with Rush University classes.
- If the cost for the classes exceeds \$5,250 per year, you must also complete the tuition assistance tax exemption form for these classes to be considered job-related and tax-exempt.
- A passing grade (a C grade or better for each class for undergraduates and a B grade or better for each class for graduates) must be obtained to continue receiving tuition prepayment benefits. Students who do not receive a passing grade will not receive tuition prepayment benefits for the following quarter or semester. Dropped classes also result in the forfeiture of reimbursement funds.
- The Doctor of Medicine degree at Rush University is not eligible for prepaid tuition benefits.

New Students

In order to receive prepaid tuition benefits, new students must first complete the Internal Degree Form and the Tuition Assistance Tax Exemption Form. These forms must be emailed to internal_tuition@rush.edu, by the deadlines listed below.

Returning Students

Returning students must complete the Internal Degree form and the tuition assistance tax exemption form and email to Internal_tuition@rush.edu , by the deadline listed below.

Submission Deadlines

Students must email their forms to Internal_tuition@rush.edu, by the following deadlines:

Fall 2018:	Final deadline: August 8, 2018
Spring 2019:	Final deadline: December 3, 2018
Summer 2019:	Final deadline: April 5, 2019

Forms will not be accepted or processed after the deadline date. Any financial liability is the responsibility of the employee.

A passing grade (a "C" or better for each class for undergraduates and a "B" or better for each class for graduates) must be obtained to continue receiving tuition prepayment benefits. Students who do not receive a passing grade will not receive tuition prepayment benefits for the following quarter or semester. Dropped classes also result in the forfeiture of reimbursement funds. The LEAP office will obtain grades from Student Affairs. The Doctor of Medicine degree at Rush University is not eligible for prepaid tuition benefits.

Important Imputed Tax Rules Governing Pre-Paid Tuition Benefits

Federal tax law mandates that prepaid tuition for degree-level course work in excess of \$5,250 be considered additional taxable earnings in the calendar year in which it was received. The amount of prepaid tuition benefits that exceeds \$5,250 will be added to the employee's biweekly earnings and taxed based on the employee's payroll tax elections.

- Taxable income less than \$999 will be prorated and applied over two consecutive payroll periods.
- Taxable income more than \$1,000 will be prorated and applied over four consecutive payroll periods.

Tuition and Fee Schedule (2018-2019)

Tuition and fees for the 2018-2019 academic year are listed below. For estimates of other expenses, see the Office of Student Financial Aid website.

College of Nursing		
Graduate Programs	Per Credit Rate	
Pre-licensure Direct Entry MSN program for non-nurses (all fees are included)	\$995	
Post-licensure MSN, DNP, PhD programs (all fees are included)	\$1,066	

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

The Graduate College	
Graduate Programs	Per Credit Rate
Clinical Research (MS)	\$1,050
Graduate Programs	Per Term Rate
Biotechnology (MS)	\$17,500
Integrated Biomedical Sciences (MS) (started 2017-18)	\$9,000
Integrated Biomedical Sciences (MS) (started 2018-19)	\$9,500
Integrated Biomedical Sciences (PhD)	\$10,500

College of Health Sciences	
Undergraduate Programs	Per Credit Rate
Health Sciences (BS)	\$753
Imaging Sciences (BS)	\$867
Vascular Ultrasound (BS)	\$830
Graduate Programs	Per Credit Rate
Audiology (AuD)	\$1,038
Clinical Laboratory Management (MS)	\$888
Clinical Nutrition (MS)	\$950
Health Sciences (PhD)	\$879
Health Systems Management (MS)	\$1,149
Medical Laboratory Science (MS)	\$836
Occupational Therapy (MS)	\$954
Perfusion Technology (MS)	\$908
Specialist in Blood Bank (Cert.)	\$888
Respiratory Care (MS)	\$766
Speech-Language Pathology (MS)	\$1,087
Graduate Programs	Per Term Rate
Physician Assistant (MS) (Matriculated Su17 &Su18)	\$12,420/term
Physician Assistant (MS) (Matriculated Su16)	\$12,000/term
Occupational Therapy (OTD)	\$13,519/term

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

Full-Time Tuition Charges: Rush Medical College					
Program Year	Fall 2018	Spring 2019	Summer 2019	Total	
M1	\$21,600	\$21,600	\$10,800	\$54,000	
M2	\$26,589	\$26,589	\$17,726 (M3 start)	\$70,904	
M3	\$17,726	\$17,726	\$17,726 (M4 start)	\$53,178	
M4	\$17,726	\$17,726	-	\$35,452	

continued

Continuous Enrollment Fee: Rush Medical College				
Program Year	Fall 2018	Spring 2019	Summer 2019	Total
M1 EF	\$10,778	\$10,778	\$5,388	\$26,944
M2 EF	\$13,472	\$13,472	\$8,982 (M3 start)	\$35,926
M3 EF	\$8,981	\$8,981	\$8,982 (M4 start)	\$26,944
M4 EF	\$8,981	\$8,981	-	\$17,962

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. 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. The enrollment deposit for PhD in nursing students is \$350, The enrollment deposit for all basic sciences and biomedical research programs within the Graduate College is \$250.

Late Registration Fee

Continuing 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 Office of Financial Affairs.

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 Auditing a Course 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 needing 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.



Rush University

Rush Medical College

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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, 515 medical students and 678 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.

K. Ranga Rama Krishnan, MB, ChB The Henry P. Russe, MD, Dean of Rush Medical College

C RUSH UNIVERSITY RUSH MEDICAL COLLEGE

Rush Medical College Mission

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

Rush Medical College Vision

Rush Medical College will be the global leader in studentcentered, future-oriented medical education.

Rush Medical College 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 a successful physician. The course and session objectives ultimately serve the program objectives and they are used to develop curriculum and assessments. Program objectives are grouped under eight roles which include:

Practitioner:

Apply medical knowledge, clinical skills, and professional values in their provision of high-quality care. Collect and interpret information, make clinical decisions, and carry out diagnostic and therapeutic interventions.

- 1. Gather histories and perform physical examinations.
- 2. Develop and prioritizedifferential diagnoses.
- 3. Recommend and interpret a core set of diagnostic and screening tests.
- 4. Obtain informed consent for tests and procedures.
- 5. Perform general procedures including basic life support and phlebotomy.
- 6. Follow up on and reassess diagnostic tests and management plans with patients.
- 7. Recognize patients requiring urgent or emergent care, and seek help while initiating evaluation and management.
- 8. Develop and implement management plans.
- 9. Compose and discuss orders and prescriptions.
- 10.Document clinical encounters in the patient record.
- 11. Give oral presentations of clinical encounters.

Scholar:

Demonstrate a lifelong commitment to continually enhancing practice. Seek out and use scientific evidence to inform decision-making. Implement an active, planned approach to fill gaps in knowledge, skills, and attitudes required to deliver care with the potential to contribute to original research.

- 1. Form clinical questions; retrieve and appraise evidence leveraging information technology to advance patient care.
- 2. Develop a self-improvement plan to bridge gaps in knowledge, skills, and attitudes.

Educator:

Educate peers, patients and families, the public, colleagues, and other healthcare professionals using methods appropriate for each audience.

- 1. Conduct an educational activity.
- 2. Educate and counsel patients and their families.

Communicator:

Form strong therapeutic alliances with patients and their families by finding common ground, sharing information, and managing care with the patient's needs, values and preferences in mind.

- 1. Conduct patient encounters demonstrating core communication skills including active listening and empathic reflection.
- 2. Tailor management plans to patient perspectives, needs, and expectations.

Collaborator:

Pursue common goals with other professionals in the healthcare environment and community through relationships based on trust, respect, willingness to learn from others, and effective communication.

- 1. Give and receive patient handoffs to transition care responsibility.
- 2. Coordinate care by consulting with and making referrals to other healthcare providers.
- 3. Participate on intra-and interprofessional teams to promote patient-centered care

Advocate:

Develop partnerships with patients and families to navigate the health care system to improve individual health outcomes. Promote public good by raising awareness of important health issues including disease prevention, health promotion, health protection, and health equity.

- 1. Identify individual patient barriers to care and enlist healthcare resources to address them.
- 2. Screen, counsel, and treat patients using principles of preventive medicine.
- 3. Provide care for underserved and at risk patient populations using principles of service learning.

Professional:

Demonstrate a commitment to ethical practice, high personal standards of behavior, accountability to the profession, ongoing professional development, and maintenance of personal well-being.

- 1. Self-assess values and behavior and take responsibility for continuous professional development.
- 2. Provide patient care in a respectful manner with patients of differing backgrounds, characteristics, and beliefs, even when in conflict with one's own.
- 3. Engage in self-monitoring and implement a personal wellness plan.
- 4. Prioritize and balance patient needs with those of self and the public.
- 5. Exemplify integrity and ethical behavior when representing Rush Medical College and the medical profession.

Leader:

Engage others to implement high-quality and innovative health care practices.

- 1. Assess the performance of others and provide constructive feedback.
- 2. Organize and manage a team to enhance success.
- 3. Report individual and system error and design an intervention for improvement.

Rush Medical College Matriculation Requirements

Required Criminal Background Check

As a medical school located in Illinois, Rush Medical College will enforce the Medical School Matriculant Criminal History Records Check Act, which states the following: a medical school located in Illinois must require that each matriculant submit to a fingerprintbased 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. Each year beginning Jan. 1, an applicant screening provider will procure a background check on applicants at the point of their first acceptance. Upon completion of this process, the report procured during the process will be released to Rush Medical College.

Required Drug Screening

In preparation for clinical rotations at John H. Stroger, Jr. Hospital of Cook County, all Rush Medical College students are required to submit a urine sample under conditions arranged by Rush Medical College for a drug screening (effective with the first-year class entering in 2015). First-year students will be tested during orientation through a process coordinated by the Student Health Service (Lifetime Medical Associates). Upon completion of the testing process, a report will be released to Rush Medical College.

A positive result from the criminal background check, the sex offender assessment and/or the drug screen will result in the applicant's file being presented to the Committee on Student Evaluation and Promotion, or COSEP, for review and action. If the COSEP verifies there is a positive result on the criminal background check, the sex offender assessment and/or the drug screen, Rush Medical College may rescind the student's acceptance.

Rush Medical College Diversity and Inclusion Statement

Rush Medical College embraces the Rush University Medical Center (RUMC) Diversity Leadership Council vision for diversity and the American Association of Medical Colleges' commitment to increasing diversity in medical schools. Recognizing that diversity and inclusion enhance the medical education environment and ultimately the overall health of our community, Rush Medical College seeks to create and support an environment in which faculty, staff and medical students combine their differing backgrounds, diverse perspectives and unique skills as they work with peers to solve problems, enhance their ability to work with patients and develop new, effective ways to manage health, conduct research and deliver care.

Rush Medical College strives to enroll a highly qualified and richly diverse student body through holistic review and individual consideration of the potential contributions that applicants with different backgrounds, cultures, perspectives, races, ethnicities, characteristics and personal experiences would make to the educational experience of all students and to the school's cultural, social and learning environment. Rush Medical College seeks to attain a learning environment that better reflects its community through increased representation of groups that are underrepresented in medicine in Rush Medical College's surrounding communities. Along with remaining committed to applicants from backgrounds traditionally underrepresented in medicine, Rush Medical College considers diversity in economic, geographic, gender, age, sexual orientation, racial and ethnic backgrounds as important factors in not only creating a diverse community but also influencing an applicant's potential to succeed as a physician in our rapidly changing and diverse society.

To this end, the Rush Medical College Committee on Admissions annually identifies factors for consideration in building a diverse student body. Further, Rush Medical College's Faculty Council, utilizing information provided by the Committee on Admissions and other data, is committed to implementing programs and initiatives designed to meet these stated diversity goals.

Fulfillment of the Requirements for the MD Degree

Rush Medical College offers an undifferentiated MD degree affirming the general knowledge and skills to function in a broad variety of clinical situations and the capacity to enter residency training and qualify for medical licensure.

A candidate for the MD degree must have abilities and skills in six areas: observation, communication, motor, intellectual (conceptual, integrative and quantitative), behavioral and social, and demonstrate ethics and professionalism.

Essential abilities and characteristics required for completion of the MD degree consist of certain minimum physical and cognitive abilities and emotional characteristics to assure that candidates for admission, promotion and graduation are able to complete the entire course of study and participate fully in all aspects of medical training, with or without reasonable accommodation.

Rush University is committed to diversity and to attracting and educating students who will make the population of health care professionals representative of the national population.

Our I CARE core values — 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.

Technical (Non-Academic) Standards

Observation: Students should be able to obtain information from demonstrations and experiments in the basic sciences. Students should be able to assess a patient and evaluate findings accurately. These skills require the use of vision, hearing and touch, or the functional equivalent.

Communication: Students should be able to communicate with patients in order to elicit information, detect changes in mood and activity, and to establish a therapeutic relationship. Students should be able to communicate via English effectively and sensitively with patients and all members of the health care team both in person and in writing.

Motor: Students should, after a reasonable period of time, possess the capacity to perform a physical examination and perform diagnostic maneuvers. Students should be able to execute some motor movements required to provide general care to patients and provide or direct the provision of emergency treatment of patients. Such actions require some coordination of both gross and fine muscular movements balance and equilibrium.

Intellectual, conceptual, integrative and quantitative

abilities: Students should be able to assimilate detailed and complex information presented in both didactic and clinical coursework, and engage in problem solving. Students are expected to possess the ability to measure, calculate, reason, analyze, synthesize and transmit information. In addition, students should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures and to adapt to different learning environments and modalities.

Behavioral and social abilities: Students should possess the emotional health required for full utilization of their intellectual abilities, the exercise of good judgment, the prompt completion of all responsibilities attendant to the diagnosis and care of patients, and the development of mature, sensitive and effective relationships with patients, fellow students, faculty and staff. Students should be able to tolerate physically taxing workloads and to function effectively under stress. They should be able to adapt to changing environments, to display flexibility and learn to function in the face of uncertainties inherent in the clinical problems of many patients. Compassion, integrity, concern for others, interpersonal skills, professionalism, interest and motivation are all personal qualities that are expected during the education processes.

Ethics and professionalism: Students should maintain and display ethical and moral behaviors commensurate with the role of a physician in all interactions with patients, faculty, staff, students and the public. The student is expected to understand the legal and ethical aspects of the practice of medicine and

function within the law and ethical standards of the medical profession.

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 Disability 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 Disability Services to learn more about accommodations at Rush University:

Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services Rush University 600 S. Paulina St., Suite440 Chicago, IL 60612 (773) 942-5237 Marie_S_Ferro-Lusk@rush.edu

Graduation Requirements

The following are prerequisites to the granting of the Doctor of Medicine, or MD, degree by Rush University for students graduating in 2022. Each student's progress in each year of the Rush Medical College curriculum will be evaluated by the Committee on Student Evaluation and Promotion, or COSEP.

- Successful completion of the first and second year curricula in accordance with the COSEP Policies and Procedures
- Pass the United States Medical Licensing Examination, or USMLE, Step 1 per the dates set by the Office of Medical Student Programs, or OMSP, guidelines
- Pass USMLE Step 2 Clinical Knowledge (CK) and Clinical Skills (CS) per the dates set by the OMSP guidelines
- Attend and complete the Clinical Resources and Skills for the Hospital, or CRASH, course prior to beginning the third year
- Pass all required third-year core clerkships
- Pass all required fourth-year clerkships
- Pass all fourth-year electives
- Be scheduled for completion of all elective clerkship requirements by the beginning of the second term of the student's fourth year in order to graduate in the next calendar year
- Successfully complete the capstone project
- Successfully complete the Rush Medical College Service Learning requirement

- Successfully complete all additional weeks of instruction required by the COSEP depending upon the progress made by the student
- Attain the level of achievement required by the COSEP for the degree of MD within 60 months from matriculation

Graduation Requirements and the National Resident Matching Program

The OMSP will immediately notify future residency program directors when a student who has matched will not complete graduation requirements by the graduation date. If the inability to graduate is determined prior to the match, the student and the OMSP must immediately notify the National Resident Matching Program that the student is withdrawing from the match. The student must notify all of the programs to which the student applied that the student is withdrawing from the match.

Doctor of Medicine Rush Medical College: Academic Program

Academic Policies

The Committee on Student Evaluation and Promotion's Policy and Procedures contains detailed academic policies for Rush Medical College students. Please refer to that document for anything not detailed in this catalog.

Definition of Student Status

[From COSEP Policies and Procedures 7/27/2017]

The status of a student will be determined in accordance with these rules by the OMSP or the COSEP and the rules and policies of Rush University. All statuses will be recorded on the transcript. Status will be defined as follows:

- 1. **Full-time student:** any student enrolled in Rush Medical College, paying tuition or appropriate fees and scheduled to take courses leading to the M.D. degree is a full time student.
- 2. **Part-time student:** Rush Medical College does not have a part-time student option available to students.
- 3. Leave of Absence (LOA): a student who, for a predetermined period of time, is not paying tuition and not actively enrolled or pursuing requirements for an M.D. degree at the College will be on an LOA. The length of an LOA is for no greater than one year. Any extension beyond one year must be approved by the COSEP. Students must conform to all University policies regarding LOA.

The following changes in student status are recorded on the transcript:

- 1. **Dismissal:** the permanent administrative termination of a student.
- 2. **Suspension:** the administrative termination of the enrollment of a student for a specific period of time.
- 3. Voluntary Withdrawal: the voluntary termination of enrollment by a student. A student who withdraws from the college and subsequently seeks reinstatement must submit a written petition for reinstatement to the Committee on Admissions of the College if withdrawal took place before the completion of the student's first term of enrollment. If the student withdrew subsequent to the first term, the student must submit a written petition to the COSEP for reinstatement.
- 4. Administrative Withdrawal: A student who fails to engage in registration for courses or who fails to engage in a course according to the policies of the College will be considered to have withdrawn. A student withdrawing under this provision may submit a written petition to the OMSP for reinstatement. The OMSP shall determine whether special circumstances existed which justified the student's failure to engage or whether the student's petition should be forwarded to the COSEP.

Course Credit

[From COSEP Policies and Procedures 7/27/2017]

Rush Medical College does not assign credit hour value to its courses. First and second year courses are recorded on the transcript according to the term in which the courses are given. Required M3/M4 courses and all elective courses are recorded on the transcript according to the term in which the courses are given and the number of weeks of full-time study spent in the course.

Recording of Grades

[From COSEP Policies and Procedures 7/27/2017]

 OMSP Records: A student's OMSP record will reflect all aspects of the student's academic progress through the college, including records of any course failures, even though rectified by make-up examinations or repetition of the course(s). This permanent record may be used only for the legitimate business of the OMSP or by the COSEP in their evaluation of the progress of a student in the college. When a student is to be considered by the COSEP, the OMSP will provide the Committee with information relevant to its deliberations.

- 2. Transcripts: Official transcripts sent from the Registrar's Office of Rush University will reflect an unabridged version of the student's enrollment record at Rush Medical College. All aspects of the student's academic progress through the college, including records of any course failures, even though rectified by make-up examinations or repetition of the course(s), will be listed.
- 3. Medical Student Performance Evaluation (MSPE): Consistent with the Rush Medical College transcript, the MSPE will reflect the student's enrollment record at Rush Medical College. All aspects of the student's academic progress through the college, including gaps in the educational timeline, such as a Leave of Absence, and records of any course failures, even though rectified by make-up examinations or repetition of the course(s), will be described.

Student Performance Assessment in a Course

Please see the COSEP Policies and Procedures for details on the following:

- Performance evaluation
- Absences from examinations
- Failed courses in first and second years
- Status of students with course failures

Remedial Programs

The Committee on Student Evaluation and Promotion, or COSEP, and the Office of Medical Student Programs, or OMSP, establish requirements for remedial work for students with course failures in the first or second year. Remedial work requirements will be reasonably related to the basis for, and seriousness of, the student's deficiencies. Such requirements may include but need not be limited to the following: study with re-examination, retaking failed courses during the next academic year and retaking all courses, including those satisfactorily passed.

A failure in a required clerkship must be remediated in a manner prescribed by the course director in consultation with the OMSP and approved by the COSEP, consistent with the reasons for the student's failure. A student required to repeat any components of a required clerkship must complete the failed course prior to beginning another core rotation. In developing requirements, the COSEP will consider the needs of the individual student and will endeavor to develop a program that, if successfully completed, will strengthen the student's prospects for successfully completing the remainder of the college program.

Academic Dismissal

[From COSEP Policies and Procedures 7/27/2017]

Grounds for Dismissal

The following constitute grounds for dismissal from the College:

- A failure on or noncompliance with a COSEP-mandated remedial plan.
- 2. A failure in a second required core clerkship (even though the prior failure had been successfully remediated) or a second failure of the same required clerkship.
- 3. A determination by the COSEP that a student is not fit to practice medicine:
 - Failure to demonstrate the ability to be a competent and effective future physician.
 - Performance that does not reflect good moral character, sense of responsibility or sound judgment.
 - A single act or pattern of unprofessional behavior.
- Receipt of an unsatisfactory course evaluation or NEF that addresses concerns previously outlined that were the focus of a prior completed remedial plan.
- 5. Failure after three attempts to pass USMLE Step 1.
- Failure after three attempts to pass USMLE Step 2 (both the Clinical Skills and Clinical Knowledge sections of this Step within six months of the first attempt, including any time on LOA).
- 7. Failure to successfully pass USMLE Step 1 within nine months of completing M2 coursework, including any time on LOA.
- 8. Failure to successfully pass USMLE Step 2 within 12 months of completing M3 coursework, including any time on LOA.
- Inability to successfully complete all M1 and M2 requirements, including USMLE Step 1, within three years of matriculation, excluding time on LOA.
- Inability to successfully complete all M1, M2 and M3 requirements within four years of matriculation, excluding time on LOA.
- 11. Inability to successfully complete all requirements for graduation within five years of matriculation, excluding time on LOA.

Procedure for COSEP Recommendation for Dismissal

- 1. The student will meet criteria for dismissal as set forth in the COSEP Policies and Procedures.
- 2. The COSEP will review the entire academic record of the student.

- 3. A recommendation for dismissal must be approved by the COSEP by a majority of the voting members present by secret ballot.
- Following a vote for dismissal, the COSEP will determine the level of the student's participation in the curriculum while awaiting the appeal process.
- 5. The chair of the COSEP will notify both the student and the dean of the COSEP's recommendation for dismissal within two business days of the COSEP meeting. The chair of the COSEP will notify the student in writing of the opportunity to meet with the COSEP (called the student appeal to COSEP). The student should submit a letter to the COSEP stating an intent to appeal this decision within 14 days of the receipt of notification for a recommendation for dismissal. The COSEP will determine an appropriate time deadline for completion of the appeal. If the student fails to request a meeting with the COSEP within this time, the student's right to appeal will be forfeited and the COSEP's recommendation for dismissal will be forwarded to the dean of Rush Medical College.

Procedure for Student Appeal to COSEP

- In an appeal of a recommendation of dismissal, a student may appeal the decision to the COSEP. The student should submit a letter to the COSEP stating an intent to appeal the decision within 14 days of the receipt of notification for a recommendation to dismiss. During the appeal, the student may be accompanied by an attorney. However, the attorney will be limited to advising the student; the attorney will not be permitted to participate directly in the meeting. The COSEP may have an attorney present to advise the chair and committee members.
- 2. A vote on whether to overturn the dismissal recommendation will be taken by secret ballot, and the result will be determined by a majority vote of a quorum.

Successful appeal: The COSEP will develop a remedial plan if the recommendation for dismissal is overturned.

Unsuccessful appeal: The COSEP recommendation will be forwarded to the dean of Rush Medical College if the recommendation for dismissal is not overturned.

Recommendation to the Dean

After meeting with the student, if such a meeting is requested in a proper and timely manner, the COSEP will submit its recommendation in writing to the dean.

A student is allowed to appeal to the dean but the request must be made in writing within 14 days from receipt of the chair's notice of dismissal recommendation. If the student fails to do so, any right to appeal the decision of the COSEP will be waived.

Dean's Appeal Procedure

Students who have been recommended for dismissal by the COSEP will have an opportunity to appeal the dismissal recommendation to the dean as outlined above. The dean has the option to have the student appeal heard by a panel of three faculty - such faculty shall have a background in medical education and shall not currently sit on COSEP - or hear the appeal directly. The student is allowed to speak on their own behalf, with an advocate and legal counsel present in an advisory capacity who may not participate directly in the appeal. The dean or panel, as applicable, may have an attorney present who will serve only in an advisory capacity.

The chair of the COSEP and members of the OMSP will present the basis for the COSEP recommendation of dismissal to the dean or the faculty panel. They will review the basis of the recommendation and the process followed by the OMSP and the COSEP. If the faculty panel is hearing the appeal, they will report their recommendations to the dean.

The dean will review the recommendations from both the COSEP and the faculty panel, if impaneled, and render the final decision for the student. The dean will endeavor to issue a final decision in writing to the student within 30 days of the completion of the review process.

Doctor of Medicine (MD): Curriculum

First Year

Course Tit	tle	Credits
RMD-560	Foundations of Medical Practice	1
RMD-561	Host Defense and Response	1
RMD-563	Energy Metabolism and Nutrition	1
RMD-564	Movement and Mechanics	1
RMD-565	Brain, Behavior and Cognition	1
IPE-502	Interprofessional Patient Centered Teams	1
RMD-574	Vital Fluids	1
RMD-575	Vital Gases	1
RMD-580	Foundations of Research Methods	1

Electives

Non-credit elective courses may be taken in parallel with the required first year curriculum.

Course Tit	le	Credits
RMD-540	Humanities in Medicine I	1
RMD-541	Humanities in Medicine II	1
RMD-542	Spanish for Medical Professionals I	1
RMD-543	Spanish for Medical Professionals II	1
RMD-545	Sonographic Anatomy I	1
RMD-546	Sonographic Anatomy II	1
RMD-780	Basic Biomedical Research I	1
RMD-781	Basic Biomedical Research II	1
RMD-570	Genetics I	1
RMD-571	Genetics II	1
RMD-572	Health Equity & Social Justice Leadership	1
RMD-573	Health Equity & Social Justice Leadership	II 1

Due to limited enrollment for these courses, registration is determined through a lottery.

Second Year

The second year curriculum is integrated into five courses taught in sequence through the academic year.

Course Tit	le	Credits
RMD-566	Reproduction and Sexuality	1
RMD-567	Growth, Development and the Life Cycle	1
RMD-568	Introduction to Hematology	1
RMD-569	Complex Cases and Transition to Clerkship	os 1
RMD-580	Foundations of Research Methods	1

Grading - First and Second Years

[From COSEP Policies and Procedures 7/27/2017]

- 1. Minimum Pass Level (MPL) will be calculated as the final course score that is 1.5 standard deviations below the class mean.
- 2. If the calculated MPL is above 70 percent, then the MPL is lowered to 70 percent.
- 3. Any score of less than 55 percent will be considered a failure regardless of the calculated MPL.
- Courses may include components which are required for passing the course but do not contribute to the calculation of the course grade.

- 5. The following grades may be awarded:
 - a. **P (Pass)** A grade of Pass is assigned when all requirements for the course have been completed satisfactorily.
 - b. F (Fail) A grade of Fail is assigned when a student's performance in a course is unsatisfactory and insufficient to qualify for a grade of Pass. A student whose overall record is unsatisfactory in a course because of unexcused absences from examinations or other required course elements will be given a grade of Fail.
 - c. W (withdrawn) A grade of Withdrawn may be assigned by a course leader in consultation with the OMSP to a student who has not completed any of the course requirements and has received permission from the OMSP to end their participation in the course without credit. The Withdrawn grade will be reflected on the student transcript. Withdrawing from a course requires the course to be repeated in its entirety to receive credit.

USMLE Step 1

Prior to the start of the third year, students must take the United States Medical Licensing Examination (USMLE) Step 1. Students who do not pass USMLE Step 1 are required to discontinue the third year curriculum for remediation (please refer to section on USMLE Step 1 failure for additional information). Students who fail the USMLE Step 1 are removed from clinical rotations and placed on a LOA to the beginning of the next M3 year, provided a passing score is achieved. Students who fail the USMLE Step 1 three times are recommended to the COSEP for dismissal.

Permission to defer taking this examination must be granted by the OMSP. Students who defer Step 1 beyond the established deadline must take and pass the exam within nine months of completing the second year, and defer clinical rotations to the beginning of the next M3 year, provided a passing score is achieved. Students who defer are placed on LOA

Curriculum Note: Third and Fourth Years

The curricula of the third and fourth years provide students with additional training in clinical skills, diagnosis and patient management in a variety of patient care settings.

Prior to the start of the third year, students participate in the Clinical Resources and Skills for the Hospital (CRASH) course, which is an intensive review of clinical skills.

Clinical experiences primarily take place at Rush University Medical Center and the John H. Stroger, Jr. Hospital of Cook County. Students request a schedule of the third-year required clerkships and electives through a lottery toward the end of the second year and request a schedule of the fourth-year required clerkship, subinternship and electives through a lottery toward the end of the third year.

Third Year

The third year involves 42 clinical weeks in required core clerkships in internal medicine, neurology, pediatrics, psychiatry, obstetrics/gynecology, surgery and primary care. Three courses to complete the required Capstone project are also taken during this year.

There are 6 weeks of time (4 before or after the Primary Care clerkship, and 2 following the Obstetrics and Gynecology clerkship) which students may use to take non-credit elective courses for which they are eligible.

Course Tit	ile	Credits
MED-703	Core Clerkship: Internal Medicine	8
NEU-701	Core Clerkship: Neurology	4
PED-701	Core Clerkship: Pediatrics	8
PSY-701	Core Clerkship: Psychiatry	4
OBG-703	Core Clerkship: Obstetrics & Gynecology	6
RMD-701	Core Clerkship: Primary Care	4
SUR-701	Core Clerkship: Surgery	8

Fourth Year

The fourth year involves a required emergency medicine core clerkship, a required senior sub-internship, a clinical bridge course to prepare students for residency, and a series of elective clerkships which ultimately comprise a minimum of 44 total weeks. Required senior core clerkships total 12 weeks. The remaining 32 weeks required of the fourth year consist of elective study in areas of special interest to each student. The choice of electives is guided by the goal of an educationally balanced undergraduate experience. Of the 32 weeks of required student-chosen electives, up to 12 weeks of elective study may take place at other Liaison Committee on Medical Education (ACGME)-accredited institutions and a maximum of 12 weeks of elective rotations may be taken in a single subspeciality.

Course Tit	tle	Credits
EMD-703	Core Clerkship: Emergency Medicine	4
RMD-722	Clinical Bridge	2
Choose one of the following Subinternship courses:		
FAM-710	Subinternship: Family Medicine	4
MED-710	Subinternship: Internal Medicine	4
PED-710	Subinternship: Pediatrics	4
SUR-710	General Surgery Subinternship	4

Electives

Students are required to take 32 weeks of electives.

Grading in Third and Fourth Years

[From COSEP Policies and Procedures 7/27/2017]

- 1. Grading criteria for required clerkships will be determined by the clerkship director as approved by the COSEP.
- 2. The following grades may be awarded:
 - a. H (Honors) Performance of exceptional quality, as judged by the course leader, using criteria established and provided to students in written format at the beginning of the course. Students should not be required to carry out extra work over and above that required of other students in order to qualify for a grade of Honors.
 - b. HP (High Pass) Performance of superior quality, as judged by the course leader, using criteria established and provided to students in written format at the beginning of the course. Students should not be required to carry out extra work over and above that required of other students in order to qualify for a grade of High Pass.
 - c. **P (Pass)** All requirements for the course have been completed satisfactorily.
 - d. F (Fail) A grade of Fail is assigned when a student's performance in a course is unsatisfactory and insufficient to qualify for a grade of pass, or when the student fails to meet the MPL on the final NBME subject exam. A student whose overall record is unsatisfactory in a course because of unexcused absences from examinations or other evaluative exercises will be given a grade of Fail. The course leader may assign a failure grade based on the composite clinical evaluations and/or inadequate professional or behavioral performance.
 - e. **W (Withdrawn)** A grade of Withdrawn may be assigned by a course leader in consultation with the OMSP to a student who has not completed all the course requirements and has received permission from the OMSP to end their participation in the course without credit. The Withdrawn grade will be reflected on the student transcript. Withdrawing from a course requires the course to be repeated in its entirety to receive credit for this course.

f. I (Incomplete) - A grade of Incomplete may be assigned by a course leader to a student who has not completed all the course requirements and has received permission from the OMSP to defer completion of unmet course requirements. The course leader will determine what work will be required to remove the incomplete and will establish a specific time within which the student must complete such work. Such time will not extend beyond one term following the completion of the course, unless otherwise approved by the Office of Medical Student Programs. The incomplete grade will be reflected on the student transcript. Students with an incomplete in a clerkship will be removed from ongoing clinical rotations.

For guidelines on grade distributions for M3 core clerkships refer to Core Clerkship Common Syllabus.

USMLE Step 2

All students must take and pass both the Clinical Knowledge (CK) and Clinical Skills (CS) components of USMLE Step 2 during the student's fourth year by a date determined by the OMSP. Failures on either component are reported to the COSEP. Students who fail either component of the USMLE Step 2 three times are recommended to the COSEP for dismissal.

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 throughout their four years of education. 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.

A maximum of five students will be admitted per cohort. Students register for the pass/fail course FAM 705 for every term in which they are enrolled in the FMLP. Students who desire to change paths during medical school may opt out of the FMLP.

Course Tit	le Cr	edits
FAM-705	Family Medicine Leadership Program (FMLP)	1

Advisor Program

Incoming Rush Medical College students are assigned to one of five longitudinal advising academies comprised of M1-M4 students. Each academy is advised by four faculty advisers and six to eight peer advisers. Each faculty adviser acts as primary adviser for a defined group of students within their academy for all four years of the curriculum. They meet individually with students to establish a relationship and offer support and advice at critical junctures throughout medical school.

Early on, advisers assist students with the transition to medical school. During the second and third years, the focus shifts to guidance regarding career exploration and professional development. In the fourth year, advisers support students throughout the residency application, interview and match processes. Peer advisers are selected at the end of the M1 year, and they serve as peer advisers in their advising academy during their M2, M3 and M4 years. They provide essential advice from a student perspective to further support student success and well-being.

Faculty and peer advisers also serve as professional role models and sounding boards, and are available to guide students to medical college resources and support services when needed. Additionally, each advisory academy meets on a regular basis for community-building and to discuss topics related to the curriculum, career planning and well-being. The academies and individual cohorts within the academies also plan informal social activities throughout the year.

Student Research Opportunities

Students are encouraged to pursue additional research experience beyond their work on their capstone projects. Research opportunities range from laboratory experiences in the biomedical sciences to clinical investigation and fieldwork in epidemiology, preventive medicine and primary care. Such research can be carried out during the summer between the first and second years or during the time allotted for elective experiences in the fourth year.

The Rush Medical College Summer Research Fellowship is offered on a competitive basis to students between the first and second years to work on research projects with Rush faculty in basic science, clinical research and community service arenas. Students accepted in the program are provided a paid position to work full-time during the summer before the second year on their research project. Many students continue on and participate in these projects after the summer.

First-year medical students have the opportunity to enroll in the elective course Introduction to Biomedical Research. This is a yearlong course consisting of lectures, journal club and one-on-one work with a faculty mentor to develop a research proposal.

Students who are interested in a more in-depth research experience may request a Leave of Absence from the Rush Medical College curriculum to pursue an MS or PhD degree.

Rush Medical College Committees

Committees exist within the structure of Rush Medical College to assure the appropriate involvement of faculty and students in the various activities of the college. Except for the Rush Medical College Student Council, each committee includes representation from both faculty and students.

Faculty Council

This committee is the senior representative body within Rush Medical College. The membership includes professors, associate professors, assistant professors, instructors or assistants and one student from each of the four classes, each chosen by vote of the corresponding constituency.

Committee on Admissions

Members of the Committee on Admissions, or CoA, are responsible for admissions to the Rush Medical College. The duties of the CoA members include but are not limited to setting the admissions criteria that will enhance academic excellence, interviewing candidates and selecting the applicants who will be offered acceptance to Rush Medical College.

Committee on Curriculum and Evaluation

This Committee on Curriculum and Evaluation, or CCE, is responsible for the design, content and evaluation of the courses and curriculum. With the assistance of course directors, the CCE administers surveys to the students that evaluate course content, delivery and faculty performance.

Committee on Senior Faculty Appointments and Promotions (COSFAP)

The function of the Committee on Senior Faculty Appointments and Promotions, or COSFAP, is to review recommendations submitted by chairpersons for appointments or promotions of faculty members to academic ranks of indefinite terms in Rush Medical College. Recommendations for appointments or promotions are then submitted to the Office of the Dean for further action.

Committee on Student Evaluation and Promotion (COSEP)

The Committee on Student Evaluation and Promotion, or COSEP, is responsible for developing policies concerning student status, evaluation and promotion; reviewing the academic performance of Rush Medical College students; making recommendations to the Faculty Council and dean concerning promotion, graduation and dismissal of students; and determining requirements for remedial action for students who have failed medical college courses.








Rush University

College of Nursing

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Welcome to the College of Nursing



On behalf of the faculty of Rush University College of Nursing, I extend to you our warmest welcome. We are pleased and honored that you have chosen to further your education at Rush and are committed to having the degree that best prepares you for a rich and fascinating career in nursing and health care. Rush is renowned for its integration of education and practice, and you will have the opportunity to work with extraordinary scholars and clinicians throughout your journey in the College of Nursing. Please know that you can feel comfortable calling on me and any other member of the faculty to meet your personal learning needs.

Your success is our success and every member of our faculty and staff will do what it takes to ensure not only your timely completion of the program, but a quality

degree that will groom you for health care leadership.

Again, our warmest welcome to the Rush University College of Nursing and Rush University Medical Center.

Sincerely,

Marquis D. Foreman, PhD, RN, FAAN The John L. and Helen Kellogg Dean of the College of Nursing

COLLEGE OF NURSING

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 postgraduate 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 MSN and DNP programs at Rush University College of Nursing are accredited by the Commission on Collegiate Nursing Education.

Mission

The mission of Rush University College of Nursing is to educate a broadly diverse student body that will deliver exceptional health care, generate innovative knowledge and provide transformative leadership to improve health outcomes for all populations.

Vision

The vision of the College of Nursing is to lead health care transformation through innovative nursing education, practice, research and scholarly inquiry.

Philosophy

The College of Nursing philosophy expresses the beliefs of the faculty regarding the meta-paradigm of nursing and nursing education.

Person

The faculty believes that a person is a unique being who possesses innate dignity and worth with the right to self-determination. Persons live as individuals and as members of families, communities, and national and global societies.

Environment

The environment includes the multiple systems in which persons interact. This environment includes personal, physical, family, community, societal, economic, cultural and political systems. Persons influence, and are influenced by, their environments.

Health

Health is a dynamic state of well-being that interacts with personal factors and the environment. It is perceived in the context of a multi-system environment.

Nursing

Nursing is both a discipline and a profession. The focus of the discipline is the generation of knowledge related to persons and their environments for the purpose of maximizing the wellbeing of individuals, families, communities and society through health promotion, restoration and maintenance. The focus of the profession is the care of individuals, groups and communities through application of discipline-specific and disciplinerelated knowledge. Nurses contribute both individually and collaboratively with other professionals to promote positive health outcomes. Nurses apply a professional code of ethics and professional guidelines to clinical practice and demonstrate compassion, advocacy and cultural sensitivity.

Nursing Education

The education of nurses is a process by which the knowledge, skills, values and culture of nursing are transmitted to the learner. The faculty believes that professional nursing education is accomplished in a university setting and in an environment where nursing education, practice, and research are integrated. Nursing education is built upon knowledge from the sciences, arts and humanities so students understand and value the human experience and its relationship to health. Nursing faculty members foster student growth by providing learning experiences in a variety of health care settings so students can understand the complexity of health care and learn the nursing role. The education of nurses is an interactive process whereby students are actively engaged learners who take responsibility for their education and practice.

The curricula of the College of Nursing are designed to produce nurses who are the following:

- Competent, caring practitioners; lifelong learners that value scholarship; and collaborative members of interprofessional teams and leaders in the profession
- Clinical scholars who contribute to the scientific basis of nursing practice, improve clinical outcomes through evidence-based practice and positively influence the profession and the health care system

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 each other 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 set of core courses, or its 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:

- Students with a baccalaureate degree in another field may apply for the Master's Entry in Nursing (MSN) for Non-Nurses: Generalist Entry Master's (GEM) program.
- 2. RNs with a baccalaureate degree with an upper division major in nursing may apply directly for the Clinical Nurse Leader MSN, advanced practice DNP or PhD degree options.
- 3. RNs with a master's degree in nursing may apply for DNP or PhD degree options.
- 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 nondegree postgraduate certificate in selected specialty areas.
- 5. 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) 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 the ability to sit for certification as a Clinical Nurse Leader.

Clinical Nurse Leader (MSN) for RNs

The Clinical Nurse Leader program for RNs is a part-time, online, two-year program. The program is available to bachelor'sprepared RNs who wish to obtain a Master's degree in nursing (MSN). Graduates have the ability 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 62 and 71 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 in order 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 (NP):
 - Adult-Gerontology Acute Care (AGACNP)
 - Adult-Gerontology Primary Care (AGPCNP)
 - Family (FNP)
 - Neonatal (NNP)
 - Pediatric Primary Care (PNP)
 - Pediatric Acute Care (ACPNP)
 - Psychiatric-Mental Health (PMHNP)
- Clinical Nurse Specialist (CNS):
 - Adult-Gerontology Acute Care (AGACCNS)
 - 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 is a minimum of 64 credit hours and can be taken as a three-year full-time or four-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. Nonnurses 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, GRE scores if required, 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 advanced practice postlicensure programs).
- Three letters of recommendation from faculty and/or work managers (for postlicensure applicants: at least one letter must come from current or recent employer). Relationship of recommenders to you must be in a supervisory capacity. Recommendations from friends, relatives or co-workers will not be accepted and will cause your application to be delayed or denied. Please refer to the College of Nursing webpage admission guidelines for your specific program for more detailed recommender information.
- GRE (Graduate Record Examination) scores, if required.
 - The GRE is required for all applicants to the Nurse Anesthesia and PhD programs and cannot be waived.
 - The GRE can be waived for other programs under the following conditions:*
 - 1. For the Master's Entry in Nursing (MSN) for Non-Nurses: Generalist Entry Master's (GEM), a cumulative GPA of 3.00 or higher.
 - 2. For the MSN and DNP postlicensure programs, a cumulative GPA of 3.00 or higher, a prelicensure nursing GPA of 3.0 or higher; and a graduate GPA (of a completed degree) of 3.5 or higher.
 - Post-graduate certificate students are not required to take the GRE.

- 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 are invited to interview with faculty.

* 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
- Adult-Gerontology Primary Care: preference is given to applicants with RN experience
- Family: preference is given to applicants with RN experience
- Neonatal: minimum of six months of recent inpatient neonatal nursing experience
- Nurse Anesthesia: minimum of one year (two years preferred) of recent adult critical care nursing experience
- Pediatric Acute Care: minimum of six months of recent inpatient pediatric nursing experience
- Pediatric Primary Care: preference is given to applicants with RN experience
- Psychiatric-Mental Health: preference is given to applicants with RN experience

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 in order 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 order 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 make the population of health care professionals representative of the national population.

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 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 Disability 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 Disability Services:

Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services Rush University 600 S. Paulina St., Suite 440 Chicago, IL 60612 (312) 942-5237 Marie_S_Ferro-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.

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 Handbook.

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 Progression 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 seminar course or a single clinical practicum, the student must repeat the course prior to graduation. A student may repeat only one clinical seminar 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 seminar 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 of time 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 Handbook for a complete review of the college academic progression policy.

College of Nursing Committees

Faculty Senate

The Faculty Senate is the senior representative and governing body for the College of Nursing faculty and operates as the Committee on Committees. The senate 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 elects members of the committees every June 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 Diversity and Inclusion Committee provides a forum for communication across all the faculty standing committees to ensure diversity and inclusion goals of individual 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 Evaluation Matrix; ensures the College of Nursing programs are futureoriented 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.

Research

This committee establishes, implements and evaluates criteria for the distribution of funds allocated for faculty and student research activities in collaboration with the Office of Research and Scholarship, with emphasis on underserved populations. They also collaborate with the dean and the associate dean for research regarding matters pertaining to research enrichment and suggest measures for ongoing facilitation of research productivity for faculty and students.

Area of Focus: Acute Care Pediatric Nurse Practitioner (AC PNP)

Terminal Objectives

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 educational systems with diverse populations and are able to affect changes in health care outcomes through evidence-based decisionmaking 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	Nursing Core	Credit Hours
NSG-521	Organizational & Systems Leadership	3
NSG-522	Applied Epidemiology & Biostatiostatistics for Nursing Practice	3
NSG-523	Research for Evidence-Based Practice	3
NSG-524	Health Promotion in Individuals & 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, 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 Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
	[Primary Care Pediatric]	1 (84 Clock Hours)
	[Acute Care Pediatric]	5 (420 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 Pediatrice, Palliative Care Certification, or Palliative Care coursework to be completed prior to NSG 557A

Area of Focus: Advanced Public Health Nursing

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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	Nursing Core (Transfer from Graduate Program)	Credit Hours
NSG-522	Applied Epidemiology & Biostatistics for Nursing Practice	3
NSG-523	Research for Evidence-Based Practice	3
		Subtotal: 6
DNP Core		Credit Hours
NSG-600	Leadership in Evolving Health Care Environments	3
NSG-602	Health Care Economics, Policy, Finance	3
		Subtotal: 6
Populatio	n/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 & Evaluation	3
NSG-568	Environmental Health	3
NSG-611	Financial & Business Concepts	3
NSG-612	Applied Organizational Analysis & Management of Human Resources	3
NSG-613	Data and Decision Making for Strategic Outcomes Management	3
NSG-614	The Leader and Policy, Politics, Power & Ethics	3
	Cognates	9
		Subtotal: 36
DNP Prac	tica and Project	Credit Hours
NSG-605	DNP Project	2 (168 Clock Hours)
NSG-606	DNP/Specialty Practicum	5 (420 Clock Hours)
		9 (756 Clock Hours)
NSG-607	DNP Immersion Residency	1-14
		3 (252 Clock Hours)
		Subtotal: 14
		Total: 62

Minimum credits required: Successful completion of the APHN BSN to DNP track requires a minimum of 62 semester hours for graduation. Upon review of an individual's academic portfolio, additional courses or clinical hours may be required.

Area of Focus: Neonatal Clinical Nurse Specialist (NCNS)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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	Nursing Core	Credit Hours
NSG-521	Organizational & Systems Leadership	3
NSG-522	Applied Epidemiology & Biostatistics for Nursing Practice	3
NSG-523	Research for Evidence-Based Practice	3
NSG-524	Health Promotion in Individuals & 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, 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/Neonates	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 Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours) 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: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

Population/Role: Adult-Gerontology Acute Care Clinical Nurse Specialist (AGACCNS)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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	Nursing Core	Credit Hours
NSG-521	Organizational & Systems Leadership	3
NSG-522	Applied Epidemiology & Biostatistics for Nursing Practice	3
NSG-523	Research for Evidence-Based Practice	3
NSG-524	Health Promotion in Individuals & 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 Lifespan: Lab	1
		Subtotal: 18
DNP Core		Credit Hours
NSG-600	Leadership in Evolving Health Care Environments	3
NSG-602	Health Care Economics, Policy, 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	n/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	4
NSG-571D	Management: Adult/Gerontology: Acute & 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 Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours) 5 (420 Clock Hours)
NSG-607	DNP Immersion Residency	1-14 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.

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.

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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	Nursing Core	Credit Hours	
NSG-521	Organizational & Systems Leadership	3	
NSG-522	Applied Epidemiology & Biostatistics for Nursing Practice	3	
NSG-523	Research for Evidence-Based Practice	3	
NSG-524	Health Promotion in Individuals & 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 Lifespan: Lab	1	
		Subtotal: 18	
DNP Core		Credit Hours	
NSG-600	Leadership in Evolving Health Care Environments	3	
NSG-602	Health Care Economics, Policy, Finance	3	
NSG-608	Program Evaluation	3	
NSG-610	DNP Project Planning and Implementation	3	
NSG-615	DNP Project Proposal Seminar	2	
		Subtotal: 14	
Populatio	n/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	4	
NSG-571D	Management: Adult/Gerontology: Acute & Critical Illness II	2	
NSG-572	Quality and Safety for the Aging Adult	3	
		Subtotal: 15	
DNP Pract	ica and Project	Credit Hours	
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours) 4 (336 Clock Hours)	
NSG-607	DNP Immersion Residency	1-14 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 completion 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.

Population/Role: Adult-Gerontology Clinical Nurse Specialist (AGCNS)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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	Nursing Core	Credit Hours
NSG-521	Organizational & Systems Leadership	3
NSG-522	Applied Epidemiology & Biostatistics for Nursing Practice	3
NSG-523	Research for Evidence-Based Practice	3
NSG-524	Health Promotion in Individuals & 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 Lifespan: Lab	1
		Subtotal: 18
DNP Core		Credit Hours
NSG-600	Leadership in Evolving Health Care Environments	3
NSG-602	Health Care Economics, Policy, Finance	3
NSG-608	Program Evaluation	3
NSG-610	DNP Project Planning and Implementation	3
NSG-615	DNP Project Proposal Seminar	2
		Subtotal: 14
Populatio	n/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
NSG-679	Evidence-Based Teaching in Health Professions	3
		Subtotal: 18
DNP Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		5 (420 Clock Hours)
NSG-607	DNP Immersion Residency	1-14
		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 AGCNS 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.

Population/Role: Adult-Gerontology Primary Care Nurse Practitioner (AGPCNP)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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	Nursing Core	Credit Hours	
NSG-521	Organizational & Systems Leadership	3	
NSG-522	Applied Epidemiology & Biostatistics for Nursing Practice	3	
NSG-523	Research for Evidence-Based Practice	3	
NSG-524	Health Promotion in Individuals & 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 Lifespan: Lab	1	
		Subtotal: 18	
DNP Core		Credit Hours	
NSG-600	Leadership in Evolving Health Care Environments	3	
NSG-602	Health Care Economics, Policy, Finance	3	
NSG-608	Program Evaluation	3	
NSG-610	DNP Project Planning and Implementation	3	
NSG-615	DNP Project Proposal Seminar	2	
		Subtotal: 14	
Populatio	n/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 Pract	ica and Project	Credit Hours	
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours) 5 (420 Clock Hours)	
NSG-607	DNP Immersion Residency	1-14 4 (336 Clock Hours)	
NSG-609A	DNP Project Practicum A	1 (84 Clock Hours)	
NSG-609R	DNP Project Practicum R	1 (84 Clock Hours)	
	DNP Project Practicum C	1 (8/1 Clock Hours)	
100000		Subtotal 17	
		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.

Population/Role: Family Nurse Practitioner (FNP)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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	Nursing Core	Credit Hours
NSG-521	Organizational & Systems Leadership	3
NSG-522	Applied Epidemiology & Biostatistics for Nursing Practice	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 Lifespan: Lab	1
		Subtotal: 18
DNP Core		Credit Hours
NSG-600	Leadership in Evolving Health Care Environments	3
NSG-602	Health Care Economics, Policy, Finance	3
NSG-608	Program Evaluation	3
NSG-610	DNP Project Planning and Implementation	3
NSG-615	DNP Project Proposal Seminar	2
		Subtotal: 14
Populatio	n/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 Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		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: 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.

Population/Role: Neonatal Nurse Practitioner (NNP)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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	Nursing Core	Credit Hours
NSG-521	Organizational & Systems Leadership	3
NSG-522	Applied Epidemiology & Biostatistics for Nursing Practice	3
NSG-523	Research for Evidence-Based Practice	3
NSG-524	Health Promotion in Individuals & 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, Finance	3
NSG-608	Program Evaluation	3
NSG-610	DNP Project Planning and Implementation	3
NSG-615	DNP Project Proposal Seminar	2
		Subtotal: 14
Populatio	n/Role Cognates	Credit Hours
NSG-546	Developmental Physiology of the Fetus/Neonates	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 Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		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 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.

Population/Role: Nurse Anesthesia (CRNA)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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	Nursing Core	Credit Hours
NSG-521	Organizational & Systems Leadership	3
NSG-522	Applied Epidemiology & Biostatistics for Nursing Practice	3
NSG-523	Research for Evidence-Based Practice	3
NSG-524	Health Promotion in Individuals & 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: La	b 1
		Subtotal: 15
DNP Core		Credit Hours
NSG-600	Leadership in Evolving Health Care Environments	3
NSG-602	Health Care Economics, Policy, Finance	3
NSG-608	Program Evaluation	3
NSG-610	DNP Project Planning and Implementation	3
NSG-615	DNP Project Proposal Seminar	2
		Subtotal: 14
Populatio	n/Role Cognates	Credit Hours
ANA-500	Neuroscience for Basic and Clinical Applications	2
NSG-541	Chemistry & 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 & Pediatric Anesthesia	3
		Subtotal: 17
DNP Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		9 (756 Clock Hours)
NSG-607	DNP Immersion Residency	1-14
		18 (1512 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: 88

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.

Population/Role: Pediatric Clinical Nurse Specialist (PCNS)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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	Nursing Core	Credit Hours
NSG-521	Organizational & Systems Leadership	3
NSG-522	Applied Epidemiology & Biostatistics for Nursing Practice	3
NSG-523	Research for Evidence-Based Practice	3
NSG-524	Health Promotion in Individuals & 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, Finance	3
NSG-608	Program Evaluation	3
NSG-610	DNP Project Planning and Implementation	3
NSG-615	DNP Project Proposal Seminar	2
		Subtotal: 14
Populatio	n/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 Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		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	UNP Project Practicum C	1 (84 Clock Hours)
		Subtotal: 12
		iotal: 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

Population/Role: Pediatric Nurse Practitioner (PNP)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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	Nursing Core	Credit Hours
NSG-521	Organizational & Systems Leadership	3
NSG-522	Applied Epidemiology & Biostatistics for Nursing Practice	3
NSG-523	Research for Evidence-Based Practice	3
NSG-524	Health Promotion in Individuals & 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, Finance	3
NSG-608	Program Evaluation	3
NSG-610	DNP Project Planning and Implementation	3
NSG-615	DNP Project Proposal Seminar	2
		Subtotal: 14
Populatio	n/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 Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		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 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.

Population/Role: Psychiatric-Mental Health Nurse Practitioner (PMHNP)

Terminal Objectives

The DNP degree is designed to prepare graduates to function as highly developed clinicians/leaders in advanced nursing practice or systems of care. Graduates will be prepared to practice in a variety of complex clinical, organizational, and/or educational systems with diverse populations and will be able to 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 Nursing Core		Credit Hours
NSG-521	Organizational & Systems Leadership	3
NSG-522	Applied Epidemiology & Biostatistics for Nursing Practice	3
NSG-523	Research for Evidence-Based Practice	3
NSG-524	Health Promotion in Individuals & 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, 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	5 (420 Clock Hours)
		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 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)

Area of Focus: Acute Pediatric Care Nurse Practitioner (AC PNP)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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

DNP Core		Credit Hours
NSG-600	Leadership in Evolving Health Care Environments	3
NSG-602	Health Care Economics, Policy, 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-557A	Pediatric Acute Care I	3
NSG-557B	Pediatric Acute Care II	3
		Subtotal: 9
DNP Practica and Project		Credit Hours
NSG-606	DNP Specialty Practicum [Acute Care Pediatric]	5 (420 Clock Hours) 3 (252 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: 9
		Total: 32

Minimum credits required: Successful completion of the ACPNP MSN to DNP track for the APRN requires a minimum of 32 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 Lifespan/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 and Practicum

It is expected that previous clinical hours plus DNP Specialty Practicum and Immersion hours will be equal to or greater than 1000 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 compleed prior to NSG 557A
Area of Focus: Pediatric Nurse Practitioner (PNP)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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

DNP Core		Credit Hours
NSG-600	Leadership in Evolving Health Care Environments	3
NSG-602	Health Care Economics, Policy, 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	n/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 Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		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: 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.

Palliative Care Training: ELNEC Pediatric, Palliative Care Certification, or Palliative Care coursework to be completed prior to NSG 551A

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 a MSN in a primary care specialty as well as non-APRN MSNs will be considered for admission to the Transformative Leadership: Population Health option.

Terminal Objectives

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 are able to 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

DNP Core		Credit Hours
NSG-600	Leadership in Evolving Health Care Environments	3
NSG-602	Health Care Economics, Policy, Finance	3
		Subtotal: 6
Populatio	n/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 & Evaluation	3
NSG-536	Principles of Case Management for Advanced Nursing Practice OR	3
NSG-568	Environmental Health	3
NSG-611	Financial & Business Concepts	3
NSG-614	The Leader and Policy, Politics, Power & Ethics	3
		Subtotal: 18
DNP Prac	tica and Project	Credit Hours
NSG-605	DNP Project	2 (168 Clock Hours)
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours) 3 (252 Clock Hours)
NSG-607	DNP Immersion Residency	1-14
		2 (168 Clock Hours)
		Subtotal: 7
		Total: 31

Minimum credits required: Successful completion of the APHN MSN to DNP track requires a minimum of 31 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 1000 clock hours. The equivalent of Biostatistics/Epidemiology must be completed prior to admission or added to the plan of study.

Population/Role: Adult-Gerontology Acute Care Nurse Practitioner (AGACNP)

Terminal Objectives

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 are able to 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

DNP Core		Credit Hours
NSG-600	Leadership in Evolving Health Care Environments	3
NSG-602	Health Care Economics, Policy, Finance	3
NSG-608	Program Evaluation	3
NSG-610	DNP Project Planning and Implementation	3
NSG-615	DNP Project Proposal Seminar	2
		Subtotal: 14
Populatio	n/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	4
NSG-571D	Management: Adult/Gerontology: Acute & Critical Illness II	2
NSG-572	Quality and Safety for the Aging Adult	3
		Subtotal: 15
DNP Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		1 (84 Clock Hours)
NSG-607	DNP Immersion Residency	1-14
		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.

Population/Role: Adult-Gerontology Primary Care Nurse Practitioner (AGPCNP)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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

DNP Core		Credit Hours
NSG-600	Leadership in Evolving Health Care Environments	3
NSG-602	Health Care Economics, Policy, Finance	3
NSG-608	Program Evaluation	3
NSG-610	DNP Project Planning and Implementation	3
NSG-615	DNP Project Proposal Seminar	2
		Subtotal: 14
Populatio	n/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 Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		2 (168 Clock Hours)
NSG-607	DNP Immersion Residency	1-14
		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	NP 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.

Population/Role: Psychiatric-Mental Health Nurse Practitioner (PMHNP)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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

DNP Core		Credit Hours
NSG-600	Leadership in Evolving Health Care Environments	3
NSG-602	Health Care Economics, Policy, 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	n/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 Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours) 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: 44

Minimum credits required: Successful completion of the PMHNP MSN to DNP track for APRNs requires a minimum of 44 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)

Area of Focus: Acute Care Pediatric Nurse Practitioner (AC PNP)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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

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, 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: Pediatrics	3
NSG-557A	Pediatric Acute Care I	3
NSG-557B	Pediatric Acute Care II	3
		Subtotal: 12
DNP Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
	[Primary Care Pediatric]	1 (84 Clock Hours)
		5 (420 Clock Hours)
NSG-607	DNP Immersion Residency]-14 2 (252 Clock Hours)
	DND Project Practicum A	1 (84 Clock Hours)
NSG-600R	DNP Project Practicum R	1 (84 Clock Hours)
		1 (8/ Clock Hours)
1150-0050		Subtotal: 12
		Total: 56
		iotal. Ju

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)

Area of Focus: Advanced Public Health Nursing

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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

DNP Core		Credit Hours
NSG-600	Leadership in Evolving Health Care Environments	3
NSG-602	Health Care Economics, Policy, Finance	3
		Subtotal: 6
Populatio	n/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 & Evaluation	3
NSG-568	Environmental Health	3
NSG-611	Financial & Business Concepts	3
NSG-612	Applied Organizational Analysis & Management of Human Resources	3
NSG-613	Data and Decision Making for Strategic Outcomes Management	3
NSG-614	The Leader and Policy, Politics, Power & Ethics	3
		Subtotal: 27
DNP Prac	tica and Project	Credit Hours
NSG-605	DNP Project	2 (168 Clock Hours)
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		9 (756 Clock Hours)
NSG-607	DNP/Specialty Immersion Residency	1-14
		3 (252 Clock Hours)
		Subtotal: 14
		Total: 47

Minimum credits required: Successful completion of the APHN MSN to DNP track for non-APRNs requires a minimum of 47 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 Clinical Nurse Specialist (AGACCNS)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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

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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, 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	3
NSG-571A Management: Adult/Gerontology I	3
NSG-571C Management: Adult/Gerontology Acute and Critical Illness	4
NSG-571D Management: Adult/Gerontology: Acute & 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	5 (420 Clock Hours)
	5 (420 Clock Hours)
NSG-607 DNP Immersion Residency	1-14 4 (226 Clock Hours)
NEC 6004 DND Project Practicum A	4 (SSO CIOCK HOUIS)
NSG-600R DNP Project Practicum R	1 (04 Clock Hours)
NSC-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)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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

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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, Finance	3
NSG-608	Program Evaluation	3
NSG-610	DNP Project Planning and Implementation	3
NSG-615	DNP Project Proposal Seminar	2
		Subtotal: 14
Populatio	n/Role Cognates	Credit Hours
NSG-570A	Pharmacotherapeutics Acute	3
NSG-571A	Management: Adult/Gerontology I	3
NSG-571C	Management: Adult/Gerontology Acute and Critical Illness	4
NSG-571D	Management: Adult/Gerontology: Acute & Critical Illness II	2
NSG-572	Quality and Safety for the Aging Adult	3
		Subtotal: 15
DNP Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		5 (420 Clock Hours)
NSG-607	DNP Immersion Residency	1-14
		4 (336 Clock Hours)
NSG-609A		1 (84 CIOCK HOURS)
NSG-609B		1 (84 Clock Hours)
N2G-609C	DINY Project Practicum C	I (84 CIOCK 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)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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

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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.

Doctor of Nursing Practice (MSN to DNP - non-APRN)

Population/Role: Pediatric Nurse Practitioner (PNP)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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

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, 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	n/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: Pediatrics	3
		Subtotal: 12
DNP Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		6 (504 Clock Hours)
NSG-607	DNP Immersion Residency	1-14
	DND Draig at Drastiaura A	3 (252 Clock Hours)
	DNP Project Practicum P	1 (04 Clock Hours)
	DNP Project Practicum C	1 (04 Clock Hours)
1120-0090		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.

Palliative Care Training: ELNEC Pediatric, Palliative Care Certification or Palliative Care coursework to be completed prior to NSG 551A

Doctor of Nursing Practice (MSN to DNP - non-APRN)

Population/Role: Psychiatric-Mental Health Nurse Practitioner (PMHNP)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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

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, 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	n/Role Cognates	Credit Hours
NSG-534	Major Psychopathological Disorders	3
NSG-575	Psychopharmacology	3
NSG-576	Neuropathophysiology: Lifespan Approach	3
NSG-577A	Diagnostics & Management I: Psychiatric Assessment Across Lifespan	3
NSG-577B	Diagnostics & Management II: Evidence Based Treatment	3
NSG-577C	Diagnostics & Management III: Group Therapy and Complex Care	3
		Subtotal: 18
DNP Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		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 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.

Area of Focus: Neonatal Clinical Nurse Specialist (NCNS)

Terminal Objectives

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 are able to 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

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, 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/Neonates	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	5 (420 Clock Hours)
	6 (504 Clock Hours)
NSG-607 DNP Immersion Residency	1-14 2 (252 Clock Hours)
NCC 6004 DND Project Practicum A	1 (24 Clock Hours)
NSG 600P DNP Project Practicum R	1 (84 Clock Hours)
NSC 600C 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

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.

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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

DNP Core		Credit Hours
NSG-600	Leadership in Evolving Health Care Environments	3
NSG-602	Health Care Economics, Policy, Finance	3
NSG-608	Program Evaluation	3
NSG-610	DNP Project Planning and Implementation	3
NSG-615	DNP Project Proposal Seminar	2
		Subtotal: 14
Populatio	n/Role Cognates	Credit Hours
NSG-611	Financial & Business Concepts	3
NSG-612	Applied Organizational Analysis & Management of Human Resources	3
NSG-613	Data and Decision Making for Strategic Outcomes Management	3
NSG-614	The Leader and Policy, Politics, Power & Ethics	3
NSG-682	Developing Professional Writing Skills	3
		Subtotal: 15
DNP Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
	[Systems]	1 (84 Clock Hours)
NSG-607	DNP Immersion Residency	1-14
		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.

Population/Role: Adult-Gerontology Clinical Nurse Specialist (AGCNS)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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

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, Finance	3
NSG-608	Program Evaluation	3
NSG-610	DNP Project Planning and Implementation	3
NSG-615	DNP Project Proposal Seminar	2
		Subtotal: 14
Populatio	n/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
NSG-679	Evidence-Based Teaching in Health Professions	3
		Subtotal: 18
DNP Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		5 (420 Clock Hours)
NSG-607	DNP Immersion Residency	1-14
		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	DINP Project Practicum C	I (84 Clock Hours)
		Subtotal: 12
		Total: 62

Minimum credits required: Successful completion of the AGCNS 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.

Population/Role: Family Nurse Practitioner (FNP)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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

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, 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	n/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 Pract	ica and Capstone	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		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	UNP Project Practicum C	I (84 Clock Hours)
		Subtotal: 12
		lotal: 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.

Population/Role: Neonatal Nurse Practitioner (NNP)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking 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

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, Finance	3
NSG-608	Program Evaluation	3
NSG-610	DNP Project Planning and Implementation	3
NSG-615	DNP Project Proposal Seminar	2
		Subtotal: 14
Populatio	n/Role Cognates	Credit Hours
NSG-546	Developmental Physiology of the Fetus/Neonates	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 Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		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 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.

Population/Role: Nurse Anesthesia (CRNA)

Terminal Objectives

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 are able to affect changes in health care outcomes through evidence-based decisionmaking and system redesign.

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

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: Lak) 1
		Subtotal: 15
DNP Core		Credit Hours
NSG-600	Leadership in Evolving Health Care Environments	3
NSG-602	Health Care Economics, Policy, Finance	3
NSG-608	Program Evaluation	3
NSG-610	DNP Project Planning and Implementation	3
NSG-615	DNP Project Proposal Seminar	2
		Subtotal: 14
Populatio	n/Role Cognates	Credit Hours
ANA-500	Neuroscience for Basic and Clinical Applications	2
NSG-541	Chemistry & 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 & Pediatric Anesthesia	3
		Subtotal: 17
DNP Pract	ica and Project	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
		9 (756 Clock Hours)
NSG-607	DNP Immersion Residency	1-14
		18 (1512 Clock Hours)
NSG-609A	DNP Project Practicum A	1 (84 Clock Hours)
NSG-609B		1 (84 Clock Hours)
NSG-609C	DINP Project Practicum C	1 (84 Clock Hours)
		Subtotal: 30
		Total: 76

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)

Terminal Objectives

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 are able to 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.

Curriculum

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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

Master of Science in Nursing Master's Entry Level (MSN) for Non-Nurses

The GEM program comprehensively prepares students, in a two-year full-time curriculum, to be a graduate (MSN) 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 of 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.

Terminal 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

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 1,140 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 for the Advanced Generalist	3
NSG-525	Health Assessment Across the Life Span	2
NSG-525L	Health Assessment Across the Life Span Lab: Advanced Generalist	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 for the Advanced Generalist	3
NSG-522	Applied Epidemiology & Biostatistics for Nursing Practice	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 & Clinical Populations	3*
		Subtotal: 14
Term 4		Credit Hours
NSG-504	Women's Health Across the Life Span	3
NSG-504P	Women's Health Nursing	1
NSG-505	Public Health Nursing	3
NSG-505P	Public Health Nursing Practicum	2
NSG-521	Organizational & Systems 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	Comprehensive Exam	1
NSG-513A	Capstone: Clinical Project Development and Implementation	3*
NSG-514	Immersion: Advanced Generalist (Prelicensure)	7
		Subtotal: 11
		Total: 74

* Currently Offered Online Note: Students must complete a minimum of 100 professional development hours to meet the CNL competencies.

Master of Science in Nursing MSN Nursing Leadership Program: Clinical Nurse Leader (CNL)

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 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.

Terminal Objectives

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 400 clock hours of clinical instruction. Graduates are eligible to sit for CNL certification.

Academic Program Curricula

Master of Science in Nursing (MSN)

Area of Focus: Clinical Nurse Leader (CNL)-Part Time

Term 1		Credit Hours
NSG-522	Applied Epidemiology & Biostatistics for Nursing Practice	3
NSG-602	Health Care Economics, Policy, Finance	3
		Subtotal: 6
Term 2		Credit Hours
NSG-524	Health Promotion in Individuals & Clinical Populations	3
NSG-533	Advanced Pathophysiology	3
		Subtotal: 6
Term 3		Credit Hours
NSG-531	Advanced Pharmacology	3
NSG-625	Advanced Health Assessment for Advanced Practice Nursing Across the Life Span	2
*NSG-625	Advanced Health Assessment for Advanced Practice Nursing Across the Life Span: Lab	1
		Subtotal: 6
Term 4		Credit Hours
NSG-521	Organizational & Systems Leadership	3
NSG-523	Research for Evidence-Based Practice	3
		Subtotal: 6
Term 5		Credit Hours
NSG-512	Clinical Leadership and Project Development	3
NSG-517	CNL Role Seminar	3
		Subtotal: 6
Term 6		Credit Hours
NSG-515	Immersion: Clinical Project Implementation	7
		Subtotal: 7
		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.

Nursing Science, PhD

Students may enter the PhD program with a BSN or an MSN degree. Non-nurses with a graduate degree in a health-related field may also apply for admission to the PhD program.

Terminal Objectives

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.

- Synthesize and apply theoretical and research-based knowledge in the investigation of clinical phenomena
- Test and integrate disciplinary knowledge in models of clinical practice across the levels of prevention
- Generate and disseminate research-based, clinically-related knowledge
- Analyze health care trends to influence health and social policy for diverse client populations
- Participate in collaborative interprofessional practice and research
- Assume faculty responsibilities within a senior academic environment
- Function as a clinical 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 60 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

Theory Co	ourses	Credit Hours
NSG-680	Understanding Scientific Paradigms	3
NSG-681	Understanding Theoretical Framework Development	3
		Subtotal: 6
Statistics	Courses	Credit Hours
NSG-684	Intermediate Statistics	3
NSG-685	Multivariate Statistics	3
		Subtotal: 6
Research	Courses	Credit Hours
NSG-675	Literature Synthesis Approach	3
NSG-686	The Research Process: Quantitative Design & Methods Part I	3
NSG-687	The Research Process: Quantitative Design & Methods Part II	3
NSG-688	The Research Process: Qualitative Design & Methods	3
NSG-691	Advanced Clinical Research Practicum	1-12 Minimum (8 Credit Hours)
		Subtotal: 20
Ethics Co	urse	Credit Hours
NSG-683	Ethical Conduct in Research Settings	3
		Subtotal: 3
Role Cou	ses	Credit Hours
NSG-600	Leadership in Evolving Health Care Environments	3
NSG-614	The Leader and Policy, Politics, Power & Ethics	3
NSG-679	Evidence-Based Teaching in Health Professions	3
NSG-690	Grantsmanship	3
		Subtotal: 12
Cognates		Credit Hours
		5
		Subtotal: 5
Dissertati	on	Credit Hours
NSG-699	Dissertation	3-4
	Minimum Total: 12 (minimum 3 hours and maximum 4 hours per term)	
		Subtotal: 12
Bridge Co	urse Work	Credit Hours
(Individual	for each student; only for BSN-DNP students)	
		Subtotal: 8
	Total: 72 (fo	r BSN-PhD); 64 (for MSN-PhD)

*Students who have not previously taken a graduate-level biostatistics course must take a three-hour course prior to taking NSG-684: Intermediate Statistics. To fulfill this requirement, they may take NSG-522: Applied Epidemiology and Biostatistics for Nursing Practice, or they may transfer in an equivalent course taken at an accredited school.

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 doctorate 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)
- Psychiatric-Mental Health Nurse Practitioner (PMHNP)

Postdoctoral AdvancedPractice 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)

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/practicum)
- Transition to the APRN role

Specialty	Curriculum Content	Credit Hou	rs
NSG-557A	Pediatric Acute Care I	3	
NSG-557B	Pediatric Acute Care II	3	
		Subtotal: 6	
Specialty	Practica	Credit Hou	rs
NRS-541	Master's Practica Cred	it 1-12	
NRS-600	Specialty Residency	1-7	
		3 (252 Clock Hours)	
		Subtotal: 6	
		Total: 12	

Area of Focus: Neonatal Nurse Practitioner (NNP)

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	Devel Physiology Fetus/Neonates)	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-541	Master's Practica	1-12
		3 (252 Clock Hours)
NRS-600	Specialty Residency	1-7
		3 (252 Clock Hours)
		Subtotal: 6
		Total: 27

Area of Focus: Psychiatric-Mental Health Nurse Practitioner (PMHNP)

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
- Advanced health assessment
- Transition of APN role course

Specialty	Curriculum Content	Credit Hours
NSG-576	Neuropathophysiology: Lifespan Approach	3
NSG-575	Psychopharmacology	3
NSG-534	Major Psychopathological Disorders	3
NSG-577A	Diagnostics & Management I: Psychiatric Assessment Across Lifespan	3
NSG-577B	Diagnostics & Management II: Evidence Based Treatment	3
NSG-577C	DDiagnostics & Management III: Group Therapy and Complex Care	3
		Subtotal: 18
DNP and S	Specialty Practica	Credit Hours
NRS-541	Master's Practica	1-12
NRS-600	Specialty Residency	1-7
		Subtotal: 12
		Total: 30

Postdoctoral Advanced-Practice Certificate Option

Area of Focus: Adult-Gerontology Acute Nurse Practitioner (AGACNP)

All plans of study are individualized to the student, and 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 lifespan
- 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	4
NSG-571D	Management: Adult/Gerontology: Acute & Critical Illness II	2
NSG-572	Quality & Safety for the Aging Adult	3
		Subtotal: 15
Specialty	Practica	Credit Hours
NSG-606	DNP Specialty Practicum	5 (420 Clock Hours)
NSG-607	DNP Immersion Residency	1-14
		Subtotal: 6
Note: Additi	onal practicum hours may be required by the area of concentration and/or individual st	tudent needs.
		Total: 21









Rush University

College of Health Sciences

Welcome to the College of Health Sciences



The College of Health Sciences offers outstanding educational programs for the preparation of allied health and health care management professionals. There are more than 200 different allied health fields, and allied health workers constitute nearly 60 percent of the health care workforce in the United States. Because of advances in treatment and technology, population growth and the aging of the population, the demand for allied health professionals is expected to increase significantly.

Allied health professionals and managers work in many different health care settings, including acute care, chronic care, primary care, community-based care, clinics, physicians' offices, educational institutions, research facilities and industry settings. Patients served range from newborn infants and pediatric patients to adults and the elderly.

In keeping with the Rush University practitioner-teacher model, the College of Health Sciences integrates patient care, research, scholarship and service into the teaching-learning process for our students. We strive to provide educational programs that are among the very best in preparing graduates to provide accessible, high-quality care for our patients and community.

Dean Charlotte Royeen, PhD A. Watson Armour III Presidential Professor Dean, College of Health Sciences

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 offers programs in 15 different professional areas housed within 10 academic departments. The college includes the departments of 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 Imaging Sciences (Imaging Sciences and Vascular Ultrasound); Occupational Therapy; Physician Assistant Studies; and Religion, Health and Human Values.

Programs and degrees offered within the college include the doctor of audiology (AuD), medical laboratory science (MS), clinical laboratory management (MS), specialist in blood bank (certificate), clinical nutrition dietetic internship (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), and vascular ultrasound technology (BS). The PhD in Health Sciences diploma is offered through a collaboration with the Division of Health Sciences within the Graduate College.

Organization

The organization of the College of Health Sciences centers around departments and programs, each headed by a department chairperson and program director who reports 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 and a representative from the Faculty Council. The senior representative body of the college is the Faculty Council, which is 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 teachinglearning 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 a number of 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 at www.rushu. rush.edu/college-health-sciences/academic-programs.

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 a 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 United States

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' Dean's Office.

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 period 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

 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

- 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
- 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 in order 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 with Disabilities

Rush University is committed to diversity, and attracting and educating students who will make the population of health care professionals 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. Students who may need special accommodations can access this information at www.rushu.rush.edu/ office-student-disability-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 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 mechanism allowing student to obtain a review of a complaint of unfair treatment. 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 are appealing an academic decision that could result in a dismissal from the University may be allowed to continue to progress 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 percent 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 informally with the course instructor. If the course instructor is the department chairperson or if the complaint does not pertain to a specific course, the student should seek resolution with the department chairperson at the outset.

- 1. 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 within five working days following the incident that forms the basis for the complaint (e.g., five days after grades are posted).
- 2. The instructor will meet with the student or speak with the student via telephone for those students who are unable to come to the chairperson's office, if so requested by the student. The instructor will notify the student in writing of the decision regarding the complaint within five working days following the meeting or discussion.

Step 2. If resolution is not achieved informally, as described in Step 1, the student should seek resolution with the chairperson of the department in which the course is offered within five working days following notification by the instructor of their decision.

- The chairperson will meet with the student or speak with the student via telephone for those students unable to come to the chairperson's office if so requested by the student following receipt of the student's request for resolution to discuss the problem or complaint.
- 2. The chairperson will notify the student of their decision in writing following the meeting or discussion.

Step 3. If the issue was not resolved in Step 2, the student may submit a written appeal, describing the nature of the student's complaint and reasons for seeking an appeal, to the student progress and promotion committee of the department within five working days following notification by the department chairperson of their decision.

 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.

- The committee may request that the course instructor or faculty member named in the grievance appear before the committee to make an oral statement and answer questions. The instructor or faculty member named in the grievance may not be present during committee deliberations.
- 3. Following review of information provided, the committee will notify the student of its decision.

Step 4. If the issue was not resolved to the student's satisfaction in Step 3, the student may submit a written request seeking a hearing to the dean within five working days of receiving the department progress and promotion committee decision. The written request should include a description of the complaint and the reason the student is seeking an appeal.

- 1. The dean will meet with the student for a hearing following receipt of the written request from the.
- 2. Following the meeting with the student, the dean may render a decision or choose to appoint a panel to investigate the grievance and make a recommendation to the dean.

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 shall be final.

Addendum to the Academic Appeal and Grievance Process

When a student appeal reaches the level of the dean of the College of Health Sciences, the dean may refer the case to a committee for the purpose of investigating the appeal or grievance and making a recommendation to the dean. The purpose of this addendum is to describe the procedure followed by the committee.

The College of Health Sciences has established a standing committee of 10 members of its Faculty Council. The committee members will be determined each fall for the subsequent year. Five members will be selected from the standing committee, as available and appropriate, to serve on an appeals hearing committee. The five members will include a designated chair of the committee, who will be the chair of the Faculty Council if available. If the chair of the Faculty Council cannot serve as chair of the committee, one of the five selected committee members will be appointed as chair of the appeals committee by the chair of the Faculty Council.

If a member of the standing committee is in the same department as the student involved or has a conflict of interest related to the student, the committee member shall recuse from the hearing. Faculty who are also students in the College of Health Sciences program that the student is enrolled in may not serve on the standing committee.

The hearing will be closed and confidential, all documentation related to the appeal shall be kept confidential and its distribution limited to individuals on a need-to-know basis. Transcripts of a hearing are not required. Students may take notes but may not record the hearing.

The steps for the appeal process are as follows:

- 1. The dean will notify the chair of Faculty Council of a student grievance or appeal at the level of the Office of the Dean that permits a hearing. Within 24 hours, the chair will provide the dean with a receipt of the notice.
- 2. Within 10 business days of the submission of the appeal to the dean, the student will submit a written summary that includes the following information:
 - Action being appealed; and course number and grade or evaluation, if applicable
 - Action requested
 - Justification for request
 - Outline of effort and actions taken to date to obtain consideration of the request

The dean reserves the right to ask for points of clarification that must be provided within five business days of the query.

Within 20 business days of the submission of the appeal to the dean, a College of Health Sciences designee as designated by the committee (someone from the student's progress and promotions committee) will submit a written account of the evidence against the student, along with a summary of the account and appendices providing the evidence. The dean reserves the right to ask for points of clarification that must be provided within five business days of the query.

Formal rules of evidence shall not be applicable. Evidence presented should be reasonably related to the issue before the committee and shall not be overly repetitious. All evidence shall be admissible unless clearly redundant or irrelevant to the issue being reviewed. The student may call witnesses on their behalf. The chair of the appeals committee shall have the right to limit witnesses based on redundancy or relevance to the issue.

3. The student appeal summary will be submitted to the chair of the appeals committee, who will then schedule a hearing for the appeal — to occur within 15 business days of the receipt of the written summaries. The appeal hearing will be scheduled for one hour and 30 minutes within one of the classrooms or conference rooms.

- 4. The hearing will be convened by the chair of the appeals committee. At the hearing, the following people will attend: the five selected members of the standing committee, including the chair of the appeals committee, and the student. The dean or designee may attend as an observer during the hearing. The student may choose to have at the hearing a representative, who may be an attorney, serving in a non-speaking role in support for the student. The committee may have at the hearing a University attorney, who will serve only in an advisory capacity.
- 5. The role of the committee members is to (a) hear the grievance or appeal, (b) consider all evidence, (c) ask clarifying questions as needed and (d) make a recommendation to the dean based on a preponderance of the evidence.
- 6. The College of Health Sciences designee from the student's progress and promotions committee will present evidence concerning the student.
- 7. The student will present their evidence in support of their grievance or appeal and shall have the burden of establishing that their request should be granted. At the conclusion of the hearing, the chair will excuse the student prior to the committee's deliberations.
- A designated committee member will take summary notes, including time, what evidence is presented by whom and final disposition of the committee. A decision will be reached by a majority vote of the five committee members.
- Following deliberations, the committee will provide a recommendation to the dean, which should include a summary of the evidence presented at the hearing. The dean will consider the committee's recommendation and render a final decision.

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

DEPARTMENT OF CARDIOPULMONARY SCIENCES

Cardiovascular Perfusion (MS) Respiratory Care (MS) RRT Advanced Standing (MS)

DEPARTMENT OF COMMUNICATION DISORDERS AND SCIENCES

Audiology (AuD) Speech-Language Pathology (MS)

DEPARTMENT OF CLINICAL NUTRITION

Clinical Nutrition (MS) Clinical Nutrition/Dietetic Internship (MS)

DEPARTMENT OF HEALTH SCIENCES Health Sciences (BS) Health Sciences (PhD

DEPARTMENT OF HEALTH SYSTEMS MANAGEMENT Health Systems Management (MS)

DEPARTMENT OF MEDICAL IMAGING SCIENCES Imaging Sciences (BS) Vascular Ultrasound and Technology (BS)

DEPARTMENT OF MEDICAL LABORATORY SCIENCES Clinical Laboratory Management (MS) Medical Laboratory Science (MS)

Specialist in Blood Bank Technology Certificate Program

DEPARTMENT OF OCCUPATIONAL THERAPY Occupational Therapy (MS) Occupational Therapy (OTD)

DEPARTMENT OF PHYSICIAN ASSISTANT STUDIES Physician Assistant Studies (MS)

DEPARTMENT OF CARDIOPULMONARY SCIENCES

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 Education Credentials Evaluators, or ECE, must evaluate international transcripts. A detailed course-by-course report is required. Contact ECE at (414) 289-3400 or www.ece.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 the following: 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 make the population of health care professionals 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.

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 Disability 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 Disability Services: Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services Rush University 600 S. Paulina St., Suite 440 Chicago, IL 60612 (312) 942-5237 Marie_S_Ferro-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): 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.

Master of Science Curriculum

First Year	Crea	lits
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
Spring Ter	ſm	
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
Summer T	erm	
CVP-623	Adult and Pediatric Congenital Heart Disease	2
CVP-624	Mechanical Circulatory Support	2
CVP-640	Principles and Practices of Cardiopulmonary	4
	Bypass With Simulation	
CVP-641	Perfusion Practicum I	4
CVP-661	Master's Project I	2
Second Ye	ear	
Fall Term		
CVP-642	Advanced Perfusion Practicum II	12
CVP-662	Master's Project II	2
CVP-680	Organizational Leadership	2
Spring Ter	rm	
CVP-645	Advanced Perfusion Practicum III	12
CVP-664	Master's Research Project III	2
CVP-681	Health Care Quality & Operations Management	nt 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, education 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 makes 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 term hours of credit for graduation. This is an integrated program, requiring 29 term 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. The professional phase, which is dedicated to clinical and academic excellence, includes more than 1,000 hours of in-hospital 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 a number of factors, including overall grade-point average, prerequisite grade-point average, consistency of academic performance, coursework completed prior to application, the GRE graduate school entry exam 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. Students admitted to

the three-year track or advance-standing programs may be admitted with some program prerequisites and/or general education outstanding.

- 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 departmental 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 make the population of health care professionals 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.

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 Disability 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 Disability Services to learn more about accommodations at Rush University:

Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services Rush University 600 S. Paulina St., Suite 440 Chicago, IL 60612 (312) 942-5237 Marie_S_Ferro-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 in order 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 in order 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 students 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 581, Clinical Practice 2. The CSE will be given at the beginning of the summer term of the second year as part of RCP 591, Clinical Practice 3. A passing score is required to successfully complete RCP 581 and RCP 591, 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 581 and/or RCP 591. 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 course-work 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 recording with audiotape, videotape or any other form of electronic or mechanical 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 department 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, Advanced Cardiac Life Support, Pediatric Advanced Life Support and Neonatal Resuscitation Provider course completion
- Successfully complete a departmental 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*	Semester Hours	Quarter Hours
Human Anatomy and Physiology (or 4 hours Anatomy and 4 hours Physiology)	8	8
Chemistry (With Lab)	4	4
Physics (With Lab)	4	4
Microbiology (With Lab)	4	4
Psychology (Courses With prefixes PSYC)	3	3
Mathematics (College Algebra or Higher)	3	3
Statistics	3	3
Total	29	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 Physiology	5
RCP-515	Respiratory Care Pharmacology	2
Spring Teri	n	
RCP-520	Respiratory Care Equipment and Techniques	4
RCP-521	Patient Assessment	4
RCP-522	Pulmonary Disease	3
RCP-523	Mechanical Ventilation	4
Summer Te	rm	
RCP-531	Critical Respiratory Care	4
RCP-532	Pulmonary Function Testing	4
RCP-533	Pediatric and Neonatal Respiratory Care	4
RCP-534	Clinical Observation Practice 1	3
RCP-563	Research Methods	3
Second Yea	ar	Credits
Fall Term		
RCP-530	Cardiac Diseases	2
RCP-566	Education	3
RCP-562	Management	3
RCP-564	Clinical Observation Practice 2	7
RCP-565	Research Project	1
Spring Teri	n	
RCP-570	Cardiopulmonary Diagnostics	2
RCP-571	Clinical Practice 3	7
RCP-572	Clinical Seminar	3
RCP-573	Research Project II	1
CHS-601	Introduction to Biostatistics	2
Summer Te	rm	
RCP-585	Clinical Practice IV	8
RCP-582	Disease Management/Home Health Care	3
RCP-583	Research Project III	1
CHS-605	Introduction to Ethics in Healthcare	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, highquality 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

- Transfer students who have been accepted into the Rush 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 "C" (2.0) 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, or 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
- 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 (available in the Office of Admissions) for admission to the advanced-sanding program
- 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 term. Submission of an application for admission should be made to the Office of College Admission Services with all official transcripts, NBRC RRT certificate and a personal interview at least 30 days prior to the first day of the term 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 make the population of health care professionals representative of the national population.

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 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 Disability 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 Disability Services to learn more about accommodations at Rush University:

Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services Rush University 600 S. Paulina St., Suite 440 Chicago, IL 60612 (312) 942-5237 Marie_S_Ferro-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	Cre	dits	
	RCP-572	Clinical Seminar	3	
	RCP-564	Clinical Observation Practice 2	7	
	RCP-571	Clinical Practice 3	7	
	*RCP-999	Ungraded	19	
	RCP-534	Clinical Practice 1	3	
	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	
	Total: 53 Credit Hours			

Required Courses

RRT students must enroll in and complete the following required courses:

Course	Course Credits	
RCP-501	Foundations of Professional Practice	3
RCP-562	Management	3
RCP-563	Research Methods	3
RCP-565	Research Project	1
RCP-566	Education	3
RCP-573	Research Project II	1
RCP-582	Disease Management/Home Healthcare	e 3
RCP-583	Research Project III	1
RCP-585	Clinical Practice IV	8
CHS-601	Introduction to Biostatistics	2
CHS-605	Introduction to Ethics in Healthcare	2
Total: 30 Credit Hours		

Elective Courses

The RRT student must select a minimum of nine semester hours from the following courses:

Course		Credits
RCP-570	Cardiopulmonary Diagnostics	2
RCP-530	Cardiac Diseases	2
RCP-531	Critical Respiratory Care	4
RCP-532	Pulmonary Function Testing	4
RCP-533	Pediatric & Neonatal Respiratory Care	4
RCP-512	Cardiopulmonary Anatomy And Physiolo	ogy 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		40
Total respiratory care course hours		
required for the degree		

Sample Advanced-Standing Program Student Schedule:

Fall Term		Credits	
RCP-501	Foundations of Professional Practice	3	
RCP-562	Management	3	
RCP-565	Research Project	1	
CHS-566	Education	3	
CHS-610	Research Methods in Health Sciences	2	
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	8	
Summer	Term	Credits	
CHS-605	Introduction to Ethics in Healthcare	2	
RCP-582	Disease Management/Home Healthcare	e 3	
RCP-583	Research Project III	1	
RCP-532	Pulmonary Function Testing	4	
CHS-620	Health Care in America	2	

Note:

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's 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	40
Credit Based on RRT	52
TOTAL	92
Communication Disorders and Sciences: Philosophy

The underlying basis for the graduate degree programs in Audiology and Speech-Language Pathology is the practitionerteacher 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, or CAA, of the American Speech-Language-Hearing Association, or 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 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 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 speechlanguage 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.

Audiology (AUD)

Communication Disorders and Sciences: Admission Requirements

Application for admission to the Doctor of Audiology or the Master of Science in Speech-Language Pathology program is through a central application system. Refer to the programs' Web pages for more information. The application deadline for both programs is January 1 for matriculation the following fall.

Doctor of Audiology (AuD)

At the time of application, individuals should have completed or be in the process of completing the baccalaureate degree at accredited institutions. 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 Web page 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) or a 3.5 GPA in major courses. GRE scores (verbal and quantitative) above the 50th percentile are recommended. The department Admissions Committee makes all admissions decisions.

Technical Standards for the Audiology and Speech-Language Pathology Programs

Rush University is committed to diversity and to attracting and educating students who will make the population of health care professionals representative of the national population.

Our core values — Innovation, Collaboration, Accountability, Respect and Excellence (ICARE) — 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 and Speech-Language Pathology programs:

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 & 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, cognition, and verbal and nonverbal 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 and Speech-Language Pathology care and perform or assist with procedures and treatments.
- Practice in a safe manner and appropriately provide audiology and 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 audiology and 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 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 Disability Services to confidentially discuss their accommodation 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:

Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services Rush University 600 S.Paulina St.AAC 440 Chicago, IL 60612 (312) 942-5237

Communication Disorders and Sciences: 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 advisor 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 approved equivalent. 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 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 CFCC (ASHA) certification requirements, the student is 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.

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 four years (master's program) and 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 Communications Disorders and Sciences 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 Master of Science degree in speechlanguage pathology and 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. 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. 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 the Rush University Medical Center. Students and faculty benefit from presentations by distinguished guests who share research and clinical expertise in audiology or speechlanguage 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 inservice programs on campus for staff at Rush University Medical Center and at 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 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: evidence-based practice 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, 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

Audiology students who began their studies in fall 2017 or thereafter follow the FS17 curriculum.

Track FS17

First Year		Credit Hours
Fall Term		
AUD-602	Anatomy and Physiology of the Auditory System	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 Ter	m	
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 Te	erm	
AUD-611	Embryology and Genetics of the Auditory System	1
AUD-630	Electrophysiologic Assessment of the Auditory System I	3
AUD-660	Pediatric Audiology	2
AUD-691	Clinical Practicum II	1
CDS-576	Issues in Counseling	2
Second Ye	ar	Credit Hours
Second Ye	ar	Credit Hours
Fall Term AUD-592	ar Grand Rounds	Credit Hours
Fall Term AUD-592 AUD-615	ar Grand Rounds Pharmacology	Credit Hours
Fall Term AUD-592 AUD-615 AUD-637	ar Grand Rounds Pharmacology Electrophysiologic Assessment of the Auditory System II	Credit Hours 1 2 2 2
Fall Term AUD-592 AUD-615 AUD-637 AUD-641	ar Grand Rounds Pharmacology Electrophysiologic Assessment of the Auditory System II Adult Amplification	Credit Hours 1 2 2 3
Second Yea Fall Term AUD-592 AUD-615 AUD-637 AUD-641 AUD-645	ar Grand Rounds Pharmacology Electrophysiologic Assessment of the Auditory System II Adult Amplification Adult and Geriatric Rehabilitative Audiology	Credit Hours 1 2 2 3 3 3
Second Yea Fall Term AUD-592 AUD-615 AUD-637 AUD-641 AUD-645 AUD-692	ar Grand Rounds Pharmacology Electrophysiologic Assessment of the Auditory System II Adult Amplification Adult and Geriatric Rehabilitative Audiology Audiology Practicum III	Credit Hours 1 2 2 3 3 1
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Second Yea Fall Term AUD-592 AUD-615 AUD-637 AUD-641 AUD-645 AUD-645 AUD-651 AUD-663 AUD-663 AUD-665 AUD-665 AUD-672 AUD-800 AUD-592	ar Grand Rounds Pharmacology Electrophysiologic Assessment of the Auditory System II Adult Amplification Adult and Geriatric Rehabilitative Audiology Audiology Practicum III m Vestibular Seminar Pediatric Amplification and Habilitation Educational Audiology Auditory Implants Seminar in Current Professional Issues Internship I Grand Rounds	Credit Hours 1 2 2 3 1 1 2 3 1 2 2 1 2 2 1 2 2 1 3 1 3 1
Second Yea Fall Term AUD-592 AUD-615 AUD-637 AUD-641 AUD-645 AUD-645 AUD-651 AUD-663 AUD-664 AUD-665 AUD-665 AUD-672 AUD-800 AUD-592 Summer Te	ar Grand Rounds Pharmacology Electrophysiologic Assessment of the Auditory System II Adult Amplification Adult and Geriatric Rehabilitative Audiology Audiology Practicum III m Vestibular Seminar Pediatric Amplification and Habilitation Educational Audiology Auditory Implants Seminar in Current Professional Issues Internship I Grand Rounds erm	Credit Hours 1 2 2 3 3 1 2 2 3 1 2 2 1 2 1 2 1 3 1 3 1
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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 Terr	m	
AUD-683	Investigative Project	3
AUD-803	Internship IV	5
Summer Te	erm	
AUD-850	Externship I	7
Fourth Yea	ır 👘	Credit Hours
Fall Term		
CDS-851	Externship II	7
Spring Terr	m	
CDS-852	Externship III	7
	Program Total:	108

Audiology: Track FQ16, AuD Curriculum

Track FQ16

Second Ye	ar	Credit Hours
Fall Semes	ter	
CHS-601	Introduction to Biostatistics	2
CDS-592	Applied Topics: Communication Disorders/Sciences	1
CDS-615	Pharmacology	2
CDS-630	Electrophysiology	3
CDS-665	Auditory Implants	2
CDS-692	Transition Practicum III & IV	4
Spring Ser	nester	
CDS-574	Transition Counseling	1
CDS-637	Advanced Electrophysiology	1
CDS-641	Adult Amplification	3
CDS-645	Adult & Geriatric Rehabilitative Audiology	3
CDS-664	Educational Audiology	2
CDS-800	Transition Internship I	3
Summer S	emester	
CDS-663	Pediatric Amplification and Habilitation	2
CDS-667	Auditory Processing	1
CDS-672	Seminar in Career Topics	1
CDS-682	Investigative Project Planning Seminar	1
CDS-801	Internship II	3
CDS-651	Vestibular Assessment II	1
CHS-620	Health Care in America	2
Third Year		Credit Hours
Fall Semes	ter	
CDS-592	Applied Topics: Communication Disorders/Sciences	1
CDS-642	Advanced Topics in Amplification	1
CDS-659	Seminar in Tinnitus Assessment & Management	1
CDS-670	Hearing Conservation	2
CDS-673	Practice Management & Clinical Operation	2
CDS-802	Internship III	3
Spring Ser	nester	
CDS-671	Seminar in Supervision	1
CDS-683	Investigative Project	3
CDS-803	Internship IV	5
Summer S	emester	
CDS-850	Externship I	7
Fourth Yea	r	Credit Hours
Fall Semes	ter	
CDS-851	Externship II	7
Spring Ser	nester	
CDS-852	Externship III	7

Speech-Language Pathology (MS)

Communication Disorders and Sciences: Admission Requirements

Application for admission to the Master of Science in Speech-Language Pathology program is through a central application system. Refer to the programs' webpages for more information. The application deadline for both programs is Jan. 1 for matriculation the following fall.

Master of Science in Speech-Language Pathology

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, the neural bases of communication disorders and swallowing, 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 chemistry) and social/behavioral sciences. Applicants should check the program webpage for additional information about prerequisites.

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 official scores from the GRE graduate school entry exam. 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. Scores on the GRE (verbal and quantitative) should be at the 50th percentile or higher. The Admissions Committees in both programs review all applications and makes all admissions decisions.

Technical Standards for the Audiology and Speech-Language Pathology Programs

Rush University is committed to diversity and to attracting and educating students who will make the population of health care professionals 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.

The following technical functions are required of all students enrolled in the Audiology and Speech-Language Pathology programs:

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 audiology and speech-language pathology care, and perform or assist with procedures and treatments
- Practice in a safe manner and appropriately provide audiology and 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 audiology and 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
- Integrity, accountability, interest and motivation are necessary personal qualities
- 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 they require reasonable accommodation to fully engage in the program, should contact the Office of Student Disability 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 Disability Services to learn more about accommodations at Rush University:

Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services 600 S. Paulina St., Suite 440 Chicago, IL 60612 (312) 942-5237 Marie_S_Ferro-Lusk@rush.edu

Communication Disorders and Sciences: Academic Policies

The Academic Resources and Policies section of this catalog contains Rush University academic policies.

Academic Progression

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 advisor 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 approved equivalent. 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 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 1.

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 Progression

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 CFCC (ASHA) certification requirements, the student is 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.

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 four years (master's program) and eight years (doctoral program) of the beginning of the first 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 and 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 their investigative project. 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. 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 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. 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 inservice 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, and many other topics related to human communication. 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 databased 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. Audiology students have the opportunity to complete a thesis in lieu of the investigative project. The complete thesis policy is found in the Student Manual for the Department of Communication Disorders and Sciences.

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: evidence-based practice 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, or for publication.

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-523L	Instrumentation Lab	1
SLP-537L	Anatomy Lab	1
SLP-521	Language Disorders in Children I: Birth Through Age Five	3
CHS-610	Research Methods in Health Sciences	2
SLP-582	Topics in Research Methods In Communication Disorders	1
SLP-564	Aphasia	3
SLP-511P	Speech-Language Pathology Practicum I	1
Spring Terr	n	
SLP-522	Language Disorders in Children II: Age Six Through Adolescence	3
SLP-558	Dysphagia	3
SLP-567	Dysarthria	3
SLP-568	Cognition of Acquired Language and Communication Disorders	3
SLP-512P	Speech-Language Pathology Practicum II	2
Summer Te	rm	
SLP-503L	Auditory Skills Lab for the Speech-Language Pathologist	1
SLP-526	Speech Sound Disorders	2
SLP-540	Head and Neck Cancer Management	2
SLP-542L	Tracheostomy & Ventilator Lab Ventilator Dependent Patients	1
SLP-524	Fluency, Dysfluency, and Stuttering	2
CDS-576	Issues in Counseling	2
SLP-513P	Speech-Language Pathology Practicum III	4
Second Yea	ar	Credit Hours
Fall Term		
SLP-510	Prof Issues-Spch Language Path	2
SLP-562	Craniofacial Anomalies and Genetic Syndromes	2
SLP-535	Clinical Issues in Cultural and Language Diversity	2
SLP-563	Voice Disorders	3
SLP-592	Grand Rounds	1
SLP-589P	SLP Practicum IV	6
Spring Terr	n	
SLP-590P	Speech-Language Practicum V	10
	Program Total:	67

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 American Speech-Language Hearing Association'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 appropriate plans can be made. Students should review their coursework with their academic advisers during the first term of enrollment.

Speech-Language Pathology (MS) Thesis Track: Curriculum

Thesis students may deselect up to 8 credit hours of select coursework (see courses listed with **asterisk). Deselected courses may be audited; audited courses will appear on the student's transcript. 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.

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 6 credit hours. The Spring Year 2 Practicum (SLP Practicum 5) may be reduced to 8 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, for example during academic breaks, 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.

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-506L	Clinical Methods Lab	1
SLP-523L	Instrumentation Lab	1
SLP-537L	Anatomy Lab	1
SLP-521	Language Disorders in Children I: Birth Through Age Five	3
CHS-610	Research Methods in Health Sciences	2
SLP-582	Topics in Research Methods In Communication Disorders	1
SLP-564	Aphasia	3
SLP-511P	Speech-Language Pathology Practicum I	1
Spring Tern	n	
SLP-522	Language Disorders in Children II: Age Six Through Adolescence	3
SLP-558	Dysphagia	3
SLP-567	Dysarthria	3
SLP-568	Cognition of Acquired Language and Communication Disorders	3
SLP-512P	Speech-Language Pathology Practicum II	2
CDS-900	Independent Study	2
Summer Te	rm	
SLP-503L**	Auditory Skills Lab for the Speech-Language Pathologist	1
SLP-526	Speech Sound Disorders	2
SLP-540**	Head and Neck Cancer Management	2
SLP-542L**	Tracheostomy & Ventilator Lab Ventilator Dependent Patients	1
SLP-524**	Fluency, Dysfluency, and Stuttering	2
CDS-576**	Issues in Counseling	2
SLP-513P	Speech-Language Pathology Practicum III	4 - 6
SLP-598	Thesis	2
Second Yea	ır	Credit Hours
Fall Term		
SLP-510**	Prof Issues-Spch Language Path	2
SLP-562**	Craniofacial Anomalies and Genetic Syndromes	2
SLP-535	Clinical Issues in Cultural and Language Diversity	2
SLP-563	Voice Disorders	3
SLP-592	Grand Rounds	1
SLP-589P	SLP Practicum IV	6
SLP-598	Thesis	2
Spring Terr	n	
SLP-590P	Speech-Language Practicum V	8 - 10
SLP-598	Thesis	2
	Program Total:	67

** Indicates course may be audited.

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.

Students on thesis track will begin with Independent Study in Spring 1 and continue with Thesis credit Summer 1, Fall 2 and Spring 2. Total thesis and independent study hours equals 8 credits. Student may audit a maximum of 4 credit hours in Summer 1 and the remaining credit hours in Fall 2 so that auditing hours are < 8. Therefore, credits required to graduate will be equal for thesis and non-thesis students.

DEPARTMENT OF CLINICAL NUTRITION

Clinical Nutrition (MS) Clinical Nutrition: Academic Programs

Master of Science

The MS degree program is for those who hold a baccalaureate degree and wish to expand their understanding of human nutrition through critical evaluation, integration and application of nutrition research. The student has the option of selecting a thesis or non-thesis track. Those in the thesis track are required to take 6 credits of thesis research and will complete their own research project. Those in the non-thesis track will take 1-3 credits of independent study and have a research experience.

Clinical Nutrition: Admission Requirements

All who apply to the College of Health Sciences' MS Clinical Nutrition program must have a baccalaureate degree. Obtaining the MS degree in the College of Health Sciences' Clinical Nutrition program without an accredited, supervised practice will not make the student eligible to sit for the registration exam to become a Registered Dietitian Nutritionist, or RDN.

Prerequisite courses from an accredited U.S. university that are required for admission to the 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, Acting Program Director at Sarah_J_Peterson@rush.edu or call (312) 942-7845.

Acceptance procedures for the MS program 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 MS degree program will receive a letter of acceptance from the Rush University College of Health Sciences Admissions Office. A program acceptance confirmation fee of \$250 is required at this time. This fee is nonrefundable and will be applied to tuition for the first term. There are two tracks in the MS in Clinical Nutrition program: thesis and non-thesis. The student will decide during the first term which track they will pursue.

Required Testing for all Applicants

Applicants for the MS program in Clinical Nutrition will need to submit results of the following:

- GRE graduate school entry exam.
- 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).

Clinical Nutrition: Graduation Requirements

Once admitted into the MS in Clinical Nutrition program, students embark on a journey that entails the accumulation of 36 term hours 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 thesis/nonthesis research experience
- Pass the Rush University Interprofessional course
- Complete a minimum of 16 contact hours of approved professional or community service

Students must complete all program 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.

Clinical Nutrition: Research Activities

There are two tracks in the MS in Clinical Nutrition program: thesis and non-thesis. Students have the option of selecting the thesis or non-thesis track of the degree, but all students will complete some form of research experience. Faculty members of the Department of Clinical Nutrition are involved in basic and applied clinical nutrition and management 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 website.

Clinical Nutrition: Service Activities

Students are required to complete 16 hours of community or professional service during the program. Students meet this requirement in a variety of ways, including assisting at health fairs, volunteering at a local food pantry, and assisting at local, state and national professional association meetings.

Clinical Nutrition: Academic Policies

The MS program is offered on a part-time or full-time basis. A full-time student can complete the program in four terms. All students must complete the program within five years of matriculation. 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. 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.

Academic Progression

Students in the MS program are required to earn grades of C or better in all courses. Failure to earn required grades may result in dismissal from the MS program and will result in a performance review by the Clinical Nutrition Academic Progress and Promotions Committee. The faculty reserves the right to request the withdrawal of any student whose conduct or performance demonstrates lack of fitness for continuance in the graduate program.

Automatic probation for any student results when a student's cumulative GPA falls below 3.0 or when a student receives a grade of D or F in any course. The Clinical Nutrition Academic Progress and Promotions Committee notifies any student placed on probation, states the reason(s) for probation and indicates the conditions that must be satisfied for removal of probation.

A student who earns a grade of D or F in a course must repeat the course and earn at least a C. A student who earns a grade of D or F in more than one required course will be dismissed. Full-time students on probation must earn a cumulative GPA of 3.0 or greater by the end of the next two consecutive terms. Part-time students on probation must earn a cumulative GPA of 3.0 or greater after completing the next three courses (approximately 6 term hours). Improvement in the GPA must be shown each term of probation.

Clinical Nutrition: Technical Standards

Rush University is committed to diversity and to attracting and educating students who will make the population of health care professionals representative of the national population.

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 Clinical Nutrition 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 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 Disability 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 Disability Services to learn more about accommodations at Rush University:

Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services Rush University 600 S. Paulina St., Suite 440 Chicago, IL 60612 (312) 942-5237 Marie_S_Ferro-Lusk@rush.edu

Clinical Nutrition (MS) Non-Thesis Track: Curriculum

First Year		Credit Hours
Fall Term		
CHS-610	Research Methods in the Health Sciences	2
NTR-621	Regulation of Macronutrients & Energy Metabolism in Human Nutrition	3
NTR-682	Research Methods Application and Special Topics in Clinical Nutrition	1
	Electives (see below)	
Spring Ter	m	
CHS-601	Introduction to Biostatistics	2
NTR-611	Advanced Nutrition Care I	3
NTR-692	Seminar in Clinical Nutrition	1
NTR-600	Independent Study	1
	Electives (see below)	
Summer Te	erm	
NTR-691	Nutrition Epidemiology	3
NTR-612	Advanced Nutrition Care II	2
NTR-600	Independent Study	1
	Electives (see below)	
Second Ye	ar	Credit Hours
Fall Term		
NSG-524	Health Promotion in Individuals & Clinical Populations	3
NTR-641	Leadership & Management in Dietetics	3
NTR-600	Independent Study	1
	Electives (see below)	
Electives		
CHS-605	Introduction to Ethics in Healthcare	2
CHS-620	Health Care in America	2
NTR-622	Micronutrient, Phytochemicals and Dietary Supplements in Nutrition	3
NTR-623	Maternal Infant Nutrition	2
NTR-613	Advanced Nutrition Care III	2
	Program Total	36

Clinical Nutrition (MS) Thesis Track: Curriculum

Several programs in the College of Health Sciences either require or have an option for a thesis project. Completing a thesis is a significant academic accomplishment and acknowledges an independent scientific investigation has been conducted by the student that will add to the knowledge to the field. All students are required to have their theses registered with the ProQuest information and learning company. This process includes publication of the thesis abstract, microfilming of the thesis and copyrighting (approximately \$150). The director of the Library of Rush University Medical Center coordinates the process.

First Year		Credit Hours
Fall Term		
CHS-610	Research Methods in the Health Sciences	2
NTR-621	Regulation of Macronutrients & Energy Metabolism in Human Nutrition	3
NTR-682	Research Methods Application and Special Topics in Clinical Nutrition	1
	Electives (see below)	
Spring Ter	m	
NTR-698	Thesis	2
CHS-601	Introduction to Biostatistics	2
NTR-611	Advanced Nutrition Care I	3
NTR-692	Seminar in Clinical Nutrition	1
	Electives (see below)	
Summer Te	erm	
NTR-698	Thesis	2
NTR-691	Nutrition Epidemiology	3
NTR-612	Advanced Nutrition Care II	2
	Electives (see below)	
Second Ye	ar	Credit Hours
Fall Term		
NTR-698	Thesis	3
NTR-641	Leadership & Management in Dietetics	3
NSG-524	Health Promotion in Individuals & Clinical Populations	3
	Electives (see below)	
Electives		
CHS-605	Introduction to Ethics in Healthcare	2
CHS-620	Health Care in America	2
NTR-622	Micronutrient, Phytochemicals and Dietary Supplements in Nutrition	3
NTR-623	Maternal Infant Nutrition	2
NTR-613	Advanced Nutrition Care III	2
	Program Total	36

Clinical Nutrition/Dietetic Internship (MS)

Combined Master's Degree and Dietetic Internship

The combined MS/Dietetic Internship program is a 20-month program that integrates didactic and supervised experience. Students have the option of selecting a thesis or non-thesis track. Upon completion of the program, the student earns an MS degree with a major in clinical nutrition, completes an accredited dietetic internship and is eligible to take the Registration Examination for Dietitians.

The dietetic internship is accredited by the Accreditation Council for Education in Nutrition and Dietetics, the credentialing agency of the Academy of Nutrition and Dietetics:

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

Clinical Nutrition: Admission Requirements

All who apply to the combined MS/Dietetic Internship program must have a baccalaureate degree and a verification statement that represents completion of requirements of an accredited didactic program in dietetics listed by the Accreditation Council for Education in Nutrition and Dietetics at www.eatright.org/ acend.

Application requirements, fees and the application process are specified on the Department of Clinical Nutrition webpage at www.rushu.rush.edu/cndi.

Send questions to Contact Diane Sowa, MBA, RD, Dietetic Internship director, at Diane_C_Sowa@rush.edu or (312) 942-5212.

Students verbally accept the appointment and the Rush Dietetic Internship director will email an acceptance letter form that students are required to complete and return.

Once students are accepted into the Dietetic Internship, they are then required to complete the application for Rush University A program acceptance confirmation fee of \$250 is required at this time. The fee is nonrefundable and will be applied to tuition for the first term.

There are two tracks in the combined MS/Dietetic Internship program. There is a thesis and non-thesis track. The students

will decide during the first term which track they will pursue. Schedules will vary based on the track selected.

Drug Testing

Rush University Medical Center requires that all prospective employees, including dietetic interns, undergo drug testing as a contingency for employment or enrollment.

Criminal Background Check

All dietetic interns 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/Dietetic Internship program need to submit results of the following:

- GRE graduate school entry exam.
- 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).

Clinical Nutrition: Graduation Requirements

Once admitted to the MS/Dietetic Internship program, students embark on a journey that entails the accumulation of 67 credit hours for graduation. This includes a minimum of 1,200 hours of supervised experience. 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 1,200 hours of supervised experience
- Successfully complete all requirements of the thesis/ non-thesis research experience
- Pass the Rush University Interprofessional course
- Complete a minimum of 16 contact hours of approved professional or community service

Dietetic Internship: In order to be eligible to take the registration exam administered by the Commission on Dietetic Registration, students must fulfill all requirements of the Dietetic Internship to receive a verification statement. Students must complete all Dietetic Internship program requirements within 30 months from the time they began the Dietetic Internship. MS degree: Students must complete all program requirements within 5 years from matriculation. Any student who expects to go beyond that timeframe, must request an exception to the policy in writing to the Clinical Nutrition Academic Progress and Promotions Committee.

Clinical Nutrition: Research Activities

Students have the option of selecting the thesis or non-thesis track. Faculty members of the Department of Clinical Nutrition are involved in basic and applied clinical nutrition and management 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 at the Clinical Nutrition and Dietetic Internship webpage.

Clinical Nutrition: Service Activities

Students are required to complete 16 hours of community or professional service during the program. Students meet this requirement in a variety of ways, including assisting at health fairs, volunteering at the local food pantry, and assisting at local, state and national professional association meetings.

Clinical Nutrition: Academic Policies

The combined Master of Science (MS)/Dietetic Internship program is offered on a full-time basis only. The program spans five terms, including the summer term. The supervised practice experiences must be completed within 30 months. The didactic and research components of the master's degree should be completed in five semesters. All students must complete coursework within five years 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.

If a student is not finished in five years, a request for 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.

Academic Progression

Students in the combined MS/Dietetic Internship program are required to earn grades of B or better in NTR 655 and a pass grade of P (equivalent to a grade of B or better) in NTR 650, NTR 651, NTR 652, NTR 653 and NTR 654. Grades of C or better are required in all other courses. Failure to earn minimum required grades may result in dismissal from the combined MS/Dietetic Internship program and will result in a performance review by the Clinical Nutrition Academic Progress and Promotions Committee. The faculty reserves the right to request the withdrawal of any student whose conduct or performance demonstrates lack of fitness for continuance in the graduate program.

Automatic probation for any student results when a student's cumulative GPA falls below 3.0 or when a student receives a grade of D or F in any course. The Clinical Nutrition Academic Progress and Promotions Committee notifies any student placed on probation, states the reason(s) for probation and indicates the conditions that must be satisfied for removal of probation.

A student who earns a grade of D or F in a course other than those listed above must repeat the course and earn at least a C. A student who earns a grade of D or F in more than one required course will be dismissed. Full-time students on probation must earn a cumulative GPA of 3.0 or greater by the end of the next two consecutive terms. Part-time students on probation must earn a cumulative GPA of 3.0 or greater after completing the next three courses (approximately 9 term hours). Improvement in the GPA must be shown each term of probation.

Clinical Nutrition: Technical Standards

Rush University is committed to diversity and to attracting and educating students who will make the population of health care professionals representative of the national population.

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 Clinical Nutrition 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 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
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Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services Rush University 600 S. Paulina St., Suite 440 Chicago, IL 60612 (312) 942-5237 Marie_S_Ferro-Lusk@rush.edu

Clinical Nutrition/Dietetic Internship (MS) Non-Thesis Track: Curriculum

First Year		Credit Hours
Fall STerm		
NTR-650	Supervised Experience in Food Systems Management I	5
NTR-621	Regulation of Macronutrients & Energy Metabolism in Human Nutrition	3
CHS-610	Research Methods in the Health Science	2
IPE-502	Interprofessional Patient Centered Teams	
	Electives (see below)	
Spring Ter	n	
NTR-651	Supervised Experience in Clinical Nutrition I	6
NTR-611	Advanced Nutrition Care I	3
CHS-601	Introduction to Biostatistics	2
NTR-600	Independent Study	1
	Electives (see below)	
Summer Te	rm	
NTR-652	Supervised Experience in Clinical Nutrition II	6
NTR-612	Advanced Nutrition Care II	2
NTR-691	Nutrition Epidemiology	3
NTR-600	Independent Study	1
	Electives (see below)	
Second Ye	ar j	Credit Hours
Fall Term		
NTR-653	Supervised Experience in Clinical Nutrition III	6
NTR-641	Leadership and Management in Dietetics	3
NSG-524		
	Health Promotion in Individuals & Clinical Populations	3
NTR-600	Health Promotion in Individuals & Clinical Populations Independent Study	3
NTR-600	Health Promotion in Individuals & Clinical Populations Independent Study Electives <i>(see below)</i>	3
NTR-600	Health Promotion in Individuals & Clinical Populations Independent Study Electives <i>(see below)</i> n	3
NTR-600 Spring Ter NTR-654	Health Promotion in Individuals & Clinical Populations Independent Study Electives <i>(see below)</i> n Supervised Experience in Clinical Nutrition IV	3 1 5
NTR-600 Spring Ter NTR-654 NTR-655	Health Promotion in Individuals & Clinical Populations Independent Study Electives (see below) n Supervised Experience in Clinical Nutrition IV Management Project	3 1 5 3
NTR-600 Spring Ter NTR-654 NTR-655	Health Promotion in Individuals & Clinical Populations Independent Study Electives <i>(see below)</i> n Supervised Experience in Clinical Nutrition IV Management Project Electives <i>(see below)</i>	3 1 5 3
NTR-600 Spring Ter NTR-654 NTR-655 Electives	Health Promotion in Individuals & Clinical Populations Independent Study Electives <i>(see below)</i> n Supervised Experience in Clinical Nutrition IV Management Project Electives <i>(see below)</i>	3 1 5 3
NTR-600 Spring Ter NTR-654 NTR-655 Electives CHS-605	Health Promotion in Individuals & Clinical Populations Independent Study Electives <i>(see below)</i> n Supervised Experience in Clinical Nutrition IV Management Project Electives <i>(see below)</i> Introduction to Ethics in Healthcare	3 1 5 3
NTR-600 Spring Ter NTR-654 NTR-655 Electives CHS-605 CHS-620	Health Promotion in Individuals & Clinical Populations Independent Study Electives (see below) n Supervised Experience in Clinical Nutrition IV Management Project Electives (see below) Introduction to Ethics in Healthcare Health Care in America	3 1 5 3 3 2 2
NTR-600 Spring Ter NTR-654 NTR-655 Electives CHS-605 CHS-620 NTR-622	Health Promotion in Individuals & Clinical Populations Independent Study Electives (see below) n Supervised Experience in Clinical Nutrition IV Management Project Electives (see below) Introduction to Ethics in Healthcare Health Care in America Micronutrient, Phytochemicals and Dietary Supplements in Nutrition	3 1 5 3 3 2 2 2 3
NTR-600 Spring Ter NTR-654 NTR-655 Electives CHS-605 CHS-620 NTR-623	Health Promotion in Individuals & Clinical Populations Independent Study Electives (see below) n Supervised Experience in Clinical Nutrition IV Management Project Electives (see below) Introduction to Ethics in Healthcare Health Care in America Micronutrient, Phytochemicals and Dietary Supplements in Nutrition Maternal Infant Nutrition	3 1 5 3 3 2 2 3 2
NTR-600 Spring Ter NTR-654 NTR-655 Electives CHS-605 CHS-605 CHS-620 NTR-622 NTR-623 NTR-613	Health Promotion in Individuals & Clinical Populations Independent Study Electives <i>(see below)</i> n Supervised Experience in Clinical Nutrition IV Management Project Electives <i>(see below)</i> Introduction to Ethics in Healthcare Health Care in America Micronutrient, Phytochemicals and Dietary Supplements in Nutrition Maternal Infant Nutrition Advanced Nutrition Care III	3 1 5 3 2 2 3 2 3 2 2 2 2

Clinical Nutrition/Dietetic Internship (MS) Thesis Track: Curriculum

First Year		Credit Hours
Fall Term		
NTR-650	Supervised Experience in Food Systems Management I	5
NTR-621	Regulation of Macronutrients & Energy Metabolism in Human Nutrition	3
CHS-610	Research Methods in the Health Science	2
NTR-682	Research Methods Application and Special Topics in Clinical Nutrition	1
IPE-502	Interprofessional Patient Centered Teams	
	Electives (see below)	
Spring Ter	m	
NTR-651	Supervised Experience in Clinical Nutrition I	6
NTR-611	Advanced Nutrition Care I	3
CHS-601	Introduction to Biostatistics	2
NTR-698	Thesis	3
	Electives (see below)	
Summer Te	erm	
NTR-652	Supervised Experience in Clinical Nutrition II	6
NTR-612	Advanced Nutrition Care II	2
NTR-691	Nutrition Epidemiology	3
NTR-698	Thesis	2
	Electives (see below)	
Second Ye	ar	Credit Hours
Second Ye Fall Term	ar	Credit Hours
Second Ye Fall Term NTR-653	ar Supervised Experience in Clinical Nutrition III	Credit Hours 6
Second Ye Fall Term NTR-653 NTR-641	ar Supervised Experience in Clinical Nutrition III Leadership and Management in Dietetics	Credit Hours 6 3
Second Ye Fall Term NTR-653 NTR-641 NSG-524	ar Supervised Experience in Clinical Nutrition III Leadership and Management in Dietetics Health Promotion in Individuals & Clinical Populations	Credit Hours 6 3 3
Second Ye Fall Term NTR-653 NTR-641 NSG-524 NTR-692	ar Supervised Experience in Clinical Nutrition III Leadership and Management in Dietetics Health Promotion in Individuals & Clinical Populations Seminar in Clinical Nutrition	Credit Hours 6 3 3 1
Second Ye Fall Term NTR-653 NTR-641 NSG-524 NTR-692 NTR-698	ar Supervised Experience in Clinical Nutrition III Leadership and Management in Dietetics Health Promotion in Individuals & Clinical Populations Seminar in Clinical Nutrition Thesis	Credit Hours 6 3 3 1 2
Second Ye Fall Term NTR-653 NTR-641 NSG-524 NTR-692 NTR-698	ar Supervised Experience in Clinical Nutrition III Leadership and Management in Dietetics Health Promotion in Individuals & Clinical Populations Seminar in Clinical Nutrition Thesis Electives <i>(see below)</i>	Credit Hours 6 3 3 1 2
Second Ye Fall Term NTR-653 NTR-641 NSG-524 NTR-692 NTR-698 Spring Ter	ar Supervised Experience in Clinical Nutrition III Leadership and Management in Dietetics Health Promotion in Individuals & Clinical Populations Seminar in Clinical Nutrition Thesis Electives (see below) m	Credit Hours 6 3 3 1 2
Second Ye Fall Term NTR-653 NTR-641 NSG-524 NTR-692 NTR-698 Spring Ter NTR-654	ar Supervised Experience in Clinical Nutrition III Leadership and Management in Dietetics Health Promotion in Individuals & Clinical Populations Seminar in Clinical Nutrition Thesis Electives <i>(see below)</i> m Supervised Experience in Clinical Nutrition IV	Credit Hours 6 3 3 1 2 5
Second Ye Fall Term NTR-653 NTR-641 NSG-524 NTR-692 NTR-698 Spring Ter NTR-654 NTR-655	ar Supervised Experience in Clinical Nutrition III Leadership and Management in Dietetics Health Promotion in Individuals & Clinical Populations Seminar in Clinical Nutrition Thesis Electives <i>(see below)</i> m Supervised Experience in Clinical Nutrition IV Management Project	Credit Hours 6 3 3 1 2 5 3 3
Second Ye Fall Term NTR-653 NTR-641 NSG-524 NTR-692 NTR-698 Spring Ter NTR-654 NTR-655 NTR-658	ar Supervised Experience in Clinical Nutrition III Leadership and Management in Dietetics Health Promotion in Individuals & Clinical Populations Seminar in Clinical Nutrition Thesis Electives <i>(see below)</i> m Supervised Experience in Clinical Nutrition IV Management Project Thesis	Credit Hours 6 3 3 1 1 2 5 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
Second Ye Fall Term NTR-653 NTR-641 NSG-524 NTR-692 NTR-698 Spring Ter NTR-654 NTR-655 NTR-658	ar Supervised Experience in Clinical Nutrition III Leadership and Management in Dietetics Health Promotion in Individuals & Clinical Populations Seminar in Clinical Nutrition Thesis Electives <i>(see below)</i> m Supervised Experience in Clinical Nutrition IV Management Project Thesis Electives <i>(see below)</i>	Credit Hours 6 3 3 1 2 5 3 3 3 3 3
Second Ye Fall Term NTR-653 NTR-641 NSG-524 NTR-692 NTR-698 Spring Ter NTR-654 NTR-655 NTR-698 Electives	ar Supervised Experience in Clinical Nutrition III Leadership and Management in Dietetics Health Promotion in Individuals & Clinical Populations Seminar in Clinical Nutrition Thesis Electives <i>(see below)</i> m Supervised Experience in Clinical Nutrition IV Management Project Thesis Electives <i>(see below)</i>	Credit Hours
Second Ye Fall Term NTR-653 NTR-641 NSG-524 NTR-692 NTR-698 Spring Ter NTR-654 NTR-655 NTR-655 NTR-698 Electives CHS-605	ar Supervised Experience in Clinical Nutrition III Leadership and Management in Dietetics Health Promotion in Individuals & Clinical Populations Seminar in Clinical Nutrition Thesis Electives (see below) m Supervised Experience in Clinical Nutrition IV Management Project Thesis Electives (see below) Introduction to Ethics in Healthcare	Credit Hours
Second Ye Fall Term NTR-653 NTR-641 NSG-524 NTR-692 NTR-698 Spring Ter NTR-654 NTR-655 NTR-658 STR-698 CHS-605 CHS-605	ar Supervised Experience in Clinical Nutrition III Leadership and Management in Dietetics Health Promotion in Individuals & Clinical Populations Seminar in Clinical Nutrition Thesis Electives (see below) m Supervised Experience in Clinical Nutrition IV Management Project Thesis Electives (see below) Introduction to Ethics in Healthcare Health Care in America	Credit Hours
Second Ye Fall Term NTR-653 NTR-641 NSG-524 NTR-692 NTR-698 Spring Ter NTR-654 NTR-655 NTR-658 Electives CHS-605 CHS-620 NTR-622	ar Supervised Experience in Clinical Nutrition III Leadership and Management in Dietetics Health Promotion in Individuals & Clinical Populations Seminar in Clinical Nutrition Thesis Electives (see below) m Supervised Experience in Clinical Nutrition IV Management Project Thesis Electives (see below) Introduction to Ethics in Healthcare Health Care in America Micronutrient, Phytochemicals and Dietary Supplements in Nutrition	Credit Hours
Second Ye Fall Term NTR-653 NTR-641 NSG-524 NTR-698 NTR-698 Spring Ter NTR-654 NTR-655 NTR-655 NTR-698 Electives CHS-605 CHS-600 NTR-622 NTR-623	ar Supervised Experience in Clinical Nutrition III Leadership and Management in Dietetics Health Promotion in Individuals & Clinical Populations Seminar in Clinical Nutrition Thesis Electives (see below) m Supervised Experience in Clinical Nutrition IV Management Project Thesis Electives (see below) Introduction to Ethics in Healthcare Health Care in America Micronutrient, Phytochemicals and Dietary Supplements in Nutrition	Credit Hours
Second Ye Fall Term NTR-653 NTR-641 NSG-524 NTR-692 NTR-698 Spring Ter NTR-654 NTR-655 NTR-658 Electives CHS-605 CHS-605 CHS-620 NTR-623 NTR-613	ar Supervised Experience in Clinical Nutrition III Leadership and Management in Dietetics Health Promotion in Individuals & Clinical Populations Seminar in Clinical Nutrition Thesis Electives (see below) M Supervised Experience in Clinical Nutrition IV Management Project Thesis Electives (see below) Introduction to Ethics in Healthcare Health Care in America Micronutrient, Phytochemicals and Dietary Supplements in Nutrition Maternal Infant Nutrition Advanced Nutrition Care III	Credit Hours

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 competency 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

Program entry requirements include satisfactory completion of two years of specified, lower-division coursework at a regionally accredited college or university. Upper-division course work for the Bachelor of Science degree in the Health Sciences program may be completed in as few as 21 months, full-time. Students can elect a part-time option.

Admission to the program is on a competitive basis. Student selection will be based on a number of factors, including overall grade-point average, prerequisite grade-point average, consistency of academic performance, course work completed prior to application and communication abilities.

Requirements for admission to the professional phase of the program include the following:

• A minimum of 60 credit hours (90- hours) of lower-division undergraduate coursework from a regionally U.S.-accredited institution.

- A recommended overall GPA of 2.75 out of 4.0 in undergraduate course work.
- Completion of all professional prerequisite courses with a grade of C or better.
- Official transcripts from all colleges attended.
- A personal interview with program faculty.
- Three letters of recommendation.
- Completed application to the program and submission of official transcripts for all college course work completed.
- 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, or TOEFL. A waiver of this requirement way be requested if the individual has 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.

Courses Required for Admission

For admission to the BS in Health Sciences program, students are required to complete, at minimum, the core general education requirements detailed below. In preparation for graduate school, hours may vary based on graduate program for which the student is preparing. For specific courses, see the Minimum Core General Education Requirements section.

A minimum of 60 semester credit hours (90-quarter hours) of lower-division undergraduate coursework from a regionally U.S. accredited institution is required prior to admission to the BS in Health Sciences program. Prerequisite courses must include general and biological sciences, mathematics, communications, the social sciences and humanities. Specific prerequisite courses may vary depending on the unique prerequisite requirements of the graduate-level health professional program of interest to the student. For example, the prerequisite lower-division coursework required for medical school, though similar, may not be the same as that required for application to graduate school in the area of occupational therapy. Specific prerequisite courses are described below.

- Chemistry (8-20 hours)
- Biology (16-20 hours)
- Physics (4-8 hours)
- Mathematics and statistics (6-12 hours)
- Communications (6 hours)
- Social sciences (6 hours)
- Humanities and fine arts (6 hours minimum)
- Electives (3-9 semester hours)

Application for Admission

Application for admission into the Bachelor of Science in Health Science program must be made through the Rush University application website before Aug. 1 for admission into the class entering in September. September is the only admission time for entry into the program. Prospective applicants may submit transcripts and a request for an unofficial evaluation:

College of Health Sciences 600 S. Paulina St., Suite 1001 Chicago, IL 60612 (312) 942-7120

Minimum Core General Education Requirements

All entering students must complete the following core general education requirements in order to be eligible for the Bachelor in Science degree in the Health Sciences program.

Requirements	Semester Hours	Quarter Hours	
Two courses in communications (English composition) is required	6	9	
One course in mathematics (college algebra or higher)	3	4	
Two courses in life sciences (anatomy, biology, microbiology, pathophysiology, physiology	/) 6	9	
One course in physical sciences (chemistry, physics)	3	4	
One course in social sciences (government, history, political science, psychology, sociolog	y) 3	4	
One course in humanities (ethics, fine arts, literature, philosophy) Performance courses do not meet this requirement	3	4	
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	

Lower-Division Course Work

Lower-division coursework must have been completed at a regionally accredited college or university. However, lowerdivision courses will vary depending on the student's graduate school and career goals. Pre-medicine, pre-nursing and preallied health professional programs each have unique prerequisite requirements.

The following general list encompasses most requirements, including suggested courses. Variations in requirements is based on intended degree and selected school.

- Chemistry (8-20 semester hours)
 - General chemistry with laboratory (4-8 CR)
 - Organic chemistry with laboratory (0-8 CR)
 - Biochemistry with laboratory (0-4 CR)
 - Students may elect one semester organic (4 CR) and one semester biochemistry with laboratory (4 CR)
 - Biochemistry may be taken in year three at Rush if it is not completed as a pre-requisite.

- Biology (16-20 semester hours)
 - General biology with laboratory (4-8 CR)
 - Microbiology with laboratory (4 CR)
 - Anatomy with laboratory (4 CR)
 - Physiology with laboratory (4 CR)
- Physics (4-8 semester hours)
 - Physics with laboratory (4-8 CR)
- Mathematics and statistics (6-12 semester hours)
 - College algebra
 - Calculus I, II
 - Statistics (3 CR)
- Communications (6 CR)
- Social sciences (6 CR)
 - General psychology (3 CR)
 - Sociology (0-3 CR)
 - Developmental psychology (0-3 CR)
- Humanities and fine arts (6 CR minimum)
- Electives (3-9 CR)

Health Sciences (BS): Technical Standards

Rush University is committed to diversity, and to attracting and educating students who will make the population of health care professionals 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.

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 Disability 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 Disability Services to learn more about accommodations at Rush University:

Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services Rush University 600 S. Paulina St., Suite 440 Chicago, IL 60612 (312) 942-5237 Marie_S_Ferro-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 gradepoint 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 an F or N grade in any course must 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. Students who receive a second D, F or N grade in the same academic year will be dismissed from the program, regardless of cumulative grade-point average.

Residency Requirement

The Bachelor of Science degree in Health Sciences requires a minimum of 120 semester hours. This includes at least 60 hours earned at a lower division college or university, or at an affiliated college. A minimum of 60 Semester hours of academic credit shall be earned as an upper-division student in academic residence at Rush University. Candidates for the Bachelor of Science degree must earn a 2.0 cumulative grade point average in all computed upper division credits taken at Rush University. Participation in cap and gown at commencement exercises is expected of all graduates.

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 offered within two concentrations:

- Medical sciences
- Leadership and community wellness

Students must complete a minimum of 60 credit hours of upperdivision coursework to include a minimum of 28 Credit hours in the required core and at least 32 credit hours of required concentration coursework and electives, as approved by their academic adviser.

Core Courses Required of All Students

Course		Credits
HSC-354	Introduction to Health Professions	3
HSC-352	Professional Writing	3
HSC-448	Health Care Ethics	2
HSC-364	Health Care Systems and Policies	1
HSC-358	Global Health	3
HSC-366 Or	Introduction to Research	3
IS-463	Research & Statistical Methods	3
HSC-462	Practicum	9
HSC-464	Capstone	3
HSC-372	Medical Terminology	1

Medical Sciences Concentration

Course		Credits
HSC-360	Anatomy with Laboratory	4
HSC-350	Medical Physiology	4
HSC-362	Clinical Immunology	3
HSC-445	Fundamentals of Neuroscience	3
HSC-454	Principles of Biochemistry	4
HSC-368	Genetics	3
HSC-458	Microbiology	3
HSC-459	Pharmacology	3
HSC-455	Pathophysiology	3

Leadership and Community Wellness Concentration

Course		Credits
HSC-460	Management Principles	3
HSC-461	Leadership Theory & Practice	3
HSC-467	Issues and Trends in Health Care	3
HSC-480	Principles and Health & Wellness	3
HSC-483	Community Health	4
HSC-371	Health Education	3

Additional Electives

Elective courses must be approved by the student's academic advisor and the program director and correspond with the student's career goals. The Bachelor of Science Degree requires a minimum of 60 semester hours and will require students to complete approved electives.

Course		Credits
HSC-356	Biostatistics	3
HSC-425	Health Care Informatics	2
HSC-435	Nutrition	3
HSC-446	Health Care Disparities	3
HSC-447	Epidemiology	3
HSC-485	Fitness & Health	2

Sample Plan of Study: Medical Science Concentration

First Year		Credit Hours		
Fall Term				
HSC-354	Introduction to the Health Professi	ions 3		
HSC-352	Professional Writing	3		
HSC-360	Human Anatomy/Lab	4		
HSC-368	Genetics	3		
Spring Term				
HSC-358	Global Health	3		
HSC-350	Medical Physiology	4		
HSC-445	Fundamentals of Neuroscience	3		
HSC-372	Medical Terminology	1		
HSC-448	Health Care Ethics	2		
Summer Term				
HSC-362	Clinical Immunology	3		
HSC-458	Microbiology	3		
HSC-467	Issues and Trends in Health Care	3		
HSC-454	Principles of Biochemistry	4		
Second Ye	ar Cr	edit Hours		
Fall Term				
HSC-366	Introduction to Research	3		
HSC-455	Pathophysiology	3		
HSC-464	Capstone	3		
Spring Term				
HSC-480	Principles and Health & Wellness	3		
HSC-364	Health Care Systems and Policies	1		
HSC-462	Practicum	9		

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 student's academic adviser.

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.

Health Sciences (PhD): 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 principal 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 all 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.

Health Sciences (PhD): 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 upon completion of all course work 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 CR), education (9 CR), research (18 CR), professional development (3 CR) and dissertation research (12 CR minimum). The professional development courses are based on learning contracts that provide opportunities for advanced mentored learning and skill development in the allied health 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 sciences related field.

Health Sciences (PhD): 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.

- Submit scores from the GRE graduate school entry exam or Medical College Admission Test, or MCAT. Please use the Rush University institution code (3263).
- 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, degree of course difficulty and GRE or MCAT scores. 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 director for review. If an applicant meets all the college and program admission criteria and, following an interview, the program director 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 (312) 942-8271 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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Health Sciences (PhD): Curriculum

Student Learning Objectives

- 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 selfassessment of learner's current leadership and educational operational basis with the development of individual action plans for improvement and growth
- 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
- 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

Prior to graduation, all students in the program will demonstrate achievement of the competencies described above.

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.

Leadersh	nip Core Courses	Credits
HSC-631	Composition for Effective Professional W	riting 3
HSC-632	Leadership Theory	3
HSC-633	Leadership in Higher Education	3
HSC-634	Issues and Trends in Health Care	3
Educatio	n Core Courses	Credits
HSC-641	Education Theory and Methods	3
HSC-642	Curriculum and Instruction	3
HSC-643	The Adult Learner	3
Research	n Core Courses	Credits
HSC-652	Research Process: Quantitative Design & Methods I	3
HSC-653	Research Process: Quantitative Design & Methods 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
Professio	onal Development	Credits
HSC-661	Professional Development I	1
HSC-662	Professional Development II	1
HSC-663	Professional Development III	1
Indepen	dent Study	Credits
HSC-900	Independent Study	1-12
Disserta	tion Research	Credits
HSC-699	Dissertation Research	3
Program Total:		54

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 practitionerteacher 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. Our practitioner-teacher model integrates lifelong learning, scholarship and service to ensure our diverse students, faculty and alumni are leaders in transforming health care.

Our curriculum is designed to provide the knowledge, skills, abilities and values required to succeed in the field of health care management. An emphasis on competency and professional skills development - and an orientation toward lifelong learning - ensures new graduates are well-prepared for early careerist positions and our alumni hold positions of increasing responsibility during their careers.

Our practitioner-teacher model provides leadership development opportunities for the faculty, ensuring they stay abreast of the most recent conceptual frameworks and best practices in the field. Their roles as practitioner-faculty provide them with opportunities to teach and mentor the next generation of health care leaders.

Vision

Our program will be recognized as one of the premier health administration graduate programs in the nation. Our practitioner-teacher model will be recognized as an ideal way to educate and train health administration graduate students. Through participation in the program's practitioner-teacher model, our faculty will be known for innovation and excellence in health care management practice, education and scholarship.

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. The two prerequisite courses, which consist of an undergraduate course in accounting and an undergraduate course in statistics, also must be completed prior to enrollment but you may apply to the program while this is in progress. An undergraduate course in microeconomics is highly recommended.

Applicants fill out an online application, provide three letters of recommendation and submit official copies of their college/ university transcripts from every college/university previously attended. In addition, they submit scores from either the -GRE graduate school entry exam or the Graduate Management Aptitude Test, or GMAT. International students also 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.

Qualified applicants are invited to Rush for an admissions visit. The visit typically includes four faculty interviews, lunch with a current student and a tour of Rush campus.

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 parttime 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 Management, Human Resources, Finance, Medical Affairs, Community Health, Long-Term Care, Quality, Rush University Childrens Hospital, Patient Relations, Emergency Management, Rush Health, Emergency Department, Health and Aging, Strategic Outreach, Population Health, Supply Chain, and Rush University Medical Group. Please note, sites may vary year to year.

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. The job sites vary year to year. More information 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.

Rush Center for the Advancement of Health Care Value

The vision of the Rush Center for the Advancement of Health Care Value is to be recognized globally as an innovator in conducting research that prepares leaders for the future of health care.

Our center is housed within the Department of Health Systems Management at Rush University. Our center's work is grounded in interdisciplinary research and focuses on translating research into practice and uses practice as a foundation for research. Our research is differentiated by the following:

- Academically based center with close ties to the practice community
- Strong focus on leadership development in health care research and practice
- Pursuit of objective knowledge
- Experts in advanced analytic methods
- Proficiency in large multisource database analyses

Our research focuses on evaluating ways to improve the value of care provided by health care organizations. This work addresses important challenges that relate to the following:

Organizational excellence and leadership (OEL)

The organizational excellence and leadership program focuses on improving health care value by understanding the critical roles of leadership, governance, leadership development and other high-performance work practices in organizational outcomes, such as patient experience and financial performance.

The patient experience

Rush University Medical Center has a long history of providing and researching best practices in patient care. The Patient Experience Research Initiative, within the Health Systems Management program, works to further develop the understanding of the patient experience and promote scholarship to provide empirically based knowledge on the experience of patients.

Health care value, quality and safety

The health care value, quality and safety program focuses on the following topics:

- Lean operations
- Throughput improvements
- Education in variation and standardization
- Just culture
- · Informed decision-making and problem-solving
- Change management
- Sustainability strategies in health care organizations

Population health

Population health research focuses on identifying the patterns of health determinants and their relationships with health

outcomes among populations. The design is to implement evidence-based practice or interventions at an individual or societal level to reduce health disparities among vulnerable populations, such as racial and ethnic minorities, the uninsured, low-income children and women, and the elderly.

International health

The department's international health care research program focuses on improving value by strengthening the evidence base for improving the value of health care through global exchange. Our research includes macro- and micro-level drivers of health care exports and international medical travel.

Workforce of the future

Our research on the workforce of the future focuses on improving health care value by strengthening the pipeline of talented professionals into critical health care positions, with a special emphasis on understanding and addressing the challenges faced by early careerists from disadvantaged and underrepresented groups.

Interprofessionalism

Interprofessionalism in health care delivery and health care education is becoming increasingly recognized as a cornerstone of improved service delivery. Research in this area focuses on the differential outcomes associated with a coordinated, teambased approach to service delivery.

For more information about our center, contact Tricia Johnson, PhD, associate chair of Research and Education, professor and director, at (312) 942-7107 or tricia_j_johnson@rush.edu.

Health Systems Management: Technical Standards

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- 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 Disability 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 Disability Services to learn more about accommodations at Rush University:

Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services Rush University 600 S. Paulina St., Suite 440 Chicago, IL 60612 (312) 942-5237 Marie_S_Ferro-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 manage¬ment. 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 & the Patient Experience	3
HSM-608	Human Resource Management	3
HSM-610	Professional Seminar	3
HSM-612	Health Care Corporate Finance	4
HSM-620	HSM Internship	1
Spring Teri	n	
HSM-616	Health Informatics	3
HSM-622	HSM Internship	1
HSM-628	Health Care Economics & Payment Systems	4
HSM-632	Statistics for Health Care Management	2
HSM-636	Quality, Safety & Operational Improvement in Healthcare	4
HSM-688	Topics in Health Systems Management	2
Second Yea	ar	Credits
Second Yea Fall Term	ar	Credits
Second Yea Fall Term HSM-640	ar Health Care Planning & Marketing	Credits 2
Second Yea Fall Term HSM-640 HSM-644	ar Health Care Planning & Marketing Health Care Managerial Finance & Seminar	Credits 2 4
Second Yea Fall Term HSM-640 HSM-644 HSM-648	ar Health Care Planning & Marketing Health Care Managerial Finance & Seminar Health Law & Ethics for Health Care Managers	Credits 2 4 3
Second Yea Fall Term HSM-640 HSM-644 HSM-648 HSM-652	Ar Health Care Planning & Marketing Health Care Managerial Finance & Seminar Health Law & Ethics for Health Care Managers Health Policy	2 4 3 2
Second Yea Fall Term HSM-640 HSM-644 HSM-648 HSM-652 HSM-656	Health Care Planning & Marketing Health Care Managerial Finance & Seminar Health Law & Ethics for Health Care Managers Health Policy Master's Project I	Credits 2 4 3 2 3 3 3
Fall Term HSM-640 HSM-644 HSM-648 HSM-652 HSM-656 Spring Terr	Health Care Planning & Marketing Health Care Managerial Finance & Seminar Health Law & Ethics for Health Care Managers Health Policy Master's Project I n	Credits 2 4 3 2 3 2 3
Second Yea Fall Term HSM-640 HSM-644 HSM-644 HSM-648 HSM-652 HSM-656 Spring Terr HSM-660	Ar Health Care Planning & Marketing Health Care Managerial Finance & Seminar Health Law & Ethics for Health Care Managers Health Policy Master's Project I Master's Project II	Credits 2 4 3 2 3 2 3 2 2 2
Second Yea Fall Term HSM-640 HSM-644 HSM-648 HSM-652 HSM-656 Spring Term HSM-660 HSM-664	Ar Health Care Planning & Marketing Health Care Managerial Finance & Seminar Health Law & Ethics for Health Care Managers Health Policy Master's Project I Master's Project I Organizational Analysis & Change Leadership and Lifelong Learning	Credits 2 4 3 2 3 2 3 2 4
Second Yea Fall Term HSM-640 HSM-644 HSM-648 HSM-652 HSM-656 Spring Tern HSM-660 HSM-668	Ar Health Care Planning & Marketing Health Care Managerial Finance & Seminar Health Law & Ethics for Health Care Managers Health Policy Master's Project I n Master's Project II Organizational Analysis & Change Leadership and Lifelong Learning Managerial Epidemiology	Credits 2 4 3 2 3 2 3 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2
Second Yea Fall Term HSM-640 HSM-644 HSM-648 HSM-656 Spring Tern HSM-660 HSM-664 HSM-668 HSM-662	Ar Health Care Planning & Marketing Health Care Managerial Finance & Seminar Health Law & Ethics for Health Care Managers Health Policy Master's Project I Master's Project I Organizational Analysis & Change Leadership and Lifelong Learning Managerial Epidemiology Capstone: Strategic Management of Health Care Organizations	Credits 2 4 3 2 3 2 3 2 4 2 4 2 4 2 4 2 2 4 2 2 2 2 2 2 2 2 2 2 2
Second Yea Fall Term HSM-640 HSM-644 HSM-648 HSM-652 HSM-656 Spring Tern HSM-660 HSM-664 HSM-668 HSM-672 HSM-688	Ar Health Care Planning & Marketing Health Care Managerial Finance & Seminar Health Law & Ethics for Health Care Managers Health Policy Master's Project I Master's Project I Organizational Analysis & Change Leadership and Lifelong Learning Managerial Epidemiology Capstone: Strategic Management of Health Care Organizations Topics in Health Systems Management	Credits 2 4 3 2 3 2 3 2 4 2 4 2 4 2 2 2 2 2 2 2 2 2 2 2 2 2 </td

Health Systems Management, Part-Time (MS)

First Year		Credits
Fall Term		
HSM-606	Health Care Organization & the Patient Experience	3
HSM-610	Professional Seminar	3
Spring Ter	m	
HSM-632	Statistics for Health Care Management	2
HSM-616	Health Informatics	3
HSM-688	Topics in Health Systems Management	2
Second Ye	ar	Credits
Fall Term		
HSM-608	Human Resources Management	3
HSM-612	Health Care Corporate Finance	4
Spring Ter	m	
HSM-628	Health Care Economics & Payment Systems	4
HSM-636	Quality, Safety & Operational Improvement in Healthcare	4
Third Year		Credits
Fall Term		
HSM-640	Health Care Planning & Marketing	2
HSM-644	Health Care Managerial Finance & Seminar	4
HSM-652	Health Policy	2
Spring Ter	m	
HSM-664	Organizational Analysis & Change Leadership & Lifelong Learning	4
HSM-668	Managerial Epidemiology	2
HSM-688	Topics in Health Systems Management	2
Fourth Yea	r	Credits
Fall Term		
HSM-648	Health Law & Ethics for Health Care Managers	3
HSM-656	Master's Project I	3
Spring Ter	m	
HSM-660	Master's Project II	2
HSM-672	Capstone: Strategic Management of Health Care Organizations	2
HSM-688	Topics in Health Systems Management	2
Internship	Requirement	
All part-time	e students are required to register for 2 credits of part-time internship coursework. This can be taker	in either the
HSM-674	HSM Part-Time Internshin	1-3
		1 2
113101-020		1-5
	Program lotal:	58

DEPARTMENT OF MEDICAL IMAGING SCIENCES

Imaging Sciences (BS)

About the Profession

Radiologic imaging science, also known as radiologic technology or medical radiography, is the allied health profession responsible for diagnostic and interventional medical radiographic imaging. Under the supervision of physicians, imaging sciences professionals provide medical imaging services to patients.

Program Overview

The Rush University Bachelor of Science in Imaging Sciences program offers an opportunity for registered radiologic technologists to advance their education by obtaining a bachelor's degree and skills that are significant to their current profession. This program offers the radiologic technologist an opportunity for advancement in employment and prepares advanced medical imaging technologists for professional leadership roles.

This program will provide graduates with the knowledge, skills and professional competencies needed to perform advancedlevel imaging in computed tomography (CT), magnetic resonance imaging (MRI), cardiac-interventional (CI), vascularinterventional (VI) and other advanced imaging modalities.

The Bachelor of Science in Imaging Sciences is a career ladder program to provide advanced training and education for certified imaging technologists. In addition to the program prerequisites, the program requires a minimum of 74 term credit hours taken at the upper-division undergraduate level. The professional phase of the program, which consists of imaging sciences coursework and clinical fieldwork, is completed at Rush University and its affiliated clinical sites. The program is dedicated to clinical and academic excellence and includes more than 1,000 hours of in-hospital clinical practice. As a leadership program in imaging sciences, the program is designed to provide graduates with the opportunity to gain the foundation needed to assume professional leadership roles in clinical practice, clinical specialty areas, education and management.

Students accepted into the professional phase normally begin course work in the fall term of the first year of the program, though students may begin taking classes at other times during the year with permission of the program director. Coursework in the professional phase may be taken on a full-time (over 24 months) or part-time basis. Each student will develop an individualized program to be approved by the program director. As a part of the program, graduates will complete the clinical training required to be eligible for post-primary pathway to certification in CT, MRI, CI or VI offered by the American Registry of Radiologic Technologists. An entry-level MRI track is available to students who are not licensed in radiography or nuclear medicine. Licensure or eligibility for accreditation in the practice of medical radiation technology by the Illinois Emergency Management Agency is not required for successful completion of the MRI track, as MRI is a non-ionizing imaging modality. The MRI entry-level track is recognized as an MRI primary-pathway educational program 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, chemistry, human anatomy and physiology, physics, speech, humanities or social sciences, microbiology, statistics and computer science. Note: Some prerequisites may be taken concurrently while enrolled in the program. Contact the program for more information. All general education requirements must be met prior to the awarding of the bachelor's degree.
- Successful completion of program prerequisites with a grade of at least C or higher from a regionally accredited college or university.
- Associate's 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 entrylevel MRI track).
- Completed application to the program and submission of official transcripts for all college coursework completed.
- Scheduled interview 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, or 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
Communications (English, composition)	6	8
Speech (oral communication)	3	4
Mathematics (college algebra or higher)	3	4
Humanities, philosophy or ethics	6	8
Fine arts (may not include a performance class)	3	4
Social and behavioral sciences (must include at least one course in psychology)	9	12
Elective courses in communications, humanities, fine arts, philosophy, ethics, social scier life sciences, physical sciences or computer science to total 60 semester credit hours for for the core general education requirements for the college.	nces, 4	17
Total	34	57
Science Education Courses	Semester Hours	Quarter Hours
Science Education Courses Human anatomy and physiology (4 hours anatomy and 4 hours physiology)	Semester Hours 8	Quarter Hours 10
Science Education Courses Human anatomy and physiology (4 hours anatomy and 4 hours physiology) Chemistry (with lab)	Semester Hours 8 4	Quarter Hours 10 5
Science Education Courses Human anatomy and physiology (4 hours anatomy and 4 hours physiology) Chemistry (with lab) Physics (with lab)	Semester Hours 8 4 4 4	Quarter Hours 10 5 5
Science Education Courses Human anatomy and physiology (4 hours anatomy and 4 hours physiology) Chemistry (with lab) Physics (with lab) Computer science (includes computer literacy)	Semester Hours 8 4 4 3	Quarter Hours 10 5 5 4
Science Education CoursesHuman anatomy and physiology (4 hours anatomy and 4 hours physiology)Chemistry (with lab)Physics (with lab)Computer science (includes computer literacy)Statistics	Semester Hours 8 4 4 3 3 3	Quarter Hours 10 5 5 4 4 4
Science Education CoursesHuman anatomy and physiology (4 hours anatomy and 4 hours physiology)Chemistry (with lab)Physics (with lab)Computer science (includes computer literacy)StatisticsMedical terminology	Semester Hours 8 4 4 3 3 2	Quarter Hours 10 5 5 4 4 4 3

Imaging Sciences (BS): Technical Standards

Rush University is committed to diversity and to attracting and educating students who will make the population of health care professionals 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.

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 Disability 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 Disability to learn more about accommodations at Rush University:

Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services 600 S. Paulina St., Suite 440 Chicago, IL 60612 (312) 942-5237 Marie_S_Ferro-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 percent (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 endof-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 quarter. 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).

Proctored Exams

The Imaging Sciences Program requires course exams to be proctored and encourages the proctoring to conducted at Rush University. For those students unable to come to Rush University, an official proctoring site may be approved by the program director. Any upfront proctoring charges are the responsibility of the student and will be reimbursed at the end of the semester term.

Procedures for Students with Disabilities

Rush University is committed to attracting and educating students who will help to make the health care profession representative of the national population, including individuals with disabilities. Part of Rush University's mission is to promote diversity among its student population and to provide equal access to its facilities, programs, services and learning opportunities. In keeping with this mission, the University encourages students with disabilities to engage the Office of Student Disability Services as soon as they begin their program.

Students should feel free to contact Marie Ferro-Lusk, manager of Student Disability Services for Rush University, to engage in a confidential conversation about the process for requesting reasonable accommodations in the classroom and clinical settings. Accommodations are not provided retroactively at the University. Additional information can be found online at the Office of Student Disability Services webpage (www.rushu.rush. edu/office-student-disability-services) or by contacting the Office of Student Disability Services.

To respect student's privacy and ensure a thoughtful interactive discussion, students should not make accommodation requests to individual faculty members, lecturers, or course directors. Instead, please contact the Office of Student Disability Services:

Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services (312) 942-5237 Marie_S_Ferro-Lusk@rush.edu

Information on requesting accommodations for disabilities is available in the student catalog and below. For information or to request an accommodation, please contact your college representative listed below.

Rush University Student Disability Assessment Team (RUSDAT)

College of Health Sciences (Joanne Schupbach, MS, MA) (312) 942-3676 Joanne_E_Schupbach@rush.edu

Further information can be found at

www.rushu.rush.edu/office-student-disability-services

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

Imaging Sciences (BS): Curriculum

Imaging Sciences (BS): Computed Tomography (CT) Track

First Yea	r Crea	lits
Fall Term	1	
IS-310	Sectional Anatomy & Pathology	1-5
IS-314	Pathophysiology	1-4
IS-337	Computed Tomography (CT) Physics	3
IS-453	Computed Tomography Positioning and Protocols	3
Spring T	erm	
IS-318	Patient Assessment	3
IS-458	Leadership	3
IS-331	Education	3
IS-338	Advanced Radiation Biology	3
Summer	Term	
IS-447P	Clinical Practicum I	6
IS-448	Clinical Seminar I	3
IS-325	Pharmacology and Radiologic	
	Contrast Agents	3
Second Y	Year Crea	lits
Fall Tern	1	
CHS-364	Health Care Systems & Policies	1
IS-463	Research & Statistical Methods	3
IS-457P	Clinical Practicum II	6
IS-449	Clinical Seminar II	3
Spring T	erm	
IS-468	Clinical Seminar III	3
IS-467P	Clinical Practicum III	6
IS-454	Health Care Ethics and Cultural Competence	e 4
	Program Total:	65

NOTE: All professional, leadership and clinical courses require a grade of C or better for the student to continue in the Imaging Sciences degree program course sequence. Failure to complete an Imaging Sciences professional course with a letter grade of C or better will subject the student to review by the Committee on Progress and Promotions and may result in the student being dismissed from the program. 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 Committee on Progress and Promotions for Imaging Sciences.

Imaging Sciences (BS): Vascular Interventional Radiography (VIR) Track

First Yea	ır Cr	edits
Fall Tern	1	
IS-310	Sectional Anatomy & Pathology	1-5
IS-314	Pathophysiology	1-4
IS-328	Vascular Interventional Technology	6
Spring T	erm	
IS-318	Patient Assessment	3
IS-331	Education	3
IS-338	Advanced Radiation Biology	3
IS-458	Leadership 3	3
Summer	Term	
IS-448	Clinical Seminar I	3
IS-325	Pharmacology and Radiologic	
	Contrast Agents	3
IS-447P	Clinical Practicum I	6
Second '	Year Cr	edits
Fall Tern	1	
IS-467P	Clinical Practicum III	6
IS-449	Clinical Seminar II	3
IS-463	Research & Statistical Methods	3
CHS-364	Health Care Systems & Policies	1
Spring T	erm	
IS-467P	Clinical Practicum III	6
IS-468	Clinical Seminar III	3
IS-454	Health Care Ethics and Cultural Competer	nce 4
	Program Total:	65

NOTE: All professional, leadership and clinical courses require a grade of C or better for the student to continue in the Imaging Sciences degree program course sequence. Failure to complete an Imaging Sciences professional course with a letter grade of C or better will subject the student to review by the Committee on Progress and Promotions and may result in the student being dismissed from the program. 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 Committee on Progress and Promotions for Imaging Sciences.

Imaging Sciences (BS): Magnetic Resonance Imaging (MRI) Track (ARRT Students)

First Yea	ır C	redits
Credit b	y ARRT Proficiency	
IS-305	Introduction to Imaging Sciences	3
IS-307	Introduction to Patient Care	1-3
Fall Tern	n	
IS-310	Sectional Anatomy & Pathology	1-5
IS-463	Research & Statistical Methods	3
IS-314	Pathophysiology	1-4
Spring T	erm	
IS-336	MRI Physics	5
IS-318	Patient Assessment	3
IS-444	MRI Positioning and Protocols	4
Summer	Term	
IS-447P	Clinical Practicum I	6
IS-448	Clinical Seminar I	3
IS-325	Pharmacology and Radiologic	3
	Contrast Agents	
IS-340	MRI Safety	3
Second	Year C	redits
Fall Tern	1	
CHS-364	Health Care Systems and Policies	1
IS-458	Leadership 3	3
IS-457P	Clinical Practicum II	6
IS-449	Clinical Seminar II	3
Spring T	erm	
IS-454	Health Care Ethics and Cultural Compete	nce 4
IS-331	Education	3
IS-468	Clinical Seminar III	3
IS-467P	Clinical Practicum III	6
	Program Total:	74
	(6 credits through AART profic	iency)

NOTE: All professional, leadership and clinical courses require a grade of C or better for the student to continue in the Imaging Sciences degree program course sequence. Failure to complete an Imaging Sciences professional course with a letter grade of C or better will subject the student to review by the Committee on Progress and Promotions and may result in the student being dismissed from the program. 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 Committee on Progress and Promotions for Imaging Sciences.

Imaging Sciences (BS): Entry-Level Magnetic Resonance Imaging (MRI) Curriculum

First Yea	ır C	redits	
Fall Tern	n		
IS-305	Introduction to Imaging Sciences	3	
IS-307	Introduction to Patient Care	1-3	
IS-310	Sectional Anatomy & Pathology	1-5	
IS-314	Pathophysiology	1-4	
Spring T	erm		
IS-336	MRI Physics	5	
IS-444	MRI Positioning and Protocols	4	
IS-458	Leadership 3	3	
IS-318	Patient Assessment	3	
Summer	' Term		
IS-458	Leadership 3	3	
IS-340	MRI Safety	3	
IS-325	Pharmacology and Radiologic	3	
	Contrast Agents		
Second	Year C	redits	
Fall Tern	n		
CHS-364	Health Care Systems and Policies	1	
IS-457P	Clinical Practicum II	6	
IS-449	Clinical Seminar II	3	
IS-463	Research & Statistical Methods	3	
Spring T	erm		
IS-467P	Clinical Practicum III	6	
IS-468	Clinical Seminar III	3	
IS-454	Health Care Ethics and Cultural Competer	nce 4	
IS-331	Education	3	
	Program Total:	74	

NOTE: All professional, leadership and clinical courses require a grade of C or better for the student to continue in the Imaging Sciences degree program course sequence. Failure to complete an Imaging Sciences professional course with a letter grade of C or better will subject the student to review by the Committee on Progress and Promotions and may result in the student being dismissed from the program. 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 Committee on Progress and Promotions for Imaging Sciences.

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 (5 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 andpatient 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: 25400 U.S. Highway 19 N, Suite 158, Clearwater, FL 33763, 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 2.50 on a 4.0 scale. However, 100 percent of students admitted in the previous four years had a cumulative incoming GPA over 2.75.
- 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 in 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.

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.

Requirements Semester Credits Hours/Quarter Credit Hours

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	6 topic.	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 sciencesa Human anatomy and physiology is required (two semesters are highly recommended. Please be sure to fulfill this requirement by taking a physics course that is for science majors.	6	9
One course in physical sciences General physics is required. Chemistry is highly recommended. Please be su to fulfill this requirement by taking a physics course that is for science majo	re 3 rs.	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

Vascular Ultrasound and Technology (BS): Technical Standards

Rush University is committed to diversity and to attracting and educating students who will make the population of health care professionals 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.

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 Disability 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 Disability Services to learn more about accommodations at Rush University:

Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services 600 S. Paulina St., Suite 440 Chicago, IL 60612 (312) 942-5237 Marie_S_Ferro-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.

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 Patient Centered Teams	
Spring Terr	m	
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 Patient Centered Teams	
Second Ye	ar	Credit Hours
Summer Te	erm	
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 Ter	m	
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	70

DEPARTMENT OF MEDICAL LABORATORY SCIENCE

Medical Laboratory Science

The Department of Medical Laboratory Science currently offers two degree programs: the Master of Science, 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.

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 for the Diplomate in Laboratory Management 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:

- Compare traditional and non-traditional organizational structures and construct an organizational chart
- Create five steps that managers should take to make the best decisions and utilize the tools that are used in a decisionmaking process
- 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
- Construct a performance evaluation mechanism that incorporates the basic components of a job description
- 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
- Reflect on current management skills, identify areas that need improvement and utilize course resources to become a more effective manager
- Demonstrate effective leadership and effective communication in the clinical laboratory
- Identify issues and trends in clinical laboratory management such that change can be anticipated and accommodated through appropriate planning

 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 make the population of health care professionals 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.

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 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 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 Disability 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 Disability Services to learn more about accommodations at Rush University: Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services 600 S. Paulina St., Suite 440 Chicago, IL 60612 (312) 942-5237 Marie_S_Ferro-Lusk@rush.edu

Clinical Laboratory Management (MS): Admission Requirements

- A baccalaureate degree from a regionally accredited U.S. college or university in medical laboratory, biological or related science. 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 Education Credentials Evaluators 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 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

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-500	Principles of Laboratory Management	3
CLM-501	Evidence-Based Research and Applied Statistics	3
CLM-502	Quality Systems & Regulatory Issues	3
Spring Terr	m	
CLM-503	Method Comparison & Process Validation	3
CLM-504	Scientific & Technical Writing	3
CLM-505	Health Care Finance	3
Summer Te	erm	
CLM-506	Management Project I	2
CLM-507	Issues & Practices in Human Resource Management	3
CLM-508	Health Care Informatics	3
Second Yea	ar	Credit Hours
Fall Term		
CLM-512	Organizational Behavior	3
CLM-513	Legal Issues in Health Care	3
CHS-605	Introduction to Ethics in Health Care	2
Spring Terr	n	
CHS-620	Health Care in America	2
CLM-509	Management Project II	2
CLM-510	Management Experience	4
	Program Total:	42

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 credit to be awarded the Master of Science in CLM.

First Year		Credit Hours
Fall Term		
SBB-560	Human Blood Group Systems and Principles & Methods of Antibody Identification	4
SBB-561	Clinical Immunohematology & Transfusion	3
Spring Terr	m	
SBB-562	Blood Procurement and Blood Product Manufacturing	2
SBB-563	Blood Bank/Transfusion Service Operation	3
Summer Te	erm	
SBB-564	SBB Project & Clinical Practicum	3
SBB-565	Blood Bank Comprehensive Review	2
Second Ye	ar	Credit Hours
Fall Term		
CLM-500	Principles of Laboratory Management	3
CLM-501	Evidence-Based Research and Applied Statistics	3
CLM-502	Quality Systems & Regulatory Issues	3
Spring Terr	m	
CLM-503	Method Comparison & Process Validation	3
CLM-504	Scientific & Technical Writing	3
CLM-505	Health Care Finance	3
Summer Te	erm	
CLM-507	Issues & Practices in Human Resource Management	3
CLM-508	Health Care Informatics	3
CLM-511	SBB Management Research Project	4
	Program Total:	43

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 bodily 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

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 percent success
 - Identify tubes along with the correct order of draw for blood collection and label tubes with 100 percent accuracy
 - Perform, with a high level of competence, analytical tests on body fluids, cells and blood products
 - Identify possible sources of error in in pre-analytical, analytical and post-analytical stages of laboratory testing
 - Predict the effect of error in pre-analytical, analytical and post-analytical 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 (assessment methods = affective evaluation of practica)
- Demonstrate problem-solving and critical thinking skills
 - Formulate a reasonable differential diagnosis from information contained in a patient case description. (assessed by critical thinking rubric in comprehensive course)
 - Evaluate laboratory test results in order to determine their relevance to a case and determine if and what additional tests need to be ordered. (assessed by critical thinking rubric in comprehensive course)
- 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 (assessed by affective evaluation in clinical practica)
 - 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 (assessed by the final defense rubric)
- 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 two parts: didactic (classroom learning) and clinical (practice in the medical laboratory). After program completion, graduates should take a national certification examination.

All students entering one of the Medical Laboratory Science degree programs 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. Students are prohibited from using academic or professional credentials until the satisfactory completion of a degree and appropriate credentials are awarded.

Medical Laboratory Science (MS): Technical Standards

Rush University is committed to diversity and to attracting and educating students who will make the population of health care professionals 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.

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 Disability 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 Disability Services to learn more about accommodations at Rush University:

Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services 600 S. Paulina St., Suite 440 Chicago, IL 60612 (312) 942-5237 Marie_S_Ferro-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 pre-professional 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 semester.

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 two hours. Questions focus on commitment, problem-solving ability, team interaction and initiative. Applicants are asked for life experience situations in which these behavioral characteristics are demonstrated. At the time of the interview, each applicant will be asked to write a short essay. Essays are evaluated for grammar, spelling, content and overall quality of written communication.

Applications are ranked on the basis of grades in prerequisite courses, references, interview results and the written essay. 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 Education Credentials Evaluators, 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 Science policy for the TOEFL exam.

- The following courses are required: 21 quarter/14 semester hours of chemistry (organic, quantitative analysis and 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.

Criminal Background Check and Drug Screen

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.

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

Graduate students may not receive more than two grades of C or lower in the program. Graduate students who receive a third grade of C or lower will be dismissed from the program. Graduate 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 in the same academic year 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 Sciences policy document for policies and procedures regarding graduate research projects. This bulletin 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 80 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 Graduate 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.

First Year	Credit Ho	ours
Fall Term		
MLS-504	Clinical Chemistry I	3
MLS-523	Clinical Immunology	3
MLS-525	Laboratory Fundamentals	6
MLS-514	Hematology I	6
Spring Ter	m	
MLS-524	Clinical Immunohematology	4
MLS-505	Clinical Chemistry II	3
MLS-534	Clinical Microbiology I	6
MLS-541	Research in MLS I	1
CHS-610	Research Methods in Health Sciences	2
Summer Te	erm	
MLS-535	Clinical Microbiology II	3
MLS-542	Research in MLS II	5
MLS-515	Hematology II	3
CHS-620	Health Care in America	2
CHS-605	Introduction to Ethics in Health Care	2
Second Ye	ear Credit Ho	ours
Fall Term		
MLS-580P	Clinical Practicum - Chemistry	3
MLS-581P	Clinical Practicum - Hematology	3
MLS-584P	Clinical Practicum - Immunohematology	3
MLS-589	Clinical Laboratory Management	2
CHS-601	Introduction to Biostatistics	2
CLM-502	Quality Systems & Regulatory Issues	3
Spring Ter	m	
MLS-588	Comprehensive Review	2
MLS-582P	Clinical Practicum - Microbiology I	3
MLS-583P	Clinical Practicum - Microbiology II	3
MLS-585P	Clinical Practicum - Education	3
MLS-586P	Patient Care Techniques	2
MLS-543	Research in MLS III	2
	Program Total:	80

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.

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 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 and serological methods
- Engage in scientific investigations, questions and problems through applied research and appropriate use of resources, such as literature review and internet searches
- 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, or CAAHEP, upon the recommendation of the AABB Committee on Accreditation of Specialist in Blood Bank Technology Schools. Commission on Accreditation of Allied Health Education Programs 25400 U.S. Highway 19 N, Suite 158 Clearwater, FL 33763 (727) 210-2350 mail@caahep.org

Specialist in Blood Bank Technology (CP): Admissions Requirements

- A baccalaureate degree from a regionally accredited U.S. college or university in medical laboratory, biological or related science (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 Education Credentials Evaluators 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 CLS (NCA) certification
- Two years of working experience in an accredited blood bank laboratory
- For non-native English speakers: TOEFL scores to satisfy the College of Health Sciences' policy on the TOEFL
- Evaluation by the Educational Credential Evaluators 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

Specialist in Blood Bank Technology (CP): Technical Standards

Rush University is committed to diversity and to attracting and educating students who will make the population of health care professionals 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.

The following technical functions are required of all students enrolled in the Specialist in Blood Bank 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 & 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 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 healthcare 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 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 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 Specialist in Blood Bank Technology 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 they require reasonable accommodation to fully engage in the program, should contact the Office of Student Disability 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 Disability Services to learn more about accommodations at Rush University:

Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services 600 S. Paulina St., Suite 440 Chicago, IL 60612 (312) 942-5237 Marie_S_Ferro-Lusk@rush.edu

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.

Fall Term		Credit Hours		
SBB-560	Human Blood Group Systems and Principles & Methods of Antibody Identification	4		
SBB-561	Clinical Immunohematology & 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 & Clinical Practicum	3		
SBB-565	Blood Bank Comprehensive Review	2		
	Program Total:	17		

DEPARTMENT OF OCCUPATIONAL THERAPY

Occupational Therapy

Mission

Through the use of the practitioner-teacher-investigator model, the Department of Occupational Therapy is committed to excellence in education, service, scholarship and health care delivery while fostering an environment of diversity and inclusion.

Occupational Therapy: Program Overview

Professional Description

The Department of Occupational Therapy offers a graduate program that prepares students for unique contributions to the field of occupational therapy. This professional-level program is designed for people with baccalaureate degrees in other fields who are seeking to become occupational therapists.

Philosophy on Educational

Occupational therapists recognize humans as complex beings engaged in and organized around occupations occurring within the physical, temporal, cultural, psychological, spiritual, and virtual environments (AOTA, 2014; AOTA 2017). When dysfunction or internal or external contexts limit or prevent participation, occupational therapists enable doing in a variety of ways. The practice of occupational therapy involves clients, individuals, groups, or organizations, their attributes, and the multiple environmental contexts that comprise occupational performance. Occupational therapy interventions are designed to facilitate people to adapt and change in order to improve their engagement in occupational performance across the lifespan.

Rush University Department of Occupational Therapy faculty members fulfill roles as practitioner-teacher and investigator, a combination that infuses the curriculum with contemporary and scholarly perspectives to prepare students to meet the occupational needs of society. 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 possibly revising prior knowledge so that new perceptions and meanings may evolve (Cranton, 2006). Integrative learning expands on this process by facilitating students' ability to connect ideas, concepts, and experiences to better adapt to novel and complex issues (Huber & Hutchings, 2004). The end result is a learner who is intellectually flexible to meet the needs of complex clients in a continually changing society. A program based on transformative and integrative learning builds on a student's past, connects it to present activities, and predicts 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 builds towards leadership in professional reasoning and meeting the needs of an increasingly dynamic profession. Self-directed learning and critical thinking using evidence-based research and practice are fostered through faculty mentorship, problem solving, collaborative activities, and critical inquiry in the classroom, clinic, and community to promote entry-level performance. The individualized doctoral experience establishes a trajectory that enables students to become an emerging leader in their professional practice. Rush occupational therapy graduates are prepared to work in traditional and emerging practice settings, but more importantly, are ethical, flexible, creative, autonomous, and informed practitioner-teacher-investigators.

Professional Orientation

Since Rush graduate will be prepared to work in a variety of traditional and nontraditional settings, their practice base is the result of broad experiences within the many arenas of occupational therapy. Graduates have the ability to add increasing amounts of depth and validation to their intervention programs as a result of their involvement and experiences with problem-solving approaches to therapy.

Given the combination of breadth and depth of knowledge and experience related to occupational therapy intervention, the primary strength of Rush University graduates will be their ability to function as highly resourceful practitioners. As in the past, and for the foreseeable future, the role of the practitioner is the core of all occupational therapy. The practitioner who is able to base intervention on established fact, use internal and external resources, and engage in professional reasoning and problem solving is the practitioner who will contribute to the credibility and viability of the profession. It is this type of practitioner who is expected to be the product of the Rush program.

Graduates of the program are able to enter the clinical arena competently and confidently, applying their clinical skills and expanding upon those skills as situations require. This continuous process of assessment and expansion contributes to the personal and professional growth vital to occupational therapists. The role of the clinician, as it is understood in this context, incorporates other major roles of the therapist. As the Rush program is designed, the students have the opportunity to explore the functions of the therapist as an educator, researcher and manager from the practitioner's perspective. The involvement of the student in these other roles is another major strength of the program. The additional roles of educator, manager and researcher cannot be separated from the practitioner's role.

Accreditation and Certification

The Occupational Therapy program is accredited by the Accreditation Council for Occupational Therapy Education, or ACOTE, of the American Occupational Therapy Association. Additional information can be obtained:

Accreditation Council for Occupational Therapy Education c/o Accreditation Department American Occupational Therapy Association 4720 Montgomery Lane, Suite 200 Bethesda, MD 20814 (301) 652-2682 www.acoteonline.org

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 program's performance on the NBCOT exam, students can go to www.nbcot.org/en/ educators/home#schoolperformance. Additional information can be obtained:

NBCOT

One Bank St. Suite 300 Gaithersburg, MD 20878 (301) 990-7979

After successful completion of this exam, the individual will be an Occupational Therapist, Registered, or OTR. In Illinois, occupational therapists must be licensed in order to practice, and state licensure is based on the results of the NBCOT certification examination. This is true in many other states, but specific requirements for licensure may be determined by contacting individual state licensing boards.

Occupational Therapy (MS) Occupational Therapy (MS): Admission Requirements

The Department of Occupational Therapy is no longer accepting applications for its Occupational Therapy master's program. See below for the admission requirements for the Occupational Therapy Doctorate program.

Occupational Therapy (MS): Academic Policies

Enrollment

The academic program is a 27-month program. Instruction is provided by occupational therapy faculty and faculty members from other departments and colleges within the University. Students must complete all program requirements within 39 months from the time they begin the program and part-time students 51 months from the time they begin. Any student who expects to go beyond this time frame must write to the program director to request an exception to the policy. A minimum of 117 quarter hour credits (78 semester hour credits) is required for graduation.

Academic Progression

Students will progress through the curriculum 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 by the Rush University Code of Conduct. Any such student not voluntarily withdrawing will be dismissed from the University.

Only grades of A, B, C or P may fulfill degree requirements in all nonelective courses listed in the curriculum outline. Students will be considered in good standing at Rush University unless placed on academic probation. Academic probation is assigned to any student who earns a term grade-point average of 2.99 and below. Full-time students placed on probation must earn a cumulative average of 3.0 or above by the end of the next consecutive term. Part-time students placed on probation must earn a cumulative average of 3.0 or above at the end of the next two consecutive term. Students who fail to meet minimum cumulative GPA requirements within the time frame specified above will be automatically dismissed from the program.

Students placed on academic probation for the first time must meet with their adviser and establish an action plan prior to the beginning of the next term. If a student is placed on probation a second time, they must petition and meet with the Student Performance and Academic Review Committee, or SPARC and provide an action plan that is acceptable to SPARC in order to continue in the program. The student will also be responsible to meet on a regular basis with their adviser to monitor the progress of the aforementioned action plan's implementation.

A student who is placed on probation for a third time for didactic coursework will automatically be dismissed from the program. A student receiving a grade of D, F, N, WF or WN 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, N or WN is allowed for the entire program. In the event a student receives a second D, F, N, WF or WN at any other time in the program, the student will be dismissed from the program.

Occupational Therapy Technical Standards

Rush University is committed to diversity and to attracting and educating students who will make the population of health care professionals 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.

The following technical functions are required of all students enrolled in the Occupational Therapy 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 occupational therapy care and perform or assist with procedures and treatments
- Practice in a safe manner and appropriately provide occupational therapy 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 occupational therapy 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 Occupational Therapy 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 Disability 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.

Occupational Therapy (OTD) Occupational Therapy (OTD): Admission Requirements

The applicant to the professional program in occupational therapy must have completed or show evidence of the following in order to be considered for admission:

- Completed application through the Occupational Therapy Centralized Application System, or OTCAS.
- A baccalaureate degree from an accredited college or university.
- Minimum grade-point average of a 3.0 on a 4.0 scale.
- Submit to OTCAS official scores from the GRE graduate school entry exam general test taken within the past five years. A combined score (verbal and quantitative portions) of 302 and a minimum score of 4.0 on the analytical writing sample are required. Please use institution code 7122.
- If applicant's native language is not English, submit Test of English as a Foreign Language, or TOEFL, scores.
- Prerequisite courses including statistics, sociology or anthropology, human growth and development (must cover the entire lifespan), abnormal psychology, one additional psychology course, human anatomy (with lab, preferably cadaver) and human physiology (lab preferred). Human anatomy and human physiology must be taken within five years prior to admission to program. Two sequential courses with labs will also satisfy this prerequisite.*
- Two letters of recommendation. One recommendation must be from an occupational therapy practitioner.
- Experience/familiarity with occupational therapy either through observation, volunteering or work experience with an occupational therapy practitioner (at least 40 documented hours in at least two settings).

*All courses must be taken from an accredited college or university. Online classes are acceptable except for anatomy and physiology, which must occur face-to-face.

The Admissions Committee will make decisions regarding the acceptability of the applicant to the program. All application materials will be evaluated. Academic and nonacademic factors, including extracurricular activities, job and life experiences will be taken into consideration.

Selected applicants will be required to participate in an on-site visit that will include a faculty interview. Recognizing the need of occupational therapists to serve a population representative

of diverse social, ethnic, cultural and economic backgrounds, a goal of the Admissions Committee will be to select a class likely to meet these diverse needs.

Students accepted into the occupational therapy program must complete a criminal background check. Students who have certain types of information in their criminal background checks may be ineligible to complete fieldwork rotations in specific facilities and may be ineligible for state licensure or national registry or certification.

Students accepted in the occupational therapy program must complete the Rush University required health and immunization history documentation.

Students accepted into the occupational therapy program must submit directly to Rush University prior to matriculation all official transcripts from every college or university attended.

Application Deadlines

Admission for the entry entry-level master's doctorate in occupational Occupational therapy Therapy program is granted for the summer fall quarter term of each year, which begins mid-June 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 Dec. 1. Interviews will be held during the months of November, December and January. Enrollment is limited to 36 students. Applicants are encouraged to apply as early as possible.

Occupational Therapy (OTD): Technical Standards

Rush University is committed to diversity and to attracting and educating students who will make the population of health care professionals 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.

The following technical functions are required of all students enrolled in the Occupational Therapy 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 occupational therapy care and perform or assist with procedures and treatments
- Practice in a safe manner and appropriately provide occupational therapy 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 occupational therapy 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 Occupational Therapy 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 Disability 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.

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 or P may fulfill degree requirements in all non-elective courses listed in the curriculum outline.

Students will be considered in good standing at Rush University unless placed on academic probation. Academic probation is assigned to any student who earns a term grade-point average of 2.99 and below. Full-time students placed on probation must earn a cumulative grade-point average of 3.0 or above by the end of the next term. Students who fail to meet minimum cumulative GPA requirements within the time frame specified above will be automatically dismissed from the program.

Students placed on academic probation for the first time must meet with their adviser and establish an action plan prior to the beginning of the next term. Students placed on probation a second time must petition and meet with the Student Performance and Academic Review Committee, or SPARC, and provide an action plan that is acceptable to SPARC in order to continue in the program. The student will also be responsible to meet on a regular basis with their adviser to monitor the progress of the aforementioned action plan's implementation. A student who is placed on probation for a third time for didactic course work will automatically be dismissed from the program.

A student receiving a grade D, F, N, WF or WN 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, N or WN is allowed for the entire program. If a student receives a second D, F, N, WF or WN at any other time in the program, the student 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. Students who do not pass the exam will need to repeat the course. Completion of the doctoral experience and doctoral capstone project will be delayed.

Occupational Therapy (OTD): Program Requirements

Graduation Requirements

Once admitted to the Occupational Therapy program, students embark on a journey that entails the accumulation of 108 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 503)

• Complete a minimum of 16 contact hours of approved professional or community service

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. Any student who expects to go beyond this timeframe must request an exception to the policy in writing to the program director.

Scholarly Activities

Members of the department are increasingly involved in identifying research projects in occupational therapy. Students participate in one of a variety of faculty-supervised research projects, which may be carried out in one of Rush University Medical Center's occupational therapy clinics, other health care facilities, or community organizations. Students are required to present their research projects during the annual Department of Occupational Therapy Research Symposium, as well as submit for presentation at 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. Dissemination through presentation or publication is required.

Professional Service Activities

Our faculty are outstanding practitioners/teachers/investigators involved in widely recognized professional and scholarly activities. They provide a full range of assessment and therapeutic services for a variety of populations. Within the Medical Center there are more than 30 dedicated occupational therapy practitioners working with pediatric, adult and geriatric patients in both inpatient and outpatient settings.

In addition, faculty and clinicians are committed to serving with professional and community organizations. Students participate with faculty and clinicians in health fairs and service activities throughout the year. Students have an opportunity to join the Student Occupational Therapy Association, a service-based organization.

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		
IPE-502	Interprofessional Patient Centered Teams			
Spring Term				
OCC-579	Research Methods and Evidence-Based Practice	3		
CHS-601	Introduction to Biostatistics	2		
CHS-605	Introduction to Ethics in Healthcare	2		
OCC-620	Foundational Theories in OT	3		
IPE-502	Interprofessional Patient Centered Teams			
OCC-609	Occupational Performance and Ability	3		
OCC-576	Sociocultural Aspects of Care	2		
Summer Term				
OCC-643	Health Care Systems	3		
OCC-625	Functional Neuroscience & Cognition	4		
OCC-607	Psychosocial Aspects of Care	3		
OCC-610	Occupational Therapy Process	2		
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-615	Developmental Disabilities I	3		
OCC-618	Clinical Practice Skills/Fieldwork 1-B	2		
OCC-630	Program Development	2		
OCC-684	Evidence-Based Practice Series II	1		
Spring Terr	n			
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	3		
Summer Term				
OCC-644	Leadership and Advocacy	2		
OCC-795	Advanced Fieldwork I	9		
OCC-811	Professional Reasoning & Doctorate Experience II	1		

Continued

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:	110		

DEPARTMENT OF PHYSICIAN ASSISTANT STUDIES

Physician Assistant Studies (MS)

Program Overview

The Master of Science in Physician Assistant Studies, or PA, program is designed to provide students with an outstanding education in preparation for careers as physician assistants or PAs, in general and specialty practice settings.

The innovative 30-month curriculum uses the extensive resources available at Rush University to provide its students with an excellent training experience.

- The 12-month didactic phase includes lecture, small group discussion and case-based training to prepare students for clinical rotations.
- The unique 18-month clinical training prepares students to practice as primary care providers, while providing a one-ofa-kind immersion experience in an advanced clinical practice. Current areas for advanced clinical training include orthopedics, cardiothoracic surgery, vascular surgery, emergency medicine, internal medicine, pulmonary and critical care medicine, interventional radiology, urology, neurosurgery, geriatrics, physical medicine and rehabilitation, primary care and pediatrics.

Mission

The mission of the Rush University PA Program is to educate advanced-practice PAs to practice medicine with competence, professionalism and compassion driven by academic excellence and a spirit of service to the community.

Vision

The Rush University PA Program strives to be a nationally recognized leader in educating advanced practice PAs to assume leadership roles in clinical and professional practice.

Goals

The following are the goals of the Rush University PA Studies program:

- Prepare highly qualified PAs to take leadership roles in clinical practice, collaborative patient-centered care, and service to the community and to the profession
- Provide enhanced training opportunities to students in various areas of clinical practice
- Prepare PAs who use best practice methods to plan, develop and deliver high quality, cost-effective health care services
- Promote evidence-based practice as an integral part of effective medical practice
- Provide a learning environment that is committed to promoting diversity and cultural humility

Physician Assistant Studies (MS): Admission Requirements

Admission to the PA program is competitive. Student selection is based on various factors, such as overall strength of academic performance, type and quality of prior health care experience, including experience working with or shadowing PAs, and interpersonal communication skills.

The program is rigorous and academic preparedness will be assessed based on general and science course grade-point average, prerequisite course work grade-point average, coursework completed prior to application, and performance on the GRE graduate school entry exam.

Requirements for admission into the PA program include the following:

• A bachelor's degree from an accredited college or university prior to matriculation into the program

- A minimum GPA of 3.0 on a 4.0 scale is required for both the total GPA and science GPA. GPAs greater than 3.3 each for total and science are considered competitive; GPAs greater than 3.5 each for total and science is considered highly competitive.
- GRE graduate school entry exam scores taken within five years prior to application submission. A minimal combined verbal and quantitative score of 1,000, or 302 in the new scoring system, is required for interview and admission consideration.
 - A combined score of 1,200 and above, or 309 in the new scoring system, is considered competitive; a combined score of more than 1,290, or 314 in the new scoring system, is highly competitive.
 - The score must be attained at a single seating of the exam. If you take the GRE more than once, batched and partial scores are not accepted.
 - Original copies of your GRE scores must be sent directly to Rush University. The PA Program GRE code is: 0962.
- Documented hands-on, direct patient contact experience in a health care setting, accrued within seven years of application submission. Experience working with or shadowing PAs is required. A minimum of 1,000 hours direct patient contact experience is required at the time of application submission. Having above 1,500 hours is competitive and having 2,500 hours and above is considered highly competitive.
- A completed application submitted to the Central Application Service for Physician Assistants, or CASPA.
 - A supplemental application and \$40 fee is required only if you are invited to interview at the program. Information regarding this will be provided with an interview invitation.
- An on-campus interview with members of the PA program faculty and admissions committee.
- All applicants must meet the minimum requirements to perform the essential functions of a PA. See the Technical Standards section for more information.
- Admission is contingent upon successful completion of a health assessment, criminal background check and drug screening processes prior to matriculation. Information regarding this requirement is discussed during interviews.
- Applicants with coursework or a bachelor's degree conferred outside of the United States must submit a course equivalence evaluation by either Education Credentials Evaluators or World Education Services
- Scores from the Test of English as a Foreign Language, or TOEFL, if English is not your native language.

- Attendance in the program is on a full-time basis only. Students entering the PA program must complete the curriculum in its entirety. No advanced-standing or transfer credits will be awarded, regardless of previous professional or academic experience.
- The PA program admits students into the class on a rolling admission basis. This means that at each interview session, offers are made to fill seats in the class. Under a rolling admissions process, it is possible to fill all the seats in the class before interviews are done. It is to the applicant's advantage to submit all application materials as early as possible.
- Due to the competitive nature of the application process, meeting posted admission criteria to the program does not guarantee an interview offer for the program.

Additional Factors for Admissions Consideration

Rush University and the PA program are committed creating a class environment that mirrors our diverse community and 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 additional consideration toward admission to the program, to be reviewed on a case by case basis:

- Military veterans
- Persons from an underrepresented minority group in the health care sciences
- Persons from economically disadvantaged backgrounds
- First person to attend a higher education training program

Program Application

The application cycle is open from April 27 to Oct. 1 of each year.

Applications must be submitted online via CASPA at portal. caspaonline.org. CASPA application requires the following:

- Submission of official transcripts for all college coursework completed.
- Three letters of recommendation. It is preferred that at least one of the letters be from a PA, physician or other health care provider who is familiar with the PA profession.
- 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

It is strongly recommended that all courses be taken within seven years prior to application to the program. Advanced placement or CLEP courses are not accepted toward meeting prerequisite course requirements. Candidates must have at least four of the required courses completed at the time of application submission. Course grades of C or better are mandatory for all prerequisite courses. Courses with grades of B or better are considered competitive for admission consideration.

The following prerequisite courses must be taken within the past seven years prior to application to the program:

- Human anatomy
- Human physiology
- Biochemistry
- Microbiology

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 Physician Assistant Program.

Rush University is committed to diversity and to attracting and educating students who will make the population of health care professionals 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. The following technical functions are required of all students enrolled in the Physician Assistant Studies 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 physician assistant care and perform or assist with procedures and treatments
- Practice in a safe manner and appropriately provide physician assistant 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 treat ment of patients and populations
- Exercise proper judgment and complete responsibilities in a timely and accurate manner according to the physician assistant 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 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 Disability Services at (www.rushu.rush.edu/office-student-disability-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: Course Descriptions

Phase I:	Coursework	
Summer	Term	Credits Hours
PHA-511	Human Anatomy	5
PHA-512	History and Physical Examinatio	n 2
PHA-513	Professionalism & Practice I	2
PHA-514	Clinical Medicine I	4
PHA-515	Diagnostic Methods	1
Fall Term		Credit Hours
CHS-620	Health Care in America	2
PHA-520	Principles of Clinical Pharmacol	ogy I 3
PHA-521	Research and Statistics	2
PHA-522	Diagnostic Reasoning I	2
PHA-523	Professionalism & Practice II	2
PHA-524	Clinical Medicine II	6
PHA-525	Principles of Advanced Practice	l 2
Spring Te	erm	Credit Hours
PHA-530	Principles of Clinical Pharmacol	ogy II 3
PHA-532	Diagnostic Reasoning II	2
PHA-533	Professionalism & Practice III	2
PHA-534	Clinical Medicine III	6
PHA-535	Principles of Advanced Practice	II 2
PHA-536	Emergency & Surgical Medicine	2

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	Women's Health	4	
PHA-580	Master's Research Project	2	
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 Rotation II	4	
Phase III	: Advanced Clinical Rotatio	n Courses	
Summer	Term	Credits Hours	
PHA-593	Advanced Clinical Practice I	15	
PHA-595	Master's Research Project I	1	
Fall Term	1	Credit Hours	
PHA-594	Advanced Clinical Practice II	15	
PHA-596	Master's Research Project II	1	
	Program Total:	130	



Rush University

The Graduate College

Welcome to the Graduate College



Here in the Graduate College at Rush University, we have created an environment that fosters innovation through an interdisciplinary approach to scientific discovery. Our students not only learn leading-edge scientific techniques but, perhaps more importantly, also critical thinking and problem-solving skills that will serve them no matter what their next steps are after earning their master's or doctoral degree.

Students who select the Graduate College as their home for the next step in their education are committed to scientific advancement through research and will become next-generation thought leaders. Through rigorous training, customized curricula and hands-on experience, students will become alumni who have strong networks and are well-prepared to enter the scientific and clinical workforce, solve complex problems and lead organizations that will chart the future.

Strong networks. Rush University has a network of nearly 17,000 alumni around the world. They work in academic and corporate settings, successfully compete for funding, train the next generation of researchers and educators, and make discoveries that enhance human health. We are building a strong community with robust student-alumni relations that will enable current students to access Rush's Alumni Association to advance their careers and professional development. Meanwhile, alumni are able to tap into our stream of newly minted graduates to accelerate progress.

Customized and personal. The Graduate College offers doctoral and master's programs that allow you to choose the track and coursework that complements your research interests. Small class sizes give you a greater opportunity to ask questions and participate in discussions, and provide curricular flexibility based on the needs of each class. You will really get to know the faculty and be exposed to their research while learning about their experiences and networks in clinical and basic biomedical research settings.

Outcomes. The success of the Graduate College's approach to the training of students can be measured by alumni outcomes. More than 60 percent of Graduate College's doctoral alumni remain in research or research-related careers. Further, more than 90 percent of the Graduate College's master's graduates have entered professional school, doctoral programs or found employment in a research career within three months of graduation.

We have excellent educational programs, engaging faculty and leading-edge research. I hope you will consider joining a master's or doctoral program at the Graduate College, where you can be part of solutions to clinical and biomedical problems that will improve human health.

Contact us to learn more about the education and programs at the Graduate College.

Andrew Bean, PhD Dean, the Graduate College

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The Graduate College: Mission, Vision and Philosophy

Mission

The mission of the Graduate College of Rush University is to promote and assure excellence in research education and mentoring programs responsible for training outstanding and diverse candidates in the basic and clinical sciences. At Rush, the translation of bench research to the clinic and the development of evidence-based medical practice through clinical trials are critical goals of the institution. The faculty works side by side with the students to devise better detection approaches or to develop more effective interventions that improve patient outcomes and the health of all citizens of greater Chicago. The Graduate College promotes respectful, collaborative efforts and provides a rich educational and research environment for students to prepare for challenging careers in the fast moving world of biomedical research.

Vision

Basic and clinical scientist graduates of the Graduate College will become leaders in their respective research fields, secure leadership positions in academia or industry, compete successfully for extramural grants, and train the next generation of research scientists. Success in this regard relates to embracing the culture of team science and understanding how your efforts can ensure sustained productivity in addressing strategic biomedical problems and to lead in the advancement of the medical sciences and the promotion of health.

Philosophy

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. This statement outlines a vibrant role for the Graduate College in preparing leaders to help Rush, and other institutions that share similar aspirations, to achieve success in transforming our health care system.

The Graduate College was originally established in 1981, to provide opportunities for students to work with nationally recognized faculty to earn doctoral degrees in the sciences basic to health care. Students are engaged in highly individualized training to maximize opportunities for self-realization. Faculty members share their scholarly expertise and hands-on laboratory and clinical research experiences with students in a variety of settings.

The Graduate College is also focused on emerging training concerns as communicated by the National Institute of Health

in regard to optimal biomedical workforce preparation. To address issues with the torrid pace of research innovation as well as the realities of the rapidly evolving workplace, we have placed a deeper emphasis on presenting course material from an integrated conceptual framework so that students are better prepared to manage the rapidly expanding body of complex biomedical information. Our curriculum moves from an interdisciplinary orientation that is intensely collaborative in nature. Thus, all laboratory-based graduate students jointly participate in a common, integrated first year curriculum exploring the shared foundations of biomedical sciences. This approach leverages the significant interaction of students with interests across the spectrum of biomedical sciences and provides a common knowledge base to allow students to move more fluidly into the team-based research phase of their specific programs. This integrated biomedical sciences curriculum also creates a more inclusive and welcoming feeling among students to encourage group learning and problem solving.

The Graduate College also includes specialized master's programs for integrated biomedical sciences, laboratory-based biotechnology research and clinical science research. We continue to evolve course offerings to address the expanding need for clinical scientists and highly trained technical staff, respectively, to advance science in the 21st century. These programs also share the Rush unifying features including a high degree of individualized faculty and student interaction through the educational processes of the college grounded in a productive, high quality translational research/clinical environment. Students find the open collaborative environment across the college with a shared focus on translational research through team-based research and care to constitute a highly favorable educational environment.

The Graduate College: Program Organization

Doctor of Philosophy in Integrated Biomedical Sciences Program

To facilitate its educational mission, the laboratory-based research PhD and MS programs, called the integrated biomedical sciences programs, are organized into five tracks corresponding to interdisciplinary areas of research excellence at Rush that are also highly aligned with areas of clinical strength. This alignment forms a fertile nexus for sustained, innovative translational collaboration. The tracks typically involve fluid interactions of relevant scientists, clinicians and other professionals working in flexible team structures. This organizational approach builds on the strong legacy of the Graduate College but is re-designed to create a more stimulating learning environment for the students. This entails moving from the traditional discipline-focused curriculum to a more integrated, systems biology approach, embracing multi-disciplinary team-based science required for greater success in addressing existing complex biomedical challenges. The learning environment in the new program format will enhance the student to student interaction as they are immersed into the Rush research environment. All students participate in a shared integrated curriculum and then select to conduct their doctoral or thesis research in one of five inter-disciplinary tracks that related to areas of excellence in clinical care as well as funded research at Rush. At the same time, we have broaden the array of faculty representing a wider range of disciplines from basic to clinical to community working together to address critical biomedical problems into five track areas.

The five educational/ research tracks of the Integrated Biomedical Sciences are as follows:

- Cardiovascular & respiratory biology
- Function and disorders of the musculoskeletal system
- Function and disorders of the nervous system
- Infection, immunity & inflammation research
- Translational cancer research

The primary goal of each track is to provide excellent graduate education in the sciences basic to medicine. The track constructs are flexible and responsive to the changing needs and experiences in their disciplines. This approach is highly aligned with our shared vision: The Rush learning community will be the leading health sciences university committed to transforming health care through innovative research and education.

The educational process for the first year of integrated curriculum is coordinated by an Associate Program Director who works to ensure that the integrated first year curriculum supports student mastery in approaching complex biomedical problem solving. The overall program director is responsible for the learning environment for the remainder of the dissertation years and is charged with achieving full programmatic integration including learning assessment as well as timely student progression. Each track leader interacts with the other track leaders and the integrated biomedical sciences directors through the educational committee to ensure smooth functioning of this program.

Doctor of Philosophy in Nursing Science Program

The PhD in Nursing Science program prepares students to be a clinical researcher who advances the nursing care of individuals and communities through scientific discovery.

This program will help students do the following:

- Integrate knowledge from biological, behavioral and clinical sciences
- Perform clinical research that contributes to the scientific basis of care provided to individuals across the lifespan and in any setting where care is provided
- Gain the leadership skills necessary to serve as a senior academician and influence health care systems and policy
- Develop and submit manuscripts for publication

A three-year accelerated plan of study is available to qualified students. Accelerated students are given full tuition support and a stipend.

One of the full tuition scholarships is funded by the Robert Wood Johnson Future of Nursing Scholars Program. The RWJ program offers unparalleled development, leadership, and networking opportunities through sponsored institutes and workshops.

Learn about additional scholarships and research support for PhD students

This program is delivered by the College of Nursing faculty in conjunction with the Graduate College. The full description of the doctorate is provided at https://www.rushu.rush.edu/ college-nursing/programs-admissions/nursing-science-phd

Doctor of Philosophy in Health Sciences Program

The program of study for the Doctor of Philosophy degree involves a rigorous curriculum that emphasizes fundamentals and advanced concepts in leadership, education, research and professional development. The guiding principal 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). First, an epistemological framework is established associated with leadership, education and research. The curriculum then challenges the learners to address real world applications through focused seminar courses and learner-centered projects. The curriculum culminates with challenging the learner's axiological considerations through research, demonstration projects, dissertation focus, ownership of learning, and philosophical challenges to the status quo.

Transition to doctoral candidate occurs upon successfully completing all core courses, passing a comprehensive qualifying examination, and approval of dissertation proposal. Doctoral candidates conduct research and publish under the guidance and supervision of a research mentor.

Program Objectives

To produce scholars who will:

- 1. Generate new knowledge and innovative applications through research.
- 2. Disseminate knowledge through education and publications.
- 3. Shape the future of health sciences through leadership and cooperation.
- 4. Produce scholars who will uphold the highest ideals of health sciences.

This program is delivered by the College of Health Sciences faculty in conjunction with the Graduate College. The full description of the doctorate is provided at https://www. rushu.rush.edu/college-health-sciences/academic-programs/ doctor-philosophy-health-sciences

Integrated Biomedical Sciences Master's Program

The Master of Science Program is a five-semester program that is designed to educate science professionals to have productive careers in research and academic positions, as well as for career advancement opportunities within their specialized fields. Graduates of this program will go on to perform high quality, impactful biomedical research at colleges and universities, government agencies, hospitals, non-profit agencies and industry. Students in the program will work with faculty and scientists to generate new knowledge in the fields of biomedicine through the application of sophisticated research methods. This degree is intended to offer students an intermediate step in a career path, provide research experience to supplement their primary professional path or provide supplementary training for other reasons.

The program consists of:

1) A core curriculum that 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.

2) Research project and thesis. Students select their research area and advisor from five tracks that include: Translational Cancer Research; Cardiovascular and Respiratory Biology; Immunity, Infection & Inflammation Research; Function & Disorders of the Musculoskeletal System; and Function & Disorders of the Nervous System. Thesis research hours are consistent across all of the tracks within the Integrated Biomedical Sciences MS program and encompass laboratory research time required for completion of the thesis including: analyzing published data, developing a research proposal, learning and applying advanced methodologies and statistical data analyses, developing skills to write a project proposal, practicing presentation skills to disseminate own research findings, and developing, writing, presenting and defending a thesis project.

The primary goal of each track is to provide excellent graduate education in the sciences basic to medicine. The tracks of the College are flexible and responsive to the changing needs and experiences in their disciplines. This approach is highly aligned with our shared vision: The Rush learning community will be the leading health sciences university committed to transforming health care through innovative research and education.

The educational process for the first year integrated curriculum is coordinated by the Program Director for the MS in Integrated Biomedical Sciences who works to ensure that the integrated first year curriculum is delivered in a fashion that supports student mastery in approaching complex biomedical problem solving. The overall Program Director is responsible for the learning environment and is charged with achieving full master's programmatic integration including learning assessment as well as timely student progression. Each track leader interacts with the other track leaders and the integrated biomedical sciences Directors through the educational committee to ensure smooth functioning of this program.

Master of Science in Biotechnology Program

The Graduate College offers a 2-semester, non-thesis academic, research and laboratory master's level training program designed to prepare the student for a research career in the pharmaceutical and biotechnology industries or the university laboratory. This program is also an excellent preparation for further training in graduate school or professional doctoral programs.

The student will take the Graduate College's core curriculum series of didactic courses covering principles of molecular biology and genetics, cellular biochemistry, cell biology, tissue biology and system physiology and pharmacology. Additional courses designed specifically to prepare students for a career in the laboratory and research, including Experimental Design and Models in Disease, Biostatistics, Research Ethics, Communication and Management, are also required. Finally, students will participate in hands-on laboratory courses designed to cover the common and most important techniques and methods employed in research today. The student will also participate in the IPE 502 university course, which will expose students to inter-professional teamwork in healthcare settings. The course will appear on the student's transcript. The laboratory and research experiences will ensure proficiency in a wide variety of techniques, making the student highly competitive for employment in this ever-expanding and understaffed job market. This program also gives an excellent expansion in basic sciences and its applications in translational research, thus serve well those students who wish to further their studies in professional schools (medical, dental, pharmacy, and other health sciences) or join a PhD program.

The program, together with its courses and their teaching faculty, as well as the fiscal health of the program, is overseen by the Program Director who is advised by the Program Education Committee. The program director is responsible for the implementation of the program goals and the assessment of the program and student learning. The program director is the main advisor/mentor for the students and assures that the learning environment is supportive of student success. The program director is also responsible for representing the program at the college and University levels, as well as for marketing the program nationwide.

Master of Science in Clinical Research Program

The Masters of Science program is designed to provide physicians and other health care professionals the tools necessary to undertake and evaluate clinical research. The five-semester thesis-requiring program involves two semesters of didactic lectures in the late afternoon followed by three semesters of mentored clinical research experience. The two year format is designed to provide the necessary skills needed to perform clinical research in the 21st century. The coursework covers experimental design and historically important clinical trials, regulatory science as well as a review of medical bioinformatics. The program also requires the completion and potential publincation of clinical research thesis with a faculty mentors to enhance the professional development of an insightful and capable investigator.

The Graduate College: Admission Requirements

The faculty of the Graduate College encourages diversity among the student population and therefore seeks to admit persons from various backgrounds. The Graduate College uses the following guidelines to evaluate candidates for admission. Individual programs within the college may have additional requirements and criteria for admission. Applicants are encouraged to first check with the program of interest. The college's requirements are listed below.

Deadline for applications: Deadline for IBS and BTN Masters of Science is May 1. Deadline for Clinical Research Masters of Science is July 30; final deadline for Rush and Stroger affiliates is July 30 (International students and some programs will have earlier deadlines. Please check with the individual program director early in the application process.) Deadline for the Doctor of Philosophy Program is Jan. 4.

Applications to the Graduate College are reviewed considering all parts of the application when determining admission. The following documents must be completed and submitted to be considered for admission: (minimum requirements listed under each point below) with each program defining requirements to enhance success in addressing the mission of Rush:

- 1. Online application submitted by the deadline.
- 2. Statement of purpose that includes, in a maximum of 500 words, a statement about the applicant's research interests as they pertain to graduate school in the biomedical sciences. Applicants should include past undergraduate studies, research experience and activities that have influenced their specific areas of interest. Previous research experience is strongly preferred for admission into the PhD program.
- 3. Curriculum vitae.
- 4. Three letters of recommendation (two should come from academic sources). Letter must be on an official letterhead and submitted by the recommender.
- 5. GRE scores (MCAT, DAT, PCAT, or USMLE scores are accepted in lieu of GRE for BTN and CRES MS Programs).
- Applicants with an international medical degree must submit USMLE Step 1 and Step 2 scores with a recommended minimum performance at the 50th percentile is recommended.
- 7. Official transcripts from all institutions attended.
 - Applicants must hold a Bachelor's degree from an accredited institution with a recommended minimum GPA of 3.0 on a 4.0 scale. Students with an international degree must

submit official transcripts along with a course by course evaluation from ECE, which confirms the equivalence of at least a U.S. bachelor's degree with a recommended minimum GPA of 3.0 on a 4.0 scale.

- Completion of the following courses with a "B" grade or better is preferred: two semesters of biology with laboratory, two semesters of chemistry with laboratory, biochemistry or cell biology with laboratory, calculus, and college physics.
- 8. TOEFL 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 scores will be waived for non-native English speakers who have completed a bachelor's degree or higher from a U.S. accredited institution or demonstrating language proficiency supported by an interview.
- 9. Completion of an interview with Graduate College Faculty is required for the competitive Integrated Biomedical Sciences and the Biotechnology candidates.

Acceptance of transfer credit: Petition for transfer of graduate credit is consistent with University Policy. Graduate level transfer credit is subject to the approval of the faculty advisor, program director or designated college administrator based on an evaluation of quality and equivalence. For graduate level programs, no more than one-third of the total number of required credits that contributed to the one's GPA may be granted to a student as transfer credit for work done at another graduate institution. Courses used toward completion of another degree can be used to waive a requirement for a specific course, but cannot be transferred.

The Graduate College: Shared Curricular Elements

The Graduate College Shared Curriculum is designed to enhance interaction among students from all the programs. Some Graduate College courses are shared by more than one program. However all GC courses are open to all students. Each GC program decides what course work is appropriate for its students. The curriculum is designed to provide the basic knowledge base the faculty have deemed necessary to become successful in science. The Graduate College shared curricula elements provide introductory training in molecular genetics, genomics cellular biochemistry, cell biology, tissue biology. Students will also learn basic theories underlying modern scientific technique. In addition, the student will take courses in ethics, scientific writing and basic statistics. These courses will be supplemented by specialized, advanced courses offered by the individual programs. Each program selects the curricula necessary to fulfill graduation requirements. These courses will be selected from the list below, as well as program specific courses.

The following courses comprise the Graduate College shared curriculum:

- GCC 501 Molecular Biology: Genome to Proteome
- GCC 502 Cellular Biochemistry: Proteins, Transport and Signaling
- GCC 503 Functional Cell Biology
- GCC 504 Functional Tissue Biology
- GCC 505 Techniques in Biomedical Sciences
- GCC 506 Research Ethics
- GCC 507 Biomedical Statistics
- GCC 508 Scientific Writing
- GCC 510 Introduction to Pharmacology
- GCC 515 Readings in Core Sciences
- GCC 544 Advanced Statistics
- GCC 546 Principles of Biostastics I
- GCC 547 Priciples of Biostastics II
- GCC 551 Ethics in Biomedical Research and the IRB
- GCC 593 Introduction to Grantsmanship
- GCC 693 Integrated Topics
- GCC 715 Advanced Study on Molecular, Cellular and Tissue Biology

The Graduate College: MS and PhD Degrees

The Graduate College prepares students for the Master of Science and Doctor of Philosophy degrees. An undergraduate record of scholastic excellence is an important background for the Graduate College experience. The process of application review includes a search for evidence of creativity and scholarly potential in the applicant. Non-degree (special) students may take selected courses but are not candidates for advanced degrees. Upon approval by a course director, any individual may audit a course.

Doctor of Philosophy

The degree of 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 is restricted to those scholars who have demonstrated superior ability in a recognized academic discipline. While each program has identified requirements, the PhD degree is not awarded following the completion of any specific number of formal courses nor on the basis of miscellaneous course studies and research. The entire PhD program must be integrated and highly 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. A firstauthored scientific manuscript of the student's original research is a degree requirement. PhD programs are directed by selected faculty members who work closely with graduate students. In practice, each program is composed of formal courses, guided individual study in a chosen field or discipline; study in such cognate subjects as may be required by the candidate's advisory committee and original research that serves as the basis of scientific publication research presentation and a scholarly dissertation.

Admission to Candidacy

Admission to candidacy is evidence that the doctoral student has successfully completed all preliminary coursework and is prepared to move into his or her intensive research experience. Depending upon the program's requirements, these exams will test accumulated knowledge, scientific reasoning and the ability to develop hypotheses and test them with appropriate designs. 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 will not be allowed to continue in the program PhD. If they wish, they may apply the coursework and research that they have completed toward a related MS degree. Any PhD stipends and tuition waivers would not continue once the student has become a MS student and the student would be required to complete any remaining requirements for MS degree program.

Dissertation

A doctoral student must complete a dissertation. This document is developed through faculty-guided independent research projects. Review of the dissertation will follow the sequence of steps described in the manual, "Preparation of Theses and Doctoral Dissertations." Copies of this manual are available in each graduate program and in the Library of Rush University Medical Center. 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 or 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 College 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 advisor and should consist of at least five total members. The composition of this committee should be approved by the Program's Advisory Committee and should comply with the guidelines listed here as well as with any specific requirements of the individual program. The primary advisor must be a member of the Graduate College. At least one member of the committee should be from outside of the program or track, and preferably from outside of the institution. Once the committee convenes, it will choose a chairperson who cannot be the student's primary advisor. The chairperson will oversee the scheduling and activities of the committee.

At or near the completion of the dissertation, each student will share, by means of a public defense with the academic community at large, the knowledge that the student has developed. Students are responsible for posting announcements (at least two weeks prior to the presentation) on institutional bulletin boards and e-mailing all faculty and students of the Graduate College the title of the dissertation, the student's name, and the location, date and time of the public defense. This public presentation must precede the final approval of the dissertation by the Dissertation Committee.

Upon completion of the public defense, the student will meet with the dissertation committee to review the presentation, question the student about their research, discuss the written dissertation document and the student's preparedness to enter the scientific community. Four of the five of members of the committee must sign the dissertation certifying the completion of all requirements for the doctor of philosophy degree.

Master of Science

The Master of Science degree is offered in many programs. This degree is designed to offer students an intermediate step in a career path, provide research experience to supplement their primary professional path or provide supplementary training for other reasons. The College offers two types of MS degrees: 1) the IBS MS in basic sciences and the MS in clinical research are thesis-requiring programs that traditionally take 5 semesters to complete; and 2) a non-thesis 2-semester accelerated MS that is a consequence of the successful completion of a series of classes and laboratory skills and a research capstone (i.e., the MS in Biotechnology).

Thesis

The research MS degree requires the successful completion of course work and publication of a scientific thesis that reflects the research experience of the student. This thesis should reflect original work, which can be published in a peer-reviewed journal. The student, together with the advisor, will form a thesis committee comprised of three members: the advisor (who must be a member of the Graduate College) and two additional members. The advisor will work with the student to develop a research project that can be completed within the framework of the program. The committee members will assure the quality of the work and of the thesis document. Upon completion of the thesis, the student will present the findings in a public forum open to the University. The members of the committee that includes the student's advisor must sign off on the thesis, certifying the completion of all requirements for the MS degree.

The Graduate College: Academic Policies

The Graduate College adopts college-wide policies and procedures and reviews program-specific regulations. Students follow the college and program-specific policies in effect at the time of initial matriculation in the Graduate College. However, the Graduate College reserves the right to make substantive changes in its programs after the student's matriculation. Students will be informed in writing by the program director of any changes made during their tenure in the program. 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

Re-enforcing the examination policy of the college is the responsibility of the individual course director, who will inform students and the proctors about the examination requirements for that particular course. A period at the end of the semester is provided for final examinations; however, any form of assessment can be conducted at any week of the semester. This information will be included in the course schedule and syllabus.

Pass/No Pass Grades

Each program identifies all courses required of its students. Required courses are usually taken for letter grade and not under the pass/no pass (P/N) option. Research hours are generally graded using the P/N option. However, a program may opt to provide a letter grade for research classes. The grading policy for post-candidacy research hours (over 600) for doctoral students is graded as P/N.

Good Academic Standing

To remain in good academic standing, students must maintain a cumulative grade point average of 3.0 and meet the requirements of their program. A student must be in good academic standing to be admitted to candidacy and to graduate. Students failing to maintain a GPA of 3.0 will be notified by the Registrar in writing that their student status has been changed to "on probation." Students who fail to remediate their deficiencies within one academic year or are placed on probationary status a third time, are subject to dismissal by the Graduate College.

Academic Difficulty

Each program has policies and procedures regarding students who fail to maintain good academic standing. While the responsibilities of informing students of their academic problems and of establishing conditions for regaining good academic standing reside within the program, the Graduate College Council monitors the progress and promotion of all students and gives final approval to award students' degrees.

Dismissal

Recommendations for student dismissal are initiated by the programs and follow the Rush University process. Each program establishes grounds for dismissal beyond the minimal criteria established by the Graduate College. Should a program recommend the dismissal of a student, the director will forward such recommendation to the Graduate College Council for final action. Letters of dismissal come from the Dean. Appeal of a dismissal action begins within the appropriate program.

Full-time Enrollment

Full-time enrollment is required of all Graduate College students with the exception of the clinical research students and students

within the PhD programs in nursing science and health sciences. Full-time students must register for at least nine semester hours for each term or at least two semester hours when enrolled in GCC 598, GCC 599 or GCC 699. Enrollment in two credit hours of GCC 598, GCC 599, and GCC 699 constitutes full time registration. Students must obtain written permission from the program director to register for less than a full time course load. Students receiving a thesis-requiring master's degree from the Graduate College as a full-time student must be enrolled for all terms between their matriculation and graduation. The average length of this program is five semesters. Part-time students earning a master's degree must be enrolled a minimum of two semesters per academic year. The accelerated, non-thesis master's program's length is two semesters. The minimum requirement for graduation from the college is program specific. At the time of graduation, the student must be enrolled in the College. The expected time for graduation from a full-time thesis-requiring master's degree program is 5 semesters starting the first semester of official enrollment and for the PhD degree is expected to be five years. These limits do not include time intervals related to approved leaves of absence.

Residency

Doctor of Philosophy (PhD) candidates are expected to meet all requirements for graduation within five enrolled academic years in the Graduate College (excluding leaves of absence [see below]). This period begins with the semester in which the student formally matriculates. The program director of a student exceeding that time limitation must submit to the graduate council, in writing, a request to extend their candidacy beyond that time period. 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 advisor and program director. The council will then vote whether to accept the extension or not (passed by simple majority). The student's advisor will then provide an update on the student's progress after six months. One year after the extension is granted, the student is expected to complete all requirements. A second request may be made by the student's advisor and program director, but will be accepted only through a two-thirds majority of the voting members present at a formal hearing of the Graduate College Council. Within one year of that second request, the student must complete all requirements for the PhD degree or face dismissal. Alternatively, the student may be awarded a MS degree upon the recommendation of the student's graduate program.

Readmission

Any student who has withdrawn from the University or any dismissed student may apply for readmission by submitting an application for this purpose to the Graduate College admission office. An interview may be required. A re-entering student must meet the conditions for re-enrollment stated in his or her dismissal or re-entry acceptance letter and all policies, requirements and course sequence in effect at the time of re-entry. The student will pay tuition and fees at the rates in effect at the time of re-enrollment. Application deadlines may vary by program.

Academic Progression

The graduate program, in concert with the rules of the college and Rush University, develops specific regulations governing the process that results in final awarding of the degree. While such regulations differ slightly from one program to another, the Graduate College Council reviews each program's regulations for approval. In all cases, graduate programs are required to be explicit and clear about regulations that will affect the candidate. This must be stringently observed in program regulations concerning selection of principal advisors, advisory committees, and a plan of study. Similarly, programs will be explicit and clear concerning academic policies and procedures surrounding qualifying, preliminary and final examinations when they are required. The programs are also responsible for providing the candidate with the support needed to plan and conduct the dissertation research. At the same time, a major responsibility of the student is to become familiar with the regulations and expectations of his or her chosen program. These regulations and expectations are included in this catalog within the sections devoted to each program and are also included within program publications. The student is responsible for understanding the regulations, and monitoring changes that may occur during their tenure in the program.

Student Academic Appeals Policy

Any student of the Graduate College may appeal a final course grade, failure on a preliminary or comprehensive examination, or failure of the thesis or dissertation that results in his or her academic probation or dismissal from the University. A student may also appeal an unreasonable delay in his or her graduation from the University. No other issues may be appealed through this process.

The process for filing an appeal is maintained by each program. The student may request a copy of the program appeal process from the program director. This process will be completed within one semester. If a resolution cannot be achieved at the Program level, the following procedure must be followed. At any step in the process, the student may withdraw the appeal by written notification to the program director with a copy to the Dean. 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.

Step 1: If the student wishes to appeal the decision beyond the program, within two weeks of receiving a decision from the program, the student will submit a written statement to the Dean requesting consideration of his or her case by an advisory panel. The student must provide the following in the written statement.

- Course number and grade being appealed or other cause for probation or dismissal, i.e., failure of preliminary or comprehensive examination, or thesis or dissertation
- Action being requested
- Justification for the request
- An outline of the efforts and actions already taken to obtain consideration of the request

The student will send copies of this communication to the program director and the Dean's office. In addition, if a course grade is being appealed, the student will send a copy to the course director. If the evaluation of a thesis or dissertation is being appealed, the student will send a copy to the chairperson of the thesis or dissertation committee. The advisory panel will be the Graduate College Council. Its chairperson will be appointed by the Dean from among the members. The program director of the student's program and any other member who is evaluating the student's academic status will not vote.

Step 2: Within two weeks after notification to the Dean, the Chairperson of the Advisory Panel will arrange a meeting of the Advisory Panel. It will submit a written recommendation to the Dean.

Step 3: Within two weeks following receipt of the advisory panel's recommendation and upon discussion with the student and with others as appropriate, the Dean shall reach a final decision and notify each party of the decision. The decision reached by the Dean is final. The issues discussed and the outcomes of all meetings in this appeal process are documented. This record-keeping is the responsibility of a faculty member who is to be designated at each meeting. Copies of the documentation should be distributed to the individuals present at a meeting, to the program director, the Dean and to the student's academic file.

Academic Honesty and Student Conduct

The Graduate College and its programs follow the University policies on academic honesty and the University statement on student conduct. Each student is expected to conduct himself or herself at all times in a professional manner - a manner which 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 the Graduate College Honor Code Committee 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 with the help of an ad hoc committee. If merited, the report will be forwarded to the Graduate College Honor Code Committee.

Rush University Academic Policies

The Academic Resources and Policies section of this catalog contains additional Rush University academic policies.

This Rush University catalog also details the policies regarding inclusion of minorities and those with disabilities, as well as the policies and procedures for reporting harassment. Students who may need special accommodations can access this information at https://www.rushu.rush.edu/students-disabilities.

The Graduate College: Governance Organization

College Specific Committees

The Graduate College Council is the senior representative body of the college. Its membership includes elected members of all programs including Integrated Biomedical Sciences PhD, Integrated Biomedical Sciences MS, Biotechnology, Clinical Research, the PhD in nursing science and the PhD in health sciences, and three students from these programs (elected by the students annually). An elected member of the Graduate College Council serves as the chair of the Council. The Program Directors, Dean and Associate Dean serve in a non-voting, Ex-Officio Capacity on this committee. The Council is constituted to represent the College faculty and advise the dean regarding: (i) the organization, function, and coordination of educational and research resources, services and activities among the various units of the College; (ii) adequacy of College facilities and infrastructure, (iii) effectiveness of College support services (e.g., student services, technology, information systems, etc.); (iv) election of faculty for the Graduate College; (v) faculty grievance process; and (vi) amendments to the Policies and Procedures. Under the Rush University Governance, the Graduate College

Council has a number of defined responsibilities in governing the College, such as in conducting periodic reviews of all Graduate College program policies and procedures and evaluating program reports.

The Graduate College Council is responsible for setting policies for the admission of students; the formulation and adoption of general operating policies, standards and procedures of the college; the appointment of the Graduate College faculty; and the approval of those recommended for degrees. Although the Dean and the Council maintain significant oversight of programs in the Graduate College, the programs also establish policies and procedures, consistent with the policies and procedures of the College and the University. The Graduate College Council periodically reviews all program policies and procedures.

The faculty of the Graduate College is drawn from the faculty of the other colleges of Rush University, who hold the same rank in the Graduate College as in their primary colleges. All of our programs are administered out of the Dean's office and are overseen by the Graduate College Council. Faculty members from several programs participate in the education of students in each program.

The Graduate College Student Council will be an open forum, whereby any student member of the Graduate College (MS or PhD) can attend meetings held by the elected graduate student representatives. These meetings are for the students to discuss concerns related to the Graduate College, including the curriculum, insurance, academic matters, fund raising, degree requirements, professional development opportunities, as well as community engagement. All issues raised at these meetings will be brought to the attention of the Graduate College Council. Also, the GCSC coordinates awards given to the faculty by the graduate students (Mentor of the Year and Excellence in Teaching Award). All students are encouraged to participate to ensure your input is communicated. Students serving on the council are provided the opportunity to take an active role in college governance; serving as liaisons that interact between the student body, the Graduate College, and the University.

Also, as part of a community of science professionals, the Graduate College Student Council should partake in university or community outreach programs such as fund-raisers, elementary school science demonstrations, and philanthropic work deemed appropriate by the members of the council that year. In more recent years, the GCSC have instituted the Emerald Event, their largest fund-raiser for the students of the Graduate College to attend scientific conferences and present their research. Since its beginning, the GCSC has raised money to pay for well over 50 travel awards. The GCSC has also helped in various charitable endeavors which raise money for research; as well as university-sponsored fund-raisers including golf-outings, wine and cheese art auctions, and smaller projects throughout the year. The GCSC also organizes several social outings from BBQs to whirly ball competitions, to intra-departmental sporting competitions.

Program Specific Committees

All Graduate College programs have committees that advise the Program Director on the process of student acceptance, progression and deal with curricular issues. Respective Program Directors chair these Committees.



The Graduate College Academic Programs

Biotechnology (MS)

Clinical Research (MS)

Integrated Biomedical Sciences (MS and PhD)

Biotechnology (MS)

Biotechnology (MS): Program Overview

The Graduate College offers a two-semester, non-thesis academic, research and laboratory master's level training program designed to prepare the student for a research career in the pharmaceutical and biotechnology industries or the university laboratory. This program is also an excellent preparation for further training in graduate school or professional doctoral programs.

The student will take the Graduate College's Core Curriculum series of didactic courses covering principles of molecular biology and genetics, cellular biochemistry, cell biology, tissue biology and system physiology and pharmacology. Additional courses designed specifically to prepare students for a career in the laboratory and research, including Experimental Design and Models in Disease, Biostatistics, Research Ethics, Communication and Management, are also required. Finally, students will participate in hands-on laboratory courses designed to cover the common and most important techniques and methods employed in research today. The program will culminate in an independent research capstone experience, where students complete a small research project complete with research design, execution of laboratory experiments, data analyses and the defense/presentation of their work. The student will also participate in the IPE 502 university course, which will expose students to inter-professional teamwork in healthcare settings. The course will appear on the student's transcript. The laboratory and research experiences will ensure proficiency in a wide variety of techniques, making the student highly competitive for employment in this ever-expanding and understaffed job market. This program also gives an excellent expansion in basic sciences and its applications in translational research, thus serve well those students who wish to further their studies in professional schools (medical, dental, pharmacy, and other health sciences) or join a PhD program.

Biotechnology (MS): Admission Requirements

Admissions to the biotechnology program are offered for the fall semester only. The Graduate College feels that a qualified and dedicated student can complete the requirements of the full-time curriculum within the two-semester academic plan. It must be emphasized that this is a rigorous program that will require full attention and commitment by the student.

The faculty of the Graduate College encourages diversity among the student population and therefore, seeks to admit persons from various backgrounds. The Graduate College uses the following guidelines to evaluate candidates for admission: Deadline for applications: All F-1 visa holders are encouraged to apply by March 15. For U.S. students, applications are received until the class is filled; however, applications must be completed with all supporting documents received by June 30.

2. Application requirements:

- a. All students must complete an application to the Graduate College online.
- b. A minimum of three letters of recommendation are required and a minimum of two should come from academic sources.
- c. Statement of purpose
- d. Curriculum vitae or resume
- e. An interview may be required.
- f. Students must have scores submitted for the GRE, or an equivalent test (e.g., MCAT, DAT, PCAT or other equivalent exam in the sciences). Although no specific score on these exams is required, students scoring above the 50th percentile are strongly encouraged to apply. GRE is waived for applicants with a PhD degree in Basic Science or a professional degree in Health Sciences (e.g., MD, DO, DDS, PharmD).
- g. Students with a GPA of 3.0 or better on a 4.0-point scale are strongly encouraged to apply.
- h. Please submit an official transcript from each college or University attended. All transcripts must be received in an original sealed envelope or through secured E-mail from the institution. Scanned items can be used for review and preliminary admission decisions; however, official documents will be required for final admission decision. Formal course by course grade/ diploma certification by ECE is required of all students who have completed their last degree outside of the U.S.
- i. Applicants whose native language is other than English and who do not hold an equivalent of a U.S. Bachelor's degree from an institution in a country where English is the official language, must submit scores from TOEFL
- **3. Acceptance letters:** Official acceptances for students will come only from the Dean's office. No students will be accepted after August 1 unless they had been officially placed on a wait list.

These will be addressed on a case-by-case basis. Applicants who may have special or unique qualities that make them strong candidates for graduate education are also encouraged to apply. Research and related job experience are valued highly in the admissions process and will be taken into account. Interviews with applicants are extremely helpful and can play a significant part in the admission decision. Beyond these measures, the faculty attempts to determine the applicant's motivation and potential for advanced study and a research career in the sciences. Once The Office of College Admissions Services has received all required documents, including the application fee, the applicant's admission materials are reviewed by the Program Director and approved by the Dean. The Office of College Admissions Services then notifies the applicant of the decision. Additional information and the admission application are available at http://www.rushu.rush. edu/gradcol.

Biotechnology (MS): Academic Policies

Academic Standing

All students who maintain a cumulative grade point average of 3.0 while completing the required course sequence with full-time enrollment will be considered to be In Good Academic Standing within the Graduate College and are eligible for graduation with the M.S. degree.

Any student who fails to maintain a 3.0 grade point average will be considered to be In Academic Difficulty until the deficiency is corrected. Those requirements will be determined by the Biotechnology Program Director with the advice of the Program Committee. A student In Academic Difficulty is not eligible for graduation.

Graduate College/Rush University Academic Policies

Academic policies specific to the Graduate College are located earlier in this catalog. In addition, the Academic Resources and Policies section of this catalog contains Rush University academic policies.

Biotechnology (MS): Graduation Requirements

The successful completion of the biotechnology curriculum with a minimum 3.0 (4.0 scale) cumulative GPA will qualify the student for graduation. No thesis or other activity is required. The Master of Science degree is conferred to biotechnology students.

Biotechnology: Curriculum

Course		Credit Hours
Fall Term		
BTN-525	Experimental Design & Models in Disease	2
BTN-531	Laboratory Techniques I (introduction to laboratory; good laboratory practices; data management) 2
BTN-532	Laboratory Techniques II (tissue culture; cell sorting)	2
BTN-533	Laboratory Techniques III	2
GCC-501	Molecular Biology: Genome to Proteome	3
GCC-502	Cellular Biochemistry: Proteins, Transport and Signaling	3
GCC-503	Functional Cell Biology	1
Spring Tern	n Student will select either BTN-524 or BTN-526, and all other courses listed below.	
	BTN-527 may replace BTN-534 under special conditions.	
BTN-524	Communication and Laboratory Management	1
BTN-526	Laboratory Management Special permission required to register for Intro to Clinical Bioinformatics	s, 1
	which is offered at the same as BTN-534. Contact Program Director for details.	
BTN-527	Introduction to Clinical Bioinformatics	2
BTN-534	Laboratory Techniques IV (study design; animal handling; surgical techniques)	2
BTN-535	Laboratory Techniques V (advanced quantitative techniques and independent research)	1
BTN-536	Laboratory Techniques VI (histology and immunohistochemistry; microscopy)	2
BTN-537	Research Capstone	4
GCC-504	Functional Tissue Biology	3
GCC-506	Biomedical Ethics	1
GCC-507	Biomedical Statistics	2
GCC-510	Introduction to Pharmacology	3
	Program Total:	34

Clinical Research (MS) Clinical Research (MS): Admission Requirements

This program is targeted to health care professionals with advanced degrees including MD, PhD or PharmD degrees. Students with other advanced degrees including nursing and pharmacy degrees and experience in clinical trials may also apply, however an advanced degree is not required. Many students in the program are physicians in fellowship programs at Rush and Stroger Hospitals. Students seeking admission to the Master of Science in Clinical Research program must complete an application and provide formal transcripts from all institutions of higher education that were previously attended. The deadline for application is generally July 30, although exceptions can be made. Applicants must enter the program in the fall semester, which starts early September. The majority of students applying to this program are current health professionals, and if an advanced health professional degree is documented, no entrance examination is required. If the applicant does not hold a professional degree, the GRE must be taken except in instances where professional experience would demonstrate performance in the field. If evidence of performance in the 50th percentile in national examinations (e.g., MCAT or USMLE step I or an equivalent test scores or DAT) is provided, the GRE requirements can be waived.

Applications will be reviewed by the Program Director and students will be notified when they are accepted.

Clinical Research (MS): Thesis Process

After identifying a mentor, the student and mentor will begin to outline the research project during the spring and summer of the first year. This can be of the student's own design or, alternatively, a student may participate in a large multi-centered trial provided permission is received in advance for publication of the subset of that data collected by the student as a thesis. Any project that involves patient-oriented research (requires IRB approval, or involves a systematic review of patient data) can be submitted. By midterm of the spring semester the student will present the project in the form of a scientific abstract with anticipated methods, statistical analyses, power analysis and possible outcomes. The Program Director must approve the abstract. Once approved, an IRB application can be submitted

The student will be required to complete the research project and write up the findings as a research thesis. The student is then encouraged to formulate the thesis into a scientific journal article and submit the manuscript as a publication in a peer reviewed journal. If a manuscript is not written and submitted, the student must still present a written thesis for consideration for degree completion. All students will present their work publicly prior to graduation. The mentor and Program Director sign the completed thesis document indicating acceptance of the thesis for completion of the degree. There are no written or oral qualifying exams for the program.

Clinical Research (MS): Academic Policies

To remain in good standing, the Graduate College requires that the student has a passing ("B" or higher) cumulative average for all required coursework. For this purpose a P will count as a B for grade averaging.

Students are expected to attend all classes and participate in discussion. Students are also expected to participate in the various computer laboratories that are routinely held in the McCormick Educational Technology Center (METC) throughout the first year of the program where the Biostatistics courses are taught.

Students are expected to conduct themselves in a professional manner. This includes respecting the rights of others and being kind and courteous to students, faculty/staff and patients. Intimidation of other students and faculty/staff will not be tolerated and is grounds for dismissal. Sexual harassment as well as harassment related to race, color, religion, sexual orientation, national origin, ancestry, age, marital or parental status, or disability is prohibited. The University Bulletin details the policies regarding inclusion of minorities and those with disabilities as well as the policies and procedures for reporting harassment. The Graduate College understands that many of the students are clinicians, but it does expect for them to be available for class time (generally 3:30 to 7:00 p.m. on Tuesdays and Thursdays).

The Master of Science, major in Clinical Research, program follows the University Policies on Academic Honesty and the University Statement on Student Conduct.

Student Grievance Procedure

Numerous checks are in place to assure the fair treatment of students. However, if a grievance does evolve, the student should speak with the Program Director first in an attempt to resolve the problem. If this is unsuccessful or the grievance involves the Program Director, the student's grievance can be appealed to the Dean of the College.

Graduate College/Rush University Academic Policies

Academic policies specific to the Graduate College 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): Graduation Requirements

The student must maintain a passing cumulative average of B or higher to graduate. The student's advisor and the Program Director must approve the student's thesis.

Clinical Research (MS): Faculty Research Interests

Because this is a multidisciplinary program, there are no identified faculty members aside from those who teach in the curriculum. Please see the various clinical departments/sections at Rush University for their respective research interests.

Clinical Research: Curriculum

The curriculum for the program is single track the first year and self-directed the second year. All students in the program are required to maintain a cumulative average of "B" or greater (or pass). Courses offered are graded in year one as either pass/ no pass or with a letter grade. With the exception of the IRB modules, all classes in the first year are scheduled on Tuesdays and Thursdays from 3:30 to 7:00 p.m.

First Year		Credit Hours
Fall Term		
CRE-557	Clinical Trials I (Intro to Clinical Research)	2
CRE-558	Clinical Trials II (Intro to Clinical Research)	2
GCC-546	Principles of Biostatistics I	2
GCC-548	Bioinformatics	1
GCC-551	Ethics and IRB	2
PHR-556	Tools for Research	1
Spring Terr	n	
GCC-547	Principles of Biostatistics II	2
GCC-549	Bioinformatics II	1
GCC-552	Introduction to the Regulatory Process	2
PVM-553	Observational Epidemiology	1
Summer Te	rm	
CRE-597	Thesis Research	1-9
Second Yea	nr	Credit Hours
Fall Term		
GCC-593	Introduction to Grantsmanship	1
CRE-597	Thesis Research	1-9
	Student should select CRE - 559 or CRE - 523 (special permission required to take CRE - 523 in the f	all term)
CRE-559	Readings in Special Populations	1
CRE-523	Readings in Clinical Research	1
Spring Terr	n	
CRE-597	Thesis Research	1-9
	Student should select CRE - 523 or CRE - 559 (special permission required to take CRE - 559 in the s	pring term)
CRE-523	Readings in Clinical Research	1
CRE-559	Readings in Special Populations	1
	Program Total:	32

For graduation, students are required to complete a minimum of 32 credit hours. Students are recommended to take the readings courses in the second year along with Grantsmanship course. The students will also meet periodically with the Program Director during the second year to monitor progress on their master's thesis research project. A trainee who fails a class or receives a no-pass in a course will have an opportunity to retake the exam or rewrite the paper to reverse the no-pass grade. A cumulative average of "B" or greater (pass) in required courses is needed to continue in the program. Failure to remediate the no-pass grade will automatically require the Program Director to review the trainee's status and officially place the trainee on academic probation for a period of one semester. The course director will develop a remediation plan to ensure the trainee has mastery of the subject area covered. Required courses are GRE-557, CRE 558, GCC 551, GCC 546, GCC 547, GCC 552, PVM 553.

The second year is designed to provide an intense mentored clinical research project under a mentor's guidance and the preparation of a Master's Thesis. Students usually enroll in at least six credit hours per semester. These are typically research hours (CRE-597) or elective readings classes. The student and mentor will identify a clinical research project and will submit that project in the form of an abstract by the end of the spring semester of year 1. The student and mentor will further refine the proposal in the summer between the first and second years. Only projects relating to clinical research questions will be considered for this program. The student is expected to complete all of the data collection by the beginning of the spring semester of the second year.

Minimum Credit Hours Required

Successful completion of the clinical research program requires 32 semester hours as a minimum for graduation along with preparation and public defense of a written thesis, as well as submission of a completed thesis to the Rush Library for publication. Of the 32 semester hours required to complete the program; 13 credit hours should come from required courses, a minimum of 12 semester hours from Thesis Research, and a minimum of 2 semester hours of electives. Students may opt to take additional credit hours beyond the required 32 credit hours, but are financially responsible for the additional tuition cost.

Integrated Biomedical Sciences Integrated Biomedical Sciences (MS)

The MS in Integrated Biomedical Sciences (IBS) is a research master's degree that will introduce students to the scientific approach. Students who do well in the IBS MS program are encouraged to apply for the IBS PhD program. Graduates will be prepared to perform advanced biomedical research at colleges and universities, government agencies, hospitals, non-profit agencies and industry. In the past Rush offered master's degrees in Anatomy, Biochemistry and Immunology/Microbiology; however the IBS master's program includes additional basic science disciplines, such as neurological science, physiology and pharmacology, as well as the original three areas. Since collaborative interdisciplinary teams of scientists perform transformative biomedical research, singlediscipline based science degrees will no longer be offered. Instead our new integrated program emphasizes an interdisciplinary approach to biomedical education and research.

Students in the program will work with faculty to generate new knowledge in biomedicine using sophisticated research methods and statistics.

Integrated Biomedical Sciences (MS): Track/Research Opportunities

The research tracks for the 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. The tracks include qualified faculty from Rush University Medical Center who have an interest in research in these tracks. 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.

Integrated Biomedical Sciences (MS): Admission Requirements

Applicants must enter the program in the fall semester to begin the required course work in the core curriculum. The priority deadline for admission consideration is March 30 and the preferred final date that applications will be accepted is May 1. The program has the following requirements for admission:

- A baccalaureate degree from an accredited college.
- Course work in biology, cellular biology, molecular biology, physics, chemistry, organic chemistry, physical chemistry and mathematics, including calculus, is highly recommended. Upper-level biochemistry or physiology courses are also highly recommended.
- Official academic transcripts from all baccalaureate and postbaccalaureate educational experiences are required. These should provide a minimal grade point average of 3.0 overall (out of 4.0). Higher grades are expected in science courses.

Applicants from foreign countries must have their transcripts evaluated by the independent agency, ECE.

• GRE or MCAT scores are required. All applicants whose native language is not English are required to take the Test of English as a Foreign Language (TOEFL).

- A statement of the applicant's interests, previous research experience, and goals needs to be included as an essay in the application. The personal statement must include a ranking of a student's interest in the five different research tracks. If the student's research track interest is not clear, then he or she should list "undecided."
- Three letters of recommendation, two of which must come from academic resources, are required. Letters will preferably be from science faculty who can evaluate the character of the applicant, the applicant's academic and research performance, and the applicant's ability to think and work independently.

The admissions committee will evaluate applications. All prior academic experience and the letters of recommendation will be evaluated for an indication of the applicant's potential for success in the program. With rare exceptions, MS applicants will interview online or by phone with faculty members before admission to the program. Acceptance is on a rolling basis and will be limited by the availability of faculty to act as mentors. We will begin accepting qualified applicants after the priority deadline until the cohort is complete.

Integrated Biomedical Sciences (MS): Curriculum

Core Courses and Research Hours

Cognates and Electives

For graduation, students will need 7 credits of cognate hours and 4 credits of elective hours in courses that they select. They can take these at any time throughout their tenure as an MS student.

First Year		Credit Hours	
Fall Term			
GCC-511	Readings in Molecular Biology	1	
GCC-512	Readings in Cellular Biochemistry	1	
BTN-525	Experimental Models in Disease & Experimental Design	2	
GCC-501	Molecular Biology: Genome to Proteome	3	
GCC-502	Cellular Biochemistry: Proteins, Transport and Signaling	3	
GCC-503	Functional Cell Biology	1	
GCC-530	Laboratory Rotations I	1-9	
GCC-505	Techniques in Biomedical Sciences	2	
Spring Teri	n		
GCC-504	Functional Tissue Biology	3	
GCC-506	Research Ethics	1	
GCC-507	Biomedical Statistics	2	
GCC-533	Laboratory Rotations II	1-9	
	Cognates and Electives		
	For graduation, students will need 7 credit hours of cognates and 4 credit hours of electives.		
	Students may take these courses any time during their tenure as an MS student, after consulting		
	with a program director or research track director.		
Summer Te	Summer Term		
GCC-599	Thesis Research for Integrated Biomedical Sciences	1-9	
Second Yea	ar	Credit Hours	
Fall and Sp	ring Terms		
GCC-694-69	98 Advanced Topic Seminar (Track-Specific Cognates)	1	
	Cognates and Electives		
	For graduation, students will need 7 credits of cognate hours and 4 credits of elective hours in cour	ses	
	that they select. They can take these at any time throughout their tenure as a MS student.		
GCC-599	Thesis Research for Integrated Biomedical Sciences	1-9	

Note

GCC = Graduate College courses

BTN = Biotechnology course

The specific courses or hours of cognates and electives will vary each semester depending upon the student's choice of track and specific course selections. A low number of credit hours are considered to be a full-time commitment to research.

The specific courses or hours of cognates and electives will vary each semester depending upon the student's choice of track

V = Variable number of credit hours

Integrated Biomedical Sciences (MS): Program Progression

Year 1: Classes

The goal of course work 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. The reading courses provide a critical understanding of the literature and existing base of knowledge. They will also show students how new knowledge in these areas can help us understand diseases and use this information to identify new therapeutics. This broad-based approach to disease is the core of the integrated biomedical sciences program.

Year 1: Research Experience, Advisor and Research Track Selection

During the first year, students will typically have two lab rotations in different laboratories. Laboratory rotations will expose students to diverse research environments and allow them to assess how they fit in to a particular laboratory or mentor situation. Students are expected to learn techniques and attend all scheduled experiments, lab meetings, mentor/student discussions, etc. Based on these rotations, students will submit the name of a potential advisor and their track choice to the Integrated Biomedical Sciences Education Committee. The committee, in consultation with the potential advisor, will approve advisor-student matches. Specific research projects will be determined by the thesis advisor after advisor-student discussions. If a student cannot choose a thesis advisor based on the first two laboratory rotations, a third rotation may be taken in the spring or summer. The selection of a research advisor and project will determine the student's selection of a research track.

Year 2: Classes, Research Experience, Thesis Committee, Thesis Proposal and Thesis Presentation

Any classes will be dictated by the track cognates and electives available that academic year. Course selection should complement research activity and the student's interests and should help prepare him or her for the career choice identified through the use of the individual development plan website and additional resources provided by the Graduate College. When the student is not in class or studying, the student should be working on his or her research project. The student's assessment at this time relates to the following student outcomes:

The student is able to acquire research skills, collect and analyze data, and interpret results to address an original research question.

In addition, this step begins the continuing assessment of the following outcomes: A graduating student is capable of independent critical thinking and writing, as well as proposing, performing and effectively presenting his or her research.

The graduate is 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 student creates an individual development plan (IDP) to better define his or her areas of interest, including teaching, administration, and research in industrial or academic environments or further professional education. Upon graduation, the graduate will have used the IDP, mentorship and training opportunities to refine his or her career path.

In consultation with an advisor, the student chooses a thesis committee consisting of the advisor, and two additional Graduate College faculty members. Committee members should be familiar with either the research area or crucial technical aspects of the student's project. Each student will write a succinct research project proposal which will be presented to the committee for approval. The proposal serves to keep the student focused on achieving project aims and allows the committee to track student progress based on the stated aims. Students should view the committee members as a resource for didactic and technical assistance.

The student is expected to write a thesis and present his or her research to the Rush research community (thesis presentation). The thesis committee will then meet with the student to address any questions or issues related to the data or format of the thesis document. The student may be asked to make revisions before final committee approval.

Minimal Credit Hours Required for the Integrated Biomedical Sciences MS Degree

The program is designed to be completed in five consecutive semesters and requires completion of at least 37 semester hours. These hours include 20 credit hours of core courses, seven credit hours of track-specific cognates, four credit hours of elective courses, and six hours of thesis research credit.

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. In addition, students will work with faculty advisors to select one area from five available tracks: translational cancer research; cardiovascular and respiratory biology; immunity, infection and inflammation; function and disorders of the musculoskeletal system; and function and disorders of the nervous system. 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.

Students will be required, in conjunction with their advisors, to select seven credit hours of courses from concentration-focused cognates in their chosen tracks and a minimum of four elective credits from the Graduate College courses offered. Finally, students will be required to accrue a minimum of six credit hours of thesis research. Master's students will be encouraged to participate in track-specific advanced topic seminars in the second year.

Academic Advisor/Principal Advisor

The program's assistant director functions as the academic advisor to the students during the first year of matriculation in the program. After two rotations, the student will identify the track that he or she wishes to enter and will begin working in the laboratory of his or her research advisor. At this time, both the track director and research advisor will serve as mentors for the student.

Research Advisor Selection

During the first year, the student, in consultation with the assistant program director and track directors in areas related to the student's interests, will select two laboratories for research rotations. Based on these rotations, the student will identify the track that he or she is interested in and submit the name of a potential advisor to the IBS education committee. The committee will match students with advisors.

Master's Thesis Research Committee

After the student selects a research advisor and begins to collect preliminary data, the student and advisor will select a research committee in consultation with the track director. This committee will advise the student and evaluate his or her proposal and thesis documents. The thesis committee will consist of the advisor and two additional Graduate 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 intended to be a resource for the student and their advisor to enhance didactic and technical knowledge towards the completion of the student's project. The track director (or designated representative) will serve as an exofficio non-signing member of the thesis committee to oversee the procedural aspects of the committee meetings and student progression through the program. 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 only one member may disagree with the final decision.

Research Proposal

Each student will write a succinct research project proposal to be presented to the committee for approval. The proposal serves to keep the student focused on achieving project aims and allows the committee to track student progress based on the stated aims. Proposals should contain the following elements:

- A background section with relevant literature citations in the specific research area
- The specific aim or aims (appropriately limited in scope)
- The experimental design and methods to be utilized
- Any preliminary data collected

The target date for proposal presentations is within the first 45 days of the fall semester of year two; it is also acceptable for the proposal presentation to be held in the summer term between years one and two. The thesis committee evaluates the feasibility and scope of the project and recommends alterations as needed to ensure adequate student progress through the program in a timely fashion. Students must maintain a B average in the first year. If they drop below a B average, they should discuss the possibility of remediation with the director of the course causing difficulty. The course director may issue an incomplete grade for a limited time in accordance with university policy while agreedupon remediation takes place. However, once a failing grade (No Pass or letter grade less than B) has been given, the education committee must approve a remediation plan. Until a grade is remedied or the average is improved in some other way, the student is on probation. A student who remains on probation for two semesters will be dismissed.

Students who have entered a track must receive at least a B grade in any courses deemed required by their track director. Failure to remediate a grade of less than B in a required course or a no-pass grade in a pass/no-pass course or the receipt of another such grade while on probation will result in dismissal.

Integrated Biomedical Sciences (PhD) Integrated Biomedical Sciences (PhD): Program

Philosophy

The PhD in integrated biomedical sciences is designed to educate science professionals for leadership in research and academic positions, as well as to provide career path education relevant to their specialized fields. In the past, Rush offered doctoral degrees in anatomy, biochemistry, immunology, neurological science, physiology and pharmacology. Since collaborative interdisciplinary teams of scientists perform current and future biomedical research, we no longer offer, individual basic science degrees. Instead our new doctoral program emphasizes an integrated interdisciplinary approach to biomedical research. Graduates of this program will perform high-quality, impactful biomedical research at colleges and universities, government agencies, hospitals and nonprofit agencies and in industry. Students in the program will work with faculty and scientists to generate new knowledge in the fields of biomedicine using sophisticated research methods. As a part of the program, students are required to demonstrate their knowledge of core and concentration-specific course work pass a comprehensive preliminary examination and a gualifying exam based on their research proposal. They will design and conduct research that culminates in a dissertation, and they will disseminate their scientific findings through scholarly publications and presentations.

Integrated Biomedical Sciences (PhD): Admission Requirements

Applicants must enter the program in the fall semester in order to begin the required course work in the core curriculum. The deadline for submission of applications is generally March 1. The Integrated Biomedical Sciences Program has the following requirements for admission to the program:

- A baccalaureate degree from an accredited college.
- Course work in biology, cellular biology, molecular biology, physics, chemistry, organic chemistry, physical chemistry and mathematics, including calculus, is highly recommended.

- Official academic transcripts from all baccalaureate and postbaccalaureate educational experiences are required. These should provide a minimal grade point average of 3.0 overall (A = 4.0). Higher grades are expected in science courses, and evidence of research experience is preferred.
- GRE or MCAT scores are required. All applicants whose native language is not English are required to take the Test of English as a Foreign Language (TOEFL). Applicants from foreign countries must have their transcripts evaluated by the independent agency, ECE.
- A statement of the applicant's interests, previous research experience, and goals needs to be included as an essay in the application. The personal statement must include a ranking of the student's interest in the five research tracks. If the student's research track interest is not clear, then the student should list "undecided."
- Three letters of recommendation, two from academic resources, are required. We prefer these to be from science faculty who can evaluate the character of the applicant, the applicant's academic and research performance, and the applicant's ability to think and work independently.

The admissions committee will evaluate applications. All prior academic experience and the letters of recommendation will be evaluated for an indication of the applicant's potential for success as a graduate student and future independent investigator. With rare exceptions, PhD applicants will be required to interview with faculty members before admission to the program.

Acceptance into the doctoral program is limited by the availability of stipends. Accepted doctoral students receive a competitive University supported stipend and tuition scholarship, are supported by a funded faculty member or have stipends from external sources. In most cases University funded stipends are awarded to US residents. The stipend and tuition scholarship is renewed each year providing the student is making satisfactory progress towards the degree.

Integrated Biomedical Sciences (PhD): Curriculum

Cognates and Electives

For graduation, students will need 16 credits of cognate hours and 9 credits of elective hours in courses that they select. They can take these at any time throughout their tenure as a PhD student.

First Year		Credit Hours
Fall Term		
BTN-525	Experimental Models in Disease and Experimental Design	2
GCC-501	Molecular Biology: Genome to Proteome	3
GCC-502	Cellular Biochemistry: Proteins, Transport and Signaling	3
GCC-503	Functional Cell Biology	1
GCC-505	Techniques in Biomedical Sciences	2
GCC-530	Laboratory Rotations I	1-9
Spring Term		
GCC-715	Advanced Studies on Molecular, Cellular and Functional Tissue Biology	1
GCC-504	Functional Tissue Biology	3
GCC-506	Research Ethics	1
GCC-507	Biomedical Statistics	2
GCC-550	Practical Bioinformatics in Biomedical Sciences	2
GCC-531	Topics in Biomedical Integration I	2
GCC-598	Pre-Proposal Research for Integrated Biomedical Sciences	1-9
GCC-694-698	Advanced Topic Seminar (Track-Specific Cognates)	1
GCC-530	Laboratory Rotations I	1-9
GCC-533	Laboratory Rotations II	1-9
GCC-534	Laboratory Rotations III	1-9
Summer Term	1	
GCC-532	Topics in Biomedical Integration II	3
GCC-534	Laboratory Rotations III	1-9
GCC-598	Pre-Proposal Research for Integrated Biomedical Sciences	1-9
Second Year		Credit Hours
Fall Term		
GCC-593	Introduction to Grantsmanship	1
GCC-694-698	Advanced Topic Seminar (Track-Specific Cognates)	1
	Cognates and Electives	
	For graduation, students will need 16 credits of cognate hours and 9 credits of elective hours in	
	courses that they select. They can take these at any time throughout their tenure as a PhD studen	t.
GCC-598	Pre-Proposal Research for Integrated Biomedical Sciences	1-9
GCC-699	Dissertation Research for Integrated Biomedical Sciences	1-9

continued

Spring Term		
GCC-550	Dissertation Research for Integrated Biomedical Sciences	2
GCC-544	Advanced Biomedical Statistics	3
GCC-598	Pre-Proposal Research for Integrated Biomedical Sciences	1-9
	Cognate and Electives	
	For graduation, students will need 16 credits of cognate hours and 9 credits of elective hours in	
	courses that they select. They can take these at any time throughout their tenure as a PhD student.	
GCC-694-698	Advanced Topic Seminar (Track-Specific Cognates)	1
GCC-699	Dissertation Research	1-9
Summer Term		
GCC-699	Dissertation Research	1-9

Note:

2 credit hours of GCC 699 is defined as full-time

In years three through five, the emphasis is on research. A student works with their dissertation advisor, research advisory committee and track director, to determine the most appropriate mix of cognates, electives and research hours each semester.

- GCC-694-698 Advanced Topics Seminar courses count as cognates and are taken for one semester hour of credit each fall and spring term starting in the Spring of the first year for a maximum of eight credits. This course is not required during the semester when a student intends to graduate. The Advanced Topics Seminar course should align with the student's research track.
- GCC-598 Pre Dissertation Research: Pre-Dissertation Research and Laboratory Rotations are part of the core curriculum.
- GCC-699 Dissertation Research: Students are expected to register for a low number of research credits each semester since only 18 credits of dissertation research are required for graduation. Two credit hours are considered to be a full time commitment to research.
- Other Cognates and Electives

While registrations appear similar in years three through five, the nature and character of the research changes, and the student passes through a number of steps towards completion of the PhD.

Years 3-4: Fall and Spring

GCC-693 Advanced Integrated Biological Topics (AIBT)

This is a course where third and fourth year students in the IBS PhD program give seminars based on their own research. Students also attend the Basic Science Interdisciplinary Seminars and My IDP presentations. Credit Hours: 1

Years 3-5: Fall and Spring

GCC 694-698

This course is not required the semester the student expects to graduate.

Other Cognates and Electives

In years two through five, the emphasis is on research. A student will work with their dissertation advisor, research advisory committee and track director, to determine the most appropriate mix of cognates, electives and research hours each semester.

GCC 694-698 Advanced Topics Seminar courses count as cognates and are taken for one semester hour of credit each fall and spring term starting in the Spring of the first year for a maximum of eight credits. This course is not required during the semester when a student intends to graduate. The Advanced Topics Seminar course should align with the student's research track.

GCC-598 Pre-Dissertation Research (Pre-Dissertation Research and laboratory rotation hours are part of the core curriculum.)

GCC-699 Dissertation Research: Students are expected to register for a low number of research credits each semester since only 18 credits of dissertation research are required for graduation. Two credit hours are a full time commitment to research.

• GCC-694-698 Advanced Topic Seminar (Track-Specific Cognates) Credit(s): 1

Cognate and Electives

For graduation, students will need 16 credits of cognate hours and 9 credits of elective hours in courses that they select. They can take these at any time throughout their tenure as a PhD student.

• GCC-699 Dissertation Research Credit(s): 1-9

Integrated Biomedical Sciences (PhD): Dissertation Program Progression

Year 1 Classes and Comprehensive Exam:

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, biochemical, cellular and organ system perspectives. This broad based approach to disease is the core of the Integrated Biomedical Sciences program. The Topics in Biomedical Integration course (GCC 531) is offered in the spring semester of the first year. In this course, a specific disease will be studied from the molecular perspective to organ system failure under Faculty direction. The students will then be assigned a group project in which they use the approaches they have learned to study another disease. This project will strengthen student skills in preparation for the comprehensive exam. In the summer, GCC 532 Topics in Biomedical Integration II is the comprehensive exam in which students will be given an individualized disease topic related to their planned research. They will be required to write a literature review approaching the topic from each biomedical prospective.

Year 1 Research Experience:

During the first year, every student will have three laboratory rotations: GCC 530, Laboratory Rotation 1 (variable), GCC 533, Laboratory Rotation 2 (variable), and GCC 534, Laboratory Rotation 3 (variable). Each rotation must be in a different laboratory. A student registering for the 3 required Laboratory Rotations should consecutively use GCC 530, 533 or 534. These laboratory rotations will expose the students to a range of research environments. Students are expected have a small project with a hypothesis and aims, to learn techniques and attend all lab meetings. Based on these rotations and other discussions with potential advisors, at the end of these rotations the student will submit the names of three potential Research Advisors with a priority ranking to the IBS Education Committee. The IBS Education Committee in consultation with the potential advisors will decide which student will be matched with which advisor (see Track Selection below). Students committed to a particular laboratory (funded by the Research Advisor's grants) are also required to do 3 laboratory rotations. Exposure to other laboratories and research will give the student a greater breadth of knowledge. Students are expected to select a Research Advisor and a Research Track by the end of their first summer term. IBS MS to PhD students will follow their track of courses and may either do a rotation (GCC 534) or if they did not change laboratories, they may immediately begin Pre Dissertation research with their research advisor. All advisors must meet the criterion established by the program (see below).

Year 2 Track Selection, Research experience, Qualifying Exam

The selection of Research Advisor will significantly influence the student's selection of a research track. Subsequent classes will be dictated by the track cognates and electives and by relevant electives offered in other tracks. The selection of electives should complement research activity and the interests of the students and should help prepare him/her for the career path identified through the use of the Individual Development Plan (IDP) website (http://myidp.sciencecarreers.org) and additional resources provided by the Graduate College. The goals of the second year are to learn the relevant laboratory techniques and to develop a research proposal in conjunction with their Research Advisor. 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 Specific Aims and be written up as an F31 grant (See "Dissertation Proposal and Presentation" on the next page). The student must select a Dissertation Committee and present the proposal to the committee by the end of the second year. The proposal presentation to the Committee is considered the Qualifying Exam. Acceptance of the proposal by the Dissertation Committee means the student is a candidate for the PhD.

The student's assessment at this time relates to the following Student Learning Outcomes:

- The graduate will be able to acquire research skills, collect and analyze data, and interpret results in order to address an original research question.
- In addition, this step begins the continuing assessment of the following outcomes: A graduating student will be capable of independent critical thinking and writing as well as proposing, performing and effectively presenting his/her research.
- The graduate 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 need to 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 that the student will be involved in the student will create an Individual Development Plan (IDP) to define their areas of interest including teaching, administration, research in industry, or academic research. At the end of the first year the Program and Track Directors will review each student's IDP plan and progress in the program. Upon graduation, the graduate will have used the IDP, mentorship and training opportunities to refine their career path.

Student progress is assessed at the end of years two through five. For year two the assessment of student progress to meet expected outcomes will be evaluated by the student's Research Advisor and Track Director. See section on Dissertation Proposal and Presentation.

Year 3-5 Research Progress/Publications/ Dissertation

For evaluations in years three through five, the student will submit a written report documenting their progress. The research advisor and Track Director will also submit their assessment of student progress for each year. A meeting with the student, Research Advisor, and Track Director will take place at the end of each year to discuss the student's progress.

The Research Advisor monitors the day-to-day progress of the student. The Dissertation committee will meet at least once per year 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 student is expected 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 yield at least one first authored research article accepted for publication in a peer-reviewed journal. The publication requirement is necessary for graduation but not sufficient. The Dissertation Committee will continue to assess student progress on the aims and determines when the student has completed his/her dissertation. (See Dissertation Proposal and Presentation, below).

The student's assessment continues on the outcomes listed above 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 is able to contribute to the scientific literature in an area of expertise via published abstracts, a dissertation and by the publication of a first-authored research article in a refereed journal.

Thesis Document, Presentation and Approval

The student is expected to write a thesis document (approved by the director of the Library of Rush University Medical Center) and present the work in a public lecture attended by the thesis committee, and University faculty and students. The thesis committee will then meet with the student in a closed session to address any additional questions and to deliberate on approval of the thesis. Typically the meeting immediately follows the public lecture. The student may be asked to make revisions before final thesis approval by the committee. The registrar's office must be notified of impending completion of the degree by submission of an Intent to Graduate Form at the beginning of the final semester. As the thesis is reaching final form, the student should consult with the University librarian to assure that the document is formatted correctly. Once the thesis is approved, the student will complete the final checklist to assure that all necessary approvals have been obtained. Each student will be required to have an exit interview and provide feedback concerning his or her experience at Rush University.

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 80 semester hours of credit distributed as follows: core courses (37), concentration specific cognates (16), electives (9), and dissertation research (18). Students must also pass the Cumulative Exam and the Qualifying Exam and publish a 1st authored scientific paper 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 a biomedical science or a Doctor of Medicine (MD) 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, then the requirement of core course hours can be compensated by taking extra hours of laboratory rotations or pre-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 track which requires fewer Cognate and elective hours based on the number of hours of cognate and electives required for the IBS MS program.

Students will be required, in conjunction with their advisors, to select from concentration-focused cognates in one of five tracks: translational cancer research; cardiovascular and respiratory biology; immunity, inflammation and infection; disorders of the musculoskeletal system; and disorders of the nervous system. All students will be required to participate in track-specific advanced topic seminars and to complete a minimum of 18 semester hours of dissertation research following admission into candidacy for the PhD. Dissertation hours in the Graduate College encompass laboratory research required for completion of the dissertation, including analyzing published data; developing a research proposal; learning and applying advanced methodologies and statistical data analyses; developing skills to write and submit a pre-doctoral 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

Academic Advisor/Principal Advisor

The Program Director functions as the academic advisor to the student during the first year. During this time, the Program Director determines the course schedule with the student and monitors the student's progress. In the second year the Track Director works with the Research Advisor and assists the student in selecting the proper cognates and electives.

Research Advisor Selection:

During the first year, the student, in consultation with the program director and track directors in areas related to the student's interests, will select three laboratories for research rotations. Based on these rotations, the student will identify the track he or she is interested in and submit the names of three potential advisors with a priority ranking to the IBS education committee. The IBS education committee, in consultation with the potential advisors, will match students with advisors. Students who are already committed to a particular laboratory (funded by the research advisor's grants) are still required to take three laboratory rotations. The student's research project should advance knowledge in a specific discipline and yield first-author scientific publications for the student.

Integrated Biomedical Sciences: Track/Research Opportunities

The research tracks 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. The tracks include qualified faculty from Rush University Medical Center who have an interest in research in these tracks. 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.

Milestone Exams

- **Comprehensive exam** In the summer quarter following the first year of classes, all students will take GCC 532; Topics in Biomedical Integration II. This course is their comprehensive exam where each student will be given an individualized disease topic related to their planned research. They will be required to write a literature review approaching the topic. This comprehensive exam assures that the student can approach a research or clinical problem from a variety of perspectives, accounting for the published literature that illuminates the molecular, cellular and organ systems manifestations of the disease process.
- Qualifying Exam (Dissertation Proposal and Presentation) - The student must select a Dissertation Committee and present the proposal to the committee by the end of the 2nd year. The student's research proposal should include at least three Specific Aims and be written up as a NIH F31 grant. Acceptance of the proposal by the Dissertation Committee means the student is a candidate for the PhD.

Advisory Committee

After passing the comprehensive exam, the student selects a Research Advisor and begins to collect preliminary data. By the end of spring of the second year the student and advisor select a dissertation committee in consultation with the Track Director. This committee advises the student and serves as the Qualifying exam committee and the Dissertation Defense Committee. The Graduate College requires that the committee is comprised of five members. One member will be the student's Research Advisor. A majority of the Committee (at least three members) must be faculty at Rush University who are members of the Graduate College. The chair of this committee, who cannot be the student's Research Advisor, will be chosen at the first committee meeting and will preside at all subsequent meetings and arrange for a 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 except the final approval of the dissertation.

In addition to the five committee members, a member of the IBS Education Committee will serve as an ex officio member of the committee. Ex officio members can participate in the meetings but cannot vote. IBS Education Committee members are eligible to be selected to the five-person committee as full members; if they are selected, they cannot serve as the required ex officio member. The purpose of having an ex officio member is to monitor the quality of the exam experience. The ex officio member will ensure that the Graduate College rules are followed; they will report back to the Education Committee.

Qualifying Exam

The goals of the second year are to learn the relevant laboratory techniques and to develop a research proposal in conjunction with the student's Research Advisor. The research project will advance knowledge in a specific discipline and yield "first author" scientific publications for the student. For the Qualifying Exam, the student's research proposal should include a hypothesis and specific aims and be written up as an F31 grant. The student must select a Dissertation Committee and present the proposal to the committee by the end of the second year. All members of the Advisory Committee or appropriate substitutes must be present at the Qualifying Exam and the Dissertation Defense either in person, on the phone or using electronic media.

If the student does not complete the Qualifying exam by the end of the Summer of their second year they will be on probation during the Fall of their third year. If they have not taken the exam by the end of that semester on probation the student will be dismissed. Since the advisor also has a responsibility to make sure that their students complete milestones in the program on schedule, advisors of students who do not take the Qualifying exam by the end of Fall semester their third year will not be allowed to take a new student into their laboratory for the next two years. If possible, students will submit their proposal as an Individual National Research Service Award (F31) [see: grants. nih.gov/training/nrsa.htm#fellowships for more information]. Once a student has passed the Qualifying exam they are a candidate for the PhD and will register for GCC 699, Dissertation Research. Once the Qualifying Exam has been passed, the student will present an annual update to their committee in an identical format as the original proposal meeting with exception of the anticipated year for graduation. They will also present their work in an open seminar in GCC 693 during their third and fourth years (unless the student is graduating in their fourth year). The annual Advisory Committee update will consist of an oral presentation research progress by the doctoral student to their committee. This oral presentation will be followed by a discussion of progress in the last year; their career development will also be reviewed. A detailed written account of each of these areas will be distributed to the committee prior to this meeting. It is recommended that the myIDP website (http:// myIDP.sciencecareers.org) be used whenever possible to track and report all professional development activities.

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. Upon completion of the data defense and writing of the dissertation, the student will provide the dissertation to their committee for approval at least two weeks prior to their public defense. The public defense will be comprised of a public one-hour lecture attended by the dissertation committee and faculty and students of 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. In line with the rules and procedures of the Graduate College, the committee strives for a consensus, but the dissertation can be approved over the objections of a single committee member. However, if two committee members disapprove the dissertation, then it is not approved. The awarding of the PhD degree requires the demonstration of a capability for independent research and a contribution to scientific knowledge. As for the Qualifying Exam, all members of the committee or appropriate substitutes must be present at the Dissertation Defense either in person, on the phone or using electronic media.

It is assumed that one or more research articles are included in the dissertation. Since a peer reviewed first authored research article is required for the degree, the dissertation is not considered complete until its publication. If publication is pending, the committee may sign off on the dissertation but the Program Director will not sign off on the graduation form until the paper is accepted or published as verified by appearing on Pub Med.

Integrated Biomedical Sciences (PhD): Tuition Scholarship and Stipend

Acceptance into the doctoral program is limited by the availability of stipends. Accepted doctoral students receive a competitive University supported stipend and tuition scholarship, are supported by a funded faculty member or have stipends from external sources. University funded stipends are awarded to US residents. The stipend and tuition scholarship is renewed each year providing the student is making satisfactory progress towards the degree. Outside employment is forbidden without prior graduate college approval as it interferes with the time and effort necessary to complete the program. This excludes activities that would be in line with Individual Development Plan goals like tutoring, teaching and proctoring.



Rush University Course Descriptions

Rush University Course Descriptions

Audiology

AUD - 576 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

AUD - 592 Grand Rounds

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

AUD - 602 Anatomy and Physiology of the Auditory System

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

AUD - 614 Acoustic Phonetics & 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 life-span aspects of speech perception. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. This course is taken in conjunction with AuD-621 Clinical Methods in Audiology. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

AUD - 630 Electrophysiologic Assessment I

This course introduces principles and practices of electrophysiologic methods in audiologic assessment. Special emphasis is on the auditory brain-stem response and its use with both pediatric and adult patients. The course includes basic information on electro-cochleography and otoacousticemissions. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

AUD - 642 Amplification Seminar

This seminar focuses on contemporary, innovative, evidencebased fitting and rehabilitation issues related to personal amplification systems. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

AUD - 650 Vestibular Assessment and Rehabilitation

Anatomy and physiology of the vestibular and oculomotor systems is reviewed. Emphasis is on VNG/ENG 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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; workmen's compensation; and litigation are also discussed. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: 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 healthcare, marketing, cost/benefit ratios, and financial and accounting considerations. Personnel issues, conflict management, and strategic planning are discussed. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 1

AUD - 692 Audiology 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. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: 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 lifespan and from diverse cultural backgrounds. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 lifespan and from diverse cultural backgrounds. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 lifespan and from diverse cultural backgrounds. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 lifespan and from diverse cultural backgrounds. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 lifespan and from diverse cultural backgrounds. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: 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 lifespan and from
diverse cultural backgrounds. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: 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 lifespan and from diverse cultural backgrounds. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 7

AUD - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

Clinical Laboratory Management

CLM - 500 Principles of Laboratory Management

The rapidly changing laboratory environment is constantly responding to diverging trends in healthcare. This mandates the requirement for effective management. Laboratory managers will need to create new solutions to today's problems. This course is designed to provide a web-based learning approach to teaching the principles of laboratory management. The focus is to present underlying managerial concepts and then assist the learner in the successful application of this information to real-life situations. Book chapters, Internet references and website resources permit the learner to acquire advanced and current information in each of the major topic areas. Learning units are organized to cover four major areas of management: Basic Principles and Organizational Structure, Human Resources, Finance, and Operations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

CLM - 502 Quality Systems & 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

CLM - 503 Method Comparison & 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

CLM - 504 Scientific & 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 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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, Power Point presentations, and additional readings and internet resources. Knowledge will be demonstrated through online discussions, homework assignments, and online examinations. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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 Masters 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

CLM - 507 Issues & Practices in Human Resource Management

This course will include an overview of the operational and strategic role that Human Resource Management plays in Health Care institutions. Readings, case studies, Internet references, 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

CLM - 508 Health Care Informatics

This course is will include an overview of healthcare 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

CLM - 510 Management Experience

The Clinical Laboratory Management Experience 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 Experience 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 Experience 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 Healthcare Management. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

CLM-511 SBB Management Research Project

This course represents the Management Research Project for the successful completion of the Masters of Science in Clinical Laboratory Management. SBB 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

CLM - 512 Organizational Behavior

The rapidly changing trends in healthcare and the laboratory setting force organizations to respond to change for overall survival. Organizational development is a collection of concepts that focuses on employees' roles within organizations, and how to make working relationships function best. This course will provide the learner with the tools to effectively, economically, and strategically make changes to improve their services. It will explore the major trends and issues in organizational development as it applies to the laboratory. A Web-based learning approach will be used to present the concepts. Book chapters, case studies, relevant articles, and website resources will provide the learner with advanced and current information in each of the major topic areas. Topics in the course include leadership, understanding employee motivation, developing effective work teams, managing organizational change, intervention techniques, and conflict negotiation skills. Application of knowledge to real-life situations will be accomplished through case studies, discussion boards, and current event topics. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

CLM - 513 Legal Issues in Health Care

The rapidly changing legal environment of health care affects clinical laboratories. Laboratory managers must have a working knowledge of the legal system, and statutes, regulations, and case law which affects them. This course provides a webbased approach to learning the essential legal issues affecting laboratory management, using cases, statutes, and regulations. 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. Topics are subject to change as new legal issues arise. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-12

CLM - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

Clinical Nutrition

NTR - 545 Nutrition Assessment

Interpretation of information from dietary, laboratory, anthropometrics and clinical study. Various nutrition assessment techniques and the appropriate use of these tools in determining the nutrition status of a population and/or individual client. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

NTR - 549 Physiological Basis of Exercise and Nutrition

An examination of the physiological and metabolic adaptations to exercise and physical conditioning. Special attention is given to the nutritional needs of the human body in response to specific types of exercise. Prerequisite: NTR 522, 542 Prerequisites: NTR 522, -NTR 542 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2-3

NTR - 558 Dietetic Public Policy Initiatives and Advocacy

This course introduces students to the public policy initiatives supported by the American Dietetic Association, reviews the policy formulation process and provides opportunities to advocate for food & nutrition initiatives with elected governing officials. Students will monitor and actively advocate for public policy impacting food and nutrition. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

NTR - 560 Food & Nutrition Services Mgt

The course will focus on advanced practices and principles related to management of food and nutrition services in healthcare operations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NTR - 583 Food Systems Operations Analysis

A study of significant food systems management issues in the healthcare industry. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

NTR - 590 Special Topics

In depth examination of contemporary professional issues. Content varies according to topic choices by instructor. Prerequisite: Instructor approval. Prerequisite: Instructor approval. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 2-3

NTR - 592 Individualized Clinical Practice

For students who wish advanced experience in one or more areas of clinical nutrition practice. Limited to clinical nutrition students. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 1-2

NTR - 595 Scientific Rationale for Diet Reference Intakes (DRIs)

This course is designed to familiarize the student with scientific rationale for the Dietary Reference intakes. The application of these dietary standards for populations, subgroups, and individuals will be reviewed in both a historical context and one based on current literature. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 2

NTR - 600 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. Prerequisite courses: none or permission of instructor. Credit(s): (1)

NTR - 601 Theory & Measurement of Protein And Energy Needs Throughout Lifecycle

Through lecture and group discussion this seminar will review the history of principles associated with assessment of protein and energy needs throughout the lifecycle with an analysis of approaches appropriate for each application. Follow-up discussions will address the controversies surrounding protein needs during aging and certain disease states, i.e., AIDS, diabetes, congestive health failure, etc. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NTR - 602 Adv Principles Nutritional Epidemiology

Through seminar discussion this course is designed to continue the interpretation of epidemiological data regarding nutrition and disease. An exploration of the nature of variation in diet, correction for measurement error, issues in analysis and presentation of dietary data will be conducted. Examination of factor and cluster analyses used to describe dietary patterns of population subgroups will be conducted. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 3

NTR - 603 Advanced Vitamin Nutrition

This course provides an in-depth examination of the understanding of vitamins with respect to current dietary reference intakes with an emphasis on critical analyses of the criterion/criteria of adequacy for specific age groups. Additional discussion and evidence will be assessed regarding the basis for tolerable upper limits for each vitamin. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NTR - 604 Critical Topics: Clinical Nutrition

This is an independent study in which the student in collaboration with faculty advisor will choose a topic of interest. Focus of course will be on thorough analysis and application of the topic. Project/ paper will be defined by student in association with faculty advisor. Prerequisite: Departmental approval. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 3

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. Prerequisite course: NSG 533 Advanced Pathophysiology or permission of instructor. Prerequisite courses: None or permission of instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 courses: None or permission of instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

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 evidencedbased nutrition-related recommendations for the use of enteral and parenteral nutrition in ICU-related illnesses. Prerequisite courses: NTR 612 Advanced Nutrition Care II or permission of instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

NTR - 621 Regulation of Macronutrients and Energy Metabolism in Human Nutrition

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. Prerequisite courses: none or permission of instructor. Prerequisite courses: None or permission of instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NTR - 622 Micronutrient, Phytochemicals and Dietary Supplements in Nutrition

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. Prerequisite courses: None or permission of instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NTR - 623 Maternal 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. Prerequisite courses: none or permission of instructor. Prerequisite courses: None or permission of instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NTR - 624 Geriatric Nutrition

This advanced course will explore the changes in nutritional needs associated with normal aging as well as needs during a variety of disease states. Independence/successful aging, disease prevention and neurological problems will be emphasized. End of life issues will be addressed. Social support networks and resources and will be studied. Practical applications of knowledge learned will be addressed. Evidence based research to support these issues will be studied. Prerequisite courses: None or permission of instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NTR - 631 Research in Nutrition Behavior Change And Education

Students will critically evaluate the research about various behavior change theories as well as the factors that influence behavior change. These theories, constructs and strategies will be used to develop counseling and educational strategies to use with different individuals or groups. Prerequisite courses: None or permission of instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

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 healthcare operations will be explored. Prerequisite courses: none or permission of instructor. Prerequisite courses: none or permission of instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisite: None or permission of instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 5

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. Prerequisite: None or instructor permission. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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: None or permission of instructor. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. 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. Prerequisite courses: None or permission of instructor. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. 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. Prerequisite courses: None or permission of instructor. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 5

NTR - 655 Management Project

The course will focus on advanced practices and principles related to management of food and nutrition services in healthcare operations. Prerequisite courses: None or permission of instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

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. Prerequisites: CHS 501 Introduction to Biostatistics, CHS 502 Research Methods or permission of instructor. Prerequisite courses: CHS 501 Introduction to Biostatistics, CHS 502 Research Methods or permission of instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisite courses: none or permission of instructor Prerequisite courses: None or permission of instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

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. Prerequisite courses: None or permission of instructor. Credit(s): (2)

NTR - 900 Independent Study

Independent work on a selected topic. Students will complete a literature search and written paper on a topic related to nutrition or food systems management. Arrangements made with advisor prior to registration. Prerequisite: Instructor approval. Prerequisite: Instructor approval. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-12

NTR - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s):

College of Health Sciences

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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: No. Credit(s): 1-15

CHS - 364 Health Care Systems & Policies

Health Care in America is designed to inform students of the present structure and design of the healthcare 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 healthcare reform legislation. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

CHS - 605 Introduction to Ethics in Healthcare

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 clinicianpatient 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

CHS - 610 Research Methods in Health Sciences

This course provides an introduction to 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

CHS - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

College of Nursing

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, 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 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. The basic knowledge of the structural and functional components of the nervous system will then be applied to the abnormal functions that are the basis for neurological disorders. Prerequisite: courses in human biology or anatomy and physiology or comparative anatomy, and permission of instructor. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 2

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. Pass/No Pass Grading Allowed: No. Credit(s): 1-15

CON - TRNR Internatl 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. Pass/No Pass Grading Allowed: No. Credit(s): 1-15

IDS - 515 Geriatric Interdisciplinary Team Training

Principles of interdisciplinary team care are applied to the management of complex, geriatric patients in a variety of settings. Guest faculty from medicine, nursing, social work and health sciences lead case study discussions. Permission of instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-3"

NRS - 541 Master's Practica

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. Credit(s): (1-12)

NRS - 600 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. Credit(s): (1-7)

NSG - 500 Socialization Into Nsg Semr

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 personal philosophy to guide professional nursing practice. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

NSG - 501 Role of Professional Nurse

This course presents concepts essential to the practice of client/patient and family-centered nursing across the lifespan. Students will examine essential physiological and psychosocial concepts, the professional role, and introductory clinical reasoning, while respecting individual and cultural diversity. Corequisite: Role of the Professional Nurse Practicum Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 501P Role 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. Corequisite: Role of the Professional Nurse Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 3

NSG - 502 Nsg Mgt:Common Hlth Alt/Lifespan

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. Inter- and intra-professional collaboration for ensuring quality health outcomes is emphasized. Prerequisite: Role of the Professional Nurse; Corequisite: Nursing Management of Common Health Alterations Across the Lifespan Practicum Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 502P Nsg Mgt: Common HIth Alt-Practicum

This course provides an opportunity for the learner will apply concepts learned in the didactic portion of the course to the care of patients across the lifespan experiencing common acute or exacerbated health alterations. Prerequisite: Role of the Professional Nurse Practicum; Corequisite: Nursing Management of Common Health Alterations Across the Lifespan Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 3

NSG - 503 Psychiatric & Mental Health Nursing Prac

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. Prerequisite: Nursing Management of Common Health Alterations Across the Lifespan; Corequisite: Psychiatric and Mental Health Nursing Practicum Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 503P Psych & Mental Health Nrs 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. Prerequisite: Nursing Management of Common Health Alterations Across the Lifespan Practicum; Corequisite: Psychiatric and Mental Health Nursing Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 3

NSG - 504 Women's HIth 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. Inter- and intra-professional collaboration for ensuring quality health outcomes is emphasized. Prerequisite: Successful completion of Terms 1, 2 and 3; Corequisite: NSG 504P Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 504P Women's Health Nursing

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. Prerequisite: NSG-503 and NSG-503P; Corequisite: NSG-504 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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. Prerequisite: NSG-522 and NSG-524; Corequisite: NSG-504 and NSG-508P Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 lifespan 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. Preequisite: successful completion of terms 1-3; Corequisite: NSG-505 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

NSG - 506 Nsg Management of Complex Hith

This course presents Physiological, psychosocial, cultural, development and ethical concepts in the case management of complex health alterations across the life span. Inter- and intra-professional collaboration for ensuring quality health outcomes is emphasized, LT grade Prerequisite: NSG 504 and NSG 505; Corequisite: Nursing Management of Complex Health Alterations Across the Lifespan Practicum Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 506P Nsg Management of Complex Prac

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 lifespan experiencing complex health alterations.P/F grade Prerequisite: Integrated Clinical; Corequisite: Nursing Management of Complex Health Alterations Across the Lifespan Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 3

NSG - 507 Comprehensive Examination

A comprehensive end-of-program examination Prerequisite: Successful completion of Terms 1 - 5. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

NSG - 510 Pathophysiology: Advanced Generalist

This course provides a conceptual, lifespan 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. Prerequisite: Anatomy and Physiology Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 511 Pharmacology: Adv Generalist

This course provides a conceptual, lifespan 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: Pathophysiology for the Advanced Generalist Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 512 Clinical Leadership & Proj Development

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 513 Capstone: Clin Proj Development & Implem

This course provides the student with the opportunity to integrate the knowledge, skills and cultural awareness acquired throughout the clinical leader program. The focus of the capstone project is the development of an evidence-based plan to improve healthcare outcomes for a patient/population cohort. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 3

NSG - 513A Capstone: Clinical Project Development and Implementation (Prelicensure)

This course provides the student with the opportunity to integrate the knowledge and skills acquired throughout the clinical nurse leader program. The focus of the capstone project is the development of an evidence-based plan to improve healthcare outcomes for a patient cohort/population. Prerequisite: Successful completion of Terms 1 - 5 Credit(s): (3)

NSG - 514 Immersion: Advanced Generalist (Prelicensure)

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: Successful completion of Terms 1 - 5 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 7

NSG - 515 Immersion: Clin Project Implementation

This clinical course expands the student's clinical competency & integrates the role of the Clinical Nurse Leader in a variety of clinical settings. The student will demonstrate progressive competence & independence in meeting the clinical objectives throughout the experience. Students will use this clinical experience to develop and/or implement the Capstone project. Prerequisite: Successful completion of Terms 1 - 5 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 7

NSG - 516 Nsg Care of the High Risk Newborn

This course provides the student with an overview of high-risk neonatology and the nurse's role in providing care to this unique population. The focus of this course is the application of evidencebased interventions to improve outcomes of care for the neonate and the neonate's family. LT Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 517 CNL Role Seminar

The CNL Role seminar will provide the post-licensure students with an opportunity to do clinical and/or practicum hours in the areas of case management (5 weeks), education (5 weeks), and CNL practice (5 weeks) in a clinical site. This seminar will result in the opportunity to practice in the major foci of the CNL role. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 3

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 healthcare. Students will learn to directly and/or indirectly incorporate palliative care into their practice. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

NSG - 520 Applied Epidemiology

Principles and methodologies of epidemiology are presented, including factors that influence the health status of individuals and populations. A framework is given for assessing measures of disease frequency and association, patterns of disease, and identification and analysis of health risks. Issues in determining inference from epidemiological studies are discussed. The application of epidemiology to clinical practice is presented. Prerequisite or Corequisite: graduate-level biostatistics Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

NSG - 521 Organizational & Systems Leader

This course provides the student with an opportunity to explore organizational and leadership theories, and analyze the process of managing change. The effects of operational and managerial processes on practice environments that affect outcomes, quality, safety and cost effectiveness of patient care are discussed. Ethical leadership principles and role development underpin the course content. Clinical informatics as a component of healthcare is integrated throughout the course. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 522 Applied Epidemiology Biostats Nursing

This course develops students' ability to apply epidemiological and statistical concepts to guide evidence-based practice in a dynamic health care environment at the micro and mezzo level. Students use public data sources, data management software and the published literature to understand and address health concerns in populations, and in evaluating economic evidence of health interventions and programs. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 524 HIth Promotion in Individuals & 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: Applied Epidemiology and Biostatistics for Nursing Practice Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 525 Health Assessment Across the Lifespan

This course is designed to teach the didactic components of a comprehensive history and physical examination of individuals/ families across the lifespan 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 lifespan. Corequisite: NSG 525L, NSG 501 and NSG 501P Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 2

NSG - 525L Hith Asmt Lab: Adv Generalist

This course is designed to teach the didactic components of a comprehensive history and physical examination of individuals/ families across the lifespan 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 lifespan. Successful completion of all preceding clini-cal courses Corequisite: Health Assessment Across the Lifespan Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. 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: Advanced Physiology or Advanced Pathophysiology or Neonatal Pathophysiology Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 3

NSG - 532 Advanced Physiology

This course covers selected aspects across the lifespan of advanced cell biology and systems physiology that are related to cellular homeostasis and viability in humans. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 533 Advanced Pathophysiology

This course incorporates scientific concepts, principles, and theories into discussion of advanced pathophysiologic processes across the lifespan. 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 lifespan. 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 lifespan Prerequisite: Advanced Pathophysiology and Advanced Physiology Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 536 Principles of Case Management

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisite: Research for Evidence Based Practice and Organizational & Systems Leadership Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 541 Chemistry & 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 542 NRS Anesthesia Pharmacology

This course provides a comprehensive study of the pharmacokinetics and pharmacodynamics of drugs used in nurse anesthesia practice. The interactions between anesthetic agents and other pharmacological substances will be discussed. Learners will review the effects of the aging process and its altered physiology on anesthesia pharmacology. Prerequisite: Advanced Pharmacology (3) Prerequisite: Advanced Pharmacology Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 543A Anesthesia Principles I: Basic Principles

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: Chemistry and Physics for Nurse Anesthesia; Corequisite: Nurse Anesthesia Practicum Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 543B Anesthesia Principles II: Adv Principles

This course is for the student who has a foundation in the basic principles & 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 & pharmacologic principles for each of the surgical specialty areas. LT grade Prerequisite: Anesthesia Principles I, Anesthesia Pharmacology; Corequisite: Nurse Anesthesia Clinical Practicum Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 543C Anesthesia Principles III: Obstetric & Pediatric Anesthesia

This course provided essential content for nurse anesthesia care in the specialty areas of obstetric & pediatric anesthesia. Learners will acquire knowledge related to the preoperative assessment of obstetric & pediatric patients, as well as the planning, implementation & evaluation of nurse anesthesia care provided to obstetric & pediatric patients undergoing diagnostic & surgical procedures. LT grade Prerequisite: Nurse Anesthesia Principles I & II: Basic & Advanced Principles of Nurse Anesthesia Care; Corequisite: DNP Clinical Practicum Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 546 Developmental Physiology Fetus/Neonates

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: Advanced Physiology Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 547 Neonatal Pathophysiology

This course provides a graduate level conceptual approach to principles and content in neonatal pathophysiology which 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: Developmental Physiology of the Fetus/Neonates Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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: Advanced Physiology (core), Neonatal Pathophysiology Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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: Advanced Pharmacology (3) Prerequisite: Advanced Pharmacology Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisite: Dev Phys of the Fetus/Neonates, Neonatal Pathophysiology; Corequisite: Clinical Practicum Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: 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. Prerequisite: Neonatal Management I; Corequisite: Clinical Practicum Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisite: Neonatal Management II; Corequisite: Clinical Practicum Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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: Health Assessment across the Lifespan PNP and AC PNP Students Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. This the second course in the three course series in the PNP management sequence Prerequisite: Advanced Primary Care of the child I Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisite: Advanced Primary Care of the Child II Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 556 Appl Pharmacology: Pediatrics

In this course, pediatric advanced practice students apply a systematic process for therapeutic prescription plans for selected common acute and chronic health conditions. Prerequisite: Advanced Pharmacology.Co: Adv Primary Care of the Child I Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisite: Advanced Primary Care of the Child I or equivalent; Corequisite: Clinical Practicum Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 part 2 of a 2 part series. Prerequisite: Pediatric Acute Care I; Corequisite: Clinical Practicum Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 565 Public HIth Systems & the APHN Role

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 US Health Care System, and the advanced nursing role in these organizations. Prerequisite: Healthcare Economics, Policy, Finance; Leadership in Evolving Healthcare Environments; Applied Epidemiology and Biostatistics for Nursing Practice; Corequisite: 1-3 credit hr NSG 606 (3) Prerequisite: Healthcare Environments; Applied Epidemiology and Biostatistics for Nursing Practice; Corequisite: 1-3 credit hr NSG 606 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 566 Population Assessment & Health 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 Prerequisite: Applied Epidemiology and Biostatistics, Research for Evidence Based Practice; Prerequisite or corequisite for APHN and Pop Health MSN-DNP students: Public Health Systems & APHN Role, Specialty Practicum 3 credit hours (3) Prerequisite: Applied Epidemiology and Biostatistics, Research for Evidence Based Practice; Prerequisite or corequisite for APHN and Pop Health MSN-DNP students: Public Health Systems & APHN Role,

Specialty Practicum 3 credit hours Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 567 Population Intervention Planning, Implementation & 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 decisionmaking. 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: Population Assessment and Health Promotion Frameworks; Corequisite: specialty practicum for APHN students only Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 569 Maternal Child Mgt for 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. Prerequisite: Health Assessment across the Lifespan, Diagnostics for the Advanced Practice Nurse, and Pharmatherapeutics in Primary Care; Corequisite: Practicum Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 lifespan 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: Advanced Pharmacology Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. 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 lifespan 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: Advanced Pharmacology Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. 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: Pharmacotherapeutics, and Health Assessment across the Lifespan (Specialty); Corequisite: Clinical Practicum Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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: Management: Adult/ Gerontology I; Corequisite: Clinical Practicum Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 571C Mgt: Adult/Ger Acute& 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: Management: Adult/Gerontology I and II, Pharmacotherapeutics for Acute Care; Corequisite: Clinical Practicum Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

NSG - 571D Mgmt: Adlt/Gero Acute & Crit 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. NSG-570A, NSG-571A and NSG-571C NSG-605 and NSG-607 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

NSG - 572 Quality & 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 & patient safety are evaluated in the context of national trends & healthcare priorities. The essential role of interprofessional teams as a mechanism to improve quality & patient safety is addressed. LT Prerequisite: Research for Evidence- Based Practice, Organizational and Systems Leadership; Corequisite: Health Promotion in Individual and Clinical Populations, Leadership in Evolving Healthcare Environments Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 lifespan. 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 Prerequisite: Advanced Pharmacology, Neuropathophysiology Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 576 Neuropathophysiology: Lifespan Approach

This course is designed to provide advanced practice nursing students with knowledge of the essential neuropathophysiology of mental illness, across the lifespan. 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. Prerequisite: Adv Pathophysiology Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 577A Diagnostics & Management I: Psychiatric Assessment Across Lifespan

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. Prerequisite: Psychopharmacology; Corequisite: Practicum or with permission from Instructor Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 577B Diagnostics & Management II: Evidence Based Treatment

The theoretical basis for psychotherapeutic nursing interventions across the lifespan 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: Diagnostics and Management I: Psychiatric Assessment across the Lifespan; Corequisite: Practicum or with permission of instructor Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 577C Diagn Mgt 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: Major Psychopathological Disorder; Corequisite: Clinical Practicum or with approval of instructor Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 578 Interprofessional Cultural Competency Via Community Based Service

This interprofessional course is designed to provide students across the disciplines with the knowledge and skills to provide care within diverse populations and communities. Students will examine personal attitudes and beliefs as they relate to cultural competency and will develop and implement a service learning project in conjunction with and the needs of the community setting in which they are placed; they will reflect on their experiences as they examine their personal beliefs, values, and views, as well as their experiences interacting with each other and their community partners. LT Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 600 Ldership in Evol Hlthcare Envir

This course guides students in explorations of leadership in evolving healthcare 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. Prerequisite: NSG 521 Organizational & Systems Leadership (for BSN-DNP APRN students only) Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 602 Healthcare Economics, Policy, Finance

This course will examine current trends in healthcare policy and economics and their impact on financing and care delivery in the US. Using informatics as a tool, costs associated with specific health care delivery systems will be analyzed at the organizational level Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 603 Effective Proj Plan: Impl/Evaluation

This course provides students with the information and tools needed to strategically plan, implement and evaluate change initiatives and outcomes in practice and health care environments. Prerequisite or Corequisite: Healthcare Economics, policy & finance Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 604C DNP Project Planning III

This course is the third of three consecutive one hour seminars. Each seminar focuses on a specific aspect of planning for implementation and evaluation related to a significant project that impacts at least one of the Institute of Medicine's six aims: health care safety, effectiveness, patient-centeredness, timeliness, efficiency, or equity. Students are guided by their DNP project advisor in the development of their project/capstone proposal and in the integration of core content obtained throughout the DNP program. Upon completion of this course, the student will have developed and received the required approvals on a project proposal and submitted necessary Institutional Review Board requirements. Prerequisite or corequisite: DNP Project Planning II Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

NSG - 604D DNP Project Planning II & III

The seminar focuses on specific aspects of planning for implementation & evaluation related to a significant project that impacts at least one of the Institute of Medicine's six aims: health care safety, effectiveness, patient-centeredness, timeliness, efficiency, or equity. Students are guided by their DNP project advisor in the development of their project proposal and in the integration of core content obtained throughout the DNP program. Upon completion of this course, the students will understand project evaluation and resource needs and will have developed and received the required approvals on a project proposal and submitted necessary Institutional Review Board requirements. PF grade Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

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) Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: Yes. 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 and DNP requirements and may vary across specialty programs. Clinical conference is included. Dependent on program. P/N grading. (Variable)[Acute Care Pediatric] Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 5 (420 Clock Hours)

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 and DNP requirements and may vary across specialty programs. Dependent on program. P/N grading. (Variable) Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Prerequisites: NSG-522 and NSG-523. LT & P/N grading. (3) Prerequisites: NSG-522 and NSG-523. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 healthcare setting. Prerequisites: NSG-608; Prerequisite or Corequisite: NSG-610. (1) Prerequisites: NSG-608; NSG-610. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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 healthcare setting. Prerequisite: NSG-609A. (1) Prerequisite: NSG-609A. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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 healthcare setting. Prerequisite: NSG-609B. (1) Prerequisite: NSG-609B. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 healthcare environments. Prerequisites: NSG-521, NSG-522, NSG-523; LT & P/N grading. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No.Credit(s): 3

NSG - 611 Financial & Business Concepts

This course will enable students to understand, apply, and communicate the concepts required for effective financial planning, decision making, and management in healthcare programs and organizations. The long-term financial impact of practice changes will be assessed at the organizational level. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 612 Appl Organiz Analysis/Mgt HR

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 613 Data and Decision Making for Strategic Outcomes Management

This course focuses on acquiring and demonstrating the skills to effectively utilize data for health care decision making based on the process of outcomes management. Students will acquire and demonstrate the skills to effectively utilize data to change health care environments, to formulate an outcomes management plan, and to evaluate aspects of the outcomes management process. Prerequisite: Masters level statistics, NSG 603 Effective Project Planning, Implementation and Evaluation OR Prerequisite or corequisite: NSG 566 Population Assessment and Health Promotion Frameworks Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 614 The Leader and Policy, Politics, Power, & 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. Prerequisite: Research for Evidence-Based Practice for BSN-DNP students; Healthcare Economics, Policy and Finance Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 advisor 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 OR NSG-566 and NSG-567. LT & P/N grading. (2) Prerequisites: NSG-608 and NSG-610 OR NSG-566 and NSG-567. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

NSG - 625 Adv Health Assessment-APRN Across Lfspn

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 lifespan. 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. NSG-533 NSG-625L Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

NSG - 625L Adv Hth Assmt-APRN: Lab

In this course, students will develop skills needed to conduct a comprehensive history and physical examination of individuals across the lifespan 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 lifespan. Prerequisite: Licensure as an RN, successful completion of an Undergraduate Physical Assessment course, completion of Advanced Physiology and Advanced Pathophysiology; Corequisite: Health Assessment Across the Lifespan. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 678 The Rsch Process: Mixed Methds Design

This web-based course will focus on the history, nomenclature, typologies, design, conduct, and dissemination of mixed methods research. Emphasis will be on the comparison of various mixed method typologies, the selection of appropriate design for the research questions, and the integration of both the qualitative and quantitative data in analysis, and dissemination of results. Prerequisite: The Research Process: Qualitative Design; The Research Process: Quantitative Design Methods Part I and Part II (Corequisite is acceptable) (3) Prerequisite: The Research Process: Qualitative Design; The Research Process: Quantitative Design Methods Part I and Part II (Corequisite is acceptable) Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 680 Understanding Sci Paradigms

This course will provide students with a foundation in relevant philosophies of science that have influenced knowledge development and scientific inquiry in nursing. The learner will examine how philosophies of science have influenced the development of knowledge and will analyze a concept embedded within a particular context or phenomenon of interest. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 681 Understanding Theoretical Framework Deve

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: Understanding Scientific Paradigms Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 682 Developing Professional Writing Skills

This course assists students to develop their publication knowledge and skills. Issues related to the publication process will be explored. Emphasis is on health science writing and publication in professional journals. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 683 Ethical Conduct-Rsrch Setting

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. Prerequisite: Enrollment in the PhD Nursing Program or approval by course director Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. (3) Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. LT Prerequisite: Graduate Statistics OR Applied Epidemiology & Biostatistics for Nursing Practice and Intermediate Statistics Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 686 The Research Process: Quantitative Design & 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 healthcare. 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. Prerequisite: Enrollment in the PhD Nursing Program and Applied Epidimioloy & Biostatistics for Nursing Practice OR 4 hours of Graduate Statistics Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 687 Rsch Process:Quan Dsgn/Mth 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: The Research Process: Quantitative Design & Methods Part I Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 688 The Research Process: Qualitative Design & 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. Prerequisite: Understanding Scientific Paradigms Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 690 Grantsmanship

This course examines grant writing and review skills. Content focuses on grant mechanisms, strategies, format, and the review process. Guidelines address writing particular NIH grant sections including: specific aims and research approach, human subjects, budget, personnel, and supporting materials. Prerequisite for CON: NSG 681, NSG 687, and NSG 681; for RHSM: HSC 610, HSC 611, HSC 612, and HSC 622 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

NSG - 691 ACRP

Encompasses a minimum of 8 credit hours of individually designed courses of independent study that are planned conjointly by the student and academic advisor. Prerequisite: None. P/N grading. (Variable) Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-12

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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 3-4

NSG - 900A Independent Study

Student contracts with faculty member to complete an academic independent study in a selected area of nursing content. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

NSG - 900B Independent Clinical Study

Intensive independent study in a specialty clinical area of nursing with faculty contract. RN Licensure and admission to the College of Nursing Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

NSG - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

Communication Disorders and Sciences

CDS - 574 Transition 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

CDS - 592 Applied Topics: Communication Disorders/ Sciences

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 emphasized. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

CDS - 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

CDS - 642 Advanced Topics in Amplification

Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

CDS - 651 Vestibular Assessment II

This course expands upon concepts and test techniques presented in Vestibular Assessment and Rehabilitation. 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

CDS - 659 Seminar in Tinnitus Assessment & Management

The purpose of this seminar is to provide the fundamental knowledge and skills necessary to help individuals with tinnitus self-manage this symptom and to minimize the negative impact on tinnitus on everyday function and quality of life. This seminar will (1) Review research on the current understanding of the mechanisms of tinnitus, (2) Discuss various approaches toward counseling, assessment, and management and (3) Examine the treatment of efficacy of current audiological, medical, and cognitive-based management options. Credit(s): 1

CDS - 663 Pediatric Amplification & 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

CDS - 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. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 2

CDS - 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 psycho-acoustics are related to the cochlear, middle ear, and osseointegrated implant technologies. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

CDS - 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

CDS - 670 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; workmen's compensation; and litigation are also discussed. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

CDS - 671 Seminar in Supervision

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

CDS - 672 Seminar in Career Topics

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

CDS - 673 Practice Management & Clinical Operation

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 healthcare, marketing, cost/ benefit ratios, financial and accounting consideration. Personnel issues, conflict management and strategic planning are discussed. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

CDS - 682 Investigative Project Prep 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. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 1

CDS - 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

CDS - 692 Transition Practicum III & IV

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. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 1

CDS - 800 Transition 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 lifespan and from diverse cultural backgrounds. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

CDS - 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. The internship experience includes patients across the lifespan and from diverse cultural backgrounds. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

CDS - 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. The internship experience includes patients across the lifespan and from diverse cultural backgrounds. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

CDS - 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. The internship experience includes patients across the lifespan and from diverse cultural backgrounds. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 5

CDS - 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 lifespan and from diverse cultural backgrounds. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 7

CDS - 851 Transition 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 lifespan and from diverse cultural backgrounds. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 7

CDS - 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 lifespan and from diverse cultural backgrounds. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 7

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. Prerequisites: Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-12

CDS - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

Graduate College

ANA - 599 Master's Thesis Research

Laboratory research project and preparation of the master's thesis. A letter grade is provided for this course. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 1-12

ANA - 699 Doctoral Research

Research devoted to the preparation of a dissertation in partial fulfillment of the requirements of the degree program. Prerequisite: permission of program director. This is a pass/no pass course. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

ANA - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

BCH - 571 Med Biochem for Grad Students

Medical Biochemistry for graduate students. Graduate students take same lecture classes as medical students (BCH 501, 502). Instead of classes devoted to clinical studies or case studies in small group discussions, the graduate students receive supplemental lectures focused on experimental techniques, experimental design and biochemical calculations, pH and buffers, bioenergetics and redox chemistry, proteomics, carbohydrate chemistry, lipids, hormone receptors, signaling, and protein turnover. Essay examinations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

BCH - 624 Connective Tissue Biochemistry

Biochemistry of the extracellular matrix in connective tissues. Topics include collagen genes, structure, types, biosynthesis and diseases; proteoglycan structure, synthesis and diseases, hyaluronan; calcification of connective tissues, bone morphogenic proteins, basement membranes, elastin, fibronectin, extracellular matrix receptors, matrix metalloproteinases, and matrix metalloproteinase gene regulation. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 2

BCH - 699 Doctoral Research - Biochem

Biochemistry dissertation research for doctoral students. (P/N only) Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

BCH - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

BMC - 506 Human Movements and Kinematics

This course will cover: Anatomy of Joints -- Upper extremity: movement of arm, identify the muscle, muscle strength, contribution in daily activity. Lower extremity: movement, alignment, contribution in daily activity. Trunk: spine, lumbar discs, lower back movements, muscles that contribute. Linear Kinematics--Gait analyses, displacement-velocity-acceleration relationships, examples. Angular Kinematics-- Upper-extremity and lowerextremity joint movement angles, relationship between angular and linear motions, angular velocity and acceleration examples. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

BMC - 507 Bioengineering Materials

Introduction to biomaterials used in implants and medical devices with an emphasis on orthopedic biomaterials, definition of properties of implant materials, clinical significance and regulatory implications of materials. Properties of metal, ceramic, polymers, composites used in human implant devices. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

BMC - 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, modeling of human joints. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

BMC - 509 Mechanics of the Musculoskeletal System

Loads in musculoskeletal system: static analysis, joint stability, contact forces, Newton's law, Impulse, Moment of Inertia, center of mass, impulse-moment relationship. Tissue Mechanics: Hard Tissue: composition of bone, anisotropy, cortican and cancellous bone, bone adaption. Soft Tissue: articular cartilage, intervertebral disc, muscles. Structural Anaylsis of Musculoskeletal Systems: bending of beams, twisting, and contact stress. Boneimplant Systems: implant materials, joint replacements and their design, hip replacement, knee replacement, shoulder replacement, spinal-disc replacement. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

BMC - 590 Special Topics Biom: Computational Method

Computer models are being increasingly used for the solution of many complex problems in biomechanics. This course will give the students an insight on how computer models based on numerical methods are applied in orthopedic biomechanics. Students will receive weekly homework, sit for two exams and complete a mini-project based on the applications discussed in this course. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 3

BMC - 614 Bone Biology

Designed to give a graduate level overview of bone biology. Topics to be covered include material compositions, structure (bone architecture), tissue biomechanics, cells and turnover, mineralization, growth and development, serum calcium homeostasis, bone as an endocrine organ, laboratory and clinical imaging strategies, and metabolic bone diseases including osteoporosis. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

BMC - 615 Advanced Biomaterials

Focuses on current issues of implant materials science and biological principles that impact the design of implants and tissue-engineered products. Topics addressed include structural hierarchies of materials and tissues, physical and chemical properties of surfaces, degradation of materials, federal regulatory issues and advanced biocompatibility and implant immunology encompassing cell-surface/cell/matrix interactions. The course also covers normal and excessive inflammatory, immunological, and pathological events associated with implant biomaterials with a focus on orthopedic biomaterials and fundamental required for working in the orthopedics industry. Prerequisites: BMC 501 Statics and Dynamics, BMC 502 Strength and Properties of Materials and BMC 512 Bioengineering Materials. Prerequisites: MBM 501 Statics and Dynamics, MBM 502 Strength and Properties of Materials Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

BMC - 616 Tribology of Implants

Introduces the system aspects of tribology. Regardless of the tribological system, friction and wear are based on certain combinations of acting mechanisms, which depend on the structure of the system as well as on the introduction of tribological stresses. The major mechanisms of friction and wear under solid contact conditions will be highlighted and related to basic

physical, mechanical and chemical properties of the surfaces. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

BMC - 631 Doctoral Research in Biomechanics

Biomechanics dissertation research for doctoral students. (variable) Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

BMC - 699 Elective: Recent Advances in Orthopedics

New, up-to-date developments in gait analysis, spine kinematics, and modeling of human joints. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

BTN - 521 Experimental Models in Disease

This is a journal club which requires the student to critically evaluate published work Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

BTN - 523 Tools for Research

Application of computer, digital imaging and other supporting technologies are presented and practiced. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

BTN - 524 Communication & Lab Management

All aspects of seeking and obtaining the career start with employment are covered. Professional communication is introduced. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

BTN - 525 Exper Models in Disease & Exper Design

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

BTN - 526 Laboratory Management

The Laboratory Management course introduces the theory, practical application and evaluation of laboratory management principles in research and healthcare, including safety, research, educational methodology, quality control, ethics, laboratory operations and laboratory information systems. Opportunities for building critical thinking, problem-solving and teamwork, communication, management and leadership skills are provided. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 1

BTN - 527 Introduction to Clinical Bioinformatics

This course represents a hands-on training in clinical bioinformatics. The students will be tasked with learning the data architecture at Rush University Medical Center. Leveraging this knowledge, the students will be asked to answer several clinical questions. After completion of this course, the students will have generated a clinical query, acquired data on this query, and successfully analyzed the data. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 2

BTN - 531 Laboratory Techniques I

Introduction to laboratory techniques, basic techniques with proteins and cells, laboratory safety training and Good Laboratory practices training with qualifying examination. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

BTN - 532 Laboratory Techniques II

Cell isolation and cell culture techniques; experimentation with cell cultures; cell cycle, survival, protein and DNA content determination. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

BTN - 533 Laboratory Techniques III

Basic and extended molecular biology techniques; DNA and RNA work, cloning and protein expression techniques. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

BTN - 534 Laboratory Techniques IV

Animal husbandry, experimental procedures and techniques. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

BTN - 535 Laboratory Techniques V

Modern techniques in sample analyses. Protein sample preparation and analysis by HPLC, 2-D electrophoresis, IEF, mass spec. Intro to proteomics. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

BTN - 536 Laboratory Techniques VI

Histology and immunohistochemistry techniques. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

BTN - 537 Research Capstone

This is the seventh course in a series of 7 laboratory courses for biotechnology students. The overall purpose of this biotechnology degree is to train students to become effective laboratory technicians. This course will provide an opportunity for BTN students to do independent research projects where they can utilize all their laboratory training to address a specific question. This capstone research project is a culmination of their training. In collaboration with a laboratory partner, the students will design their experiments, plan their time management and execute their design to answer a scientific question. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

BTN - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

CRE - 523 Readings in Clinical Research

This course consists of seminars evaluating clinical research studies in the literature. Each seminar will evaluate a clinical study, its attributes, as well as the methodological problems. Many of the studies discussed will have been undertaken by Rush Clinical Investigators and one of the investigators will lead the discussion. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

CRE - 557 Clinical Trials I

Presents an overview of all types of trial designs including large simple trials, randomized double blinded trials, crossover studies and others. The course applies concepts obtained in Basic and Observational Epidemiology courses to address how studies are set up to answer specific research questions. The course reviews experimental designs in the context of specific hypotheses, bias, and confounding. Publications from existing peer-review journals will be used to illustrate various trial designs. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

CRE - 558 Clinical Trials II

This course focuses on practical application of the concepts learned in Clinical Trials I. Trainees will be expected to design various types of clinical trials e.g. multicenter, double blind, placebo controlled studies as well as large simple trials and describe rationale for blinding, methods of randomization and planned analysis. Issues of data interpretation will be covered. Prerequisite: CRE-557. Prerequisite: CRE 557. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

CRE - 559 Readings in Special Populations

This course consists of seminars evaluating clinical research studies in the literature. Each seminar will evaluate a clinical study, its attributes and the methodological problems. Many of the studies discussed will have been undertaken by Rush clinical investigators, and one of the investigators will lead the discussion. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

CRE - 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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

CRE - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: No. Credit(s): 1-15

GCC - 501 Molecular Bio: Genome/Proteome

DNA structure, replication, recombination, cloning, sequencing and related topics will be covered. This course will continue with organization of the human genome, the cell cycle, genetic mapping and relationships between genes and diseases. Transcriptional and translational regulations will be included. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

GCC - 502 Cell Biochem: Pro, Trans, Signl

Concepts of cellular biochemistry, which underlie the structure, organization and communication of cells, will be presented. Protein, carbohydrate and lipid structure and function in cellular organization and their metabolism will be covered. Special emphasis will be placed on the roles of enzymes, signaling systems, receptors in cell function. Intermediary metabolism in health and disease will be discussed. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 3

GCC - 503 Functional Cell Biology

The major concepts of cell structure and function will be covered. Topics include tissue origin and organization, extracellular matrix, cytoskeleton, cell-cell adhesion, organelles and compartments, endocytosis, exocytosis, metabolic requirements for signal transduction, cell motility, and regulation of cell proliferation. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

GCC - 504 Functional Tissue Biology

The biochemical and cellular basis for tissue structure and function will be covered. Topics include systems histology and anatomy, immunity, tissue injury and repair/regeneration, regulation of cell-cell adhesion, apoptosis, and endocrinology. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

GCC - 505 Techniques in Biomedical Sciences

The first portion of this course will introduce students to the laboratories and share a deeper look into the research opportunities available at Rush. The laboratory portion of the course will provide a didactic overview and a demonstration of certain laboratory techniques. Topics include electrophoresis, genomics, PCR, tissue culture, cell-sorting techniques, ELISA, chromatography/LC mass spectrometry, imaging techniques, histocytochemistry and microscopy. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 2

GCC - 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

GCC - 507 Biomedical Statistics

This is an introduction to study design and hypothesis testing. Topics include data definition, study design, probability theory, confidence intervals, hypothesis testing, and the techniques used in modern biostatistics. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

GCC - 508 Writing Practicum

This is a hands-on writing course which focuses on the requirements for abstract, manuscript and grant application writing. Topics include abstract writing, manuscript writing and grant writing. Each topic is covered in several sub-components. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

GCC - 510 Introduction to Pharmacology

This is a comprehensive course containing topics which are central to Medical Pharmacology. This course will extend throughout one semester and will cover all major topics in Pharmacology supported by the related Physiology content in GCC 504. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

GCC - 511 Readings in Molecular Biology

Journal Club course that covers topics related to GCC-501. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

GCC - 512 Readings in Cellular Biochem

Journal Club course that covers topics related to GCC-502. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

GCC - 513 Readings in Functional Cell Biology

Journal Club course that covers topics related to GCC-503. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

GCC - 514 Readings Funct Tissue Biology

Journal Club course that covers topics related to GCC-504. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

GCC - 530 Laboratory Rotations I

Hands-on experience in a laboratory to provide the student with an understanding of laboratory interests and learn research protocols. Repeatable for exposure in different labs. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

GCC - 531 Topics in Biomedical Integration I

Seminar and hands-on course to demonstrate the skills needed to approach diseases from the molecular, cellular and organ system levels. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 2

GCC - 532 Topics in Biomedical Integration II

Comprehensive exam project. Student demonstrates proficiency in approaching a disease from the molecular, cellular and organ system levels. Utilizing all coursework from the first year. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 3

GCC - 533 Laboratory Rotations II

Hands-on experience in a laboratory to provide the student with an understanding of laboratory interests and learn research protocols. Repeatable for exposure in different labs. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

GCC - 534 Laboratory Rotations III

Hands-on experience in a laboratory to provide the student with an understanding of laboratory interests and learn research protocols. Repeatable for exposure in different labs. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

GCC - 544 Advanced Biomedical Statistics

This is an advanced course that will cover principles of Biostatistics in the context of biomedical science. Topics include basic and advanced statistical theory and techniques for experimental design and analysis of biomedical data. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

GCC - 546 Principles of Biostatistics I

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

GCC - 547 Principles of Biostatistics II

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 such as SAS or SPSS are discussed. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

GCC - 548 Bioinformatics

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. Publicly available large data sets and tools will be used to teach basic techniques in data collection and queries, visual presentation of data, comparative effectiveness analysis, decision support, natural language processing, and genomics. No computer programming skills are required. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

GCC - 549 Bioinformatics II

This course presents introductory material on methods and procedures with Medical Bioinformatics and how such data can be used for process research relative to quality, safety and health outcomes research. Topics will include use of EHR data for research. The role of "big data" such as with EHRs or other large medical data resources in conducting "pragmatic" clinical trials. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

GCC - 550 Practical Bioinformatics for the Biomedical Sciences

This course will introduce biomedical graduate students to standard concepts in bioinformatics. In addition to reviewing different topics within bioinformatics, the course will offer practical lessons and hands-on exercises for students to practice common bioinformatics techniques, such as genome alignment, variant calling, and statistical analysis. Students will be introduced to the Linux command line interface used by most open source bioinformatics tools and "R" for statistical analysis and data visualization. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

GCC - 551 Ethics and IRB

This course provides the framework around which clinical research projects are based in terms of the Institutional Review Board. The course includes didactic lectures on the legal requirements of informed consent, regulatory processes, intellectual property, and the role of the office research integrity as well as required participation on IRB review panels inside the University. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

GCC - 552 Intro to Regulatory Process

Lectures cover the process of Drug and Device Discovery, the IND or IDE process, preclinical research, clinical research process for Drug and Device studies, New Drug application, international drug development guidelines, IRB in drug research, device development, reporting adverse drug reactions, the use of biologic markers in trials, drug metabolism, Genetics in Drug Development and orphan drug development, as well as PK/PD modeling in Drug Development. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

GCC - 593 Introduction to Grantsmanship

The course builds on Tools for Research. The aim of this course is to teach the trainee how to organize and highlight the most important parts of a grant proposal. The course emphasizes writing style, consistency and integration of thought. All aspects of an NIH proposal are emphasized including the genesis of the budget and budget justification. P/N grading for clinical research students. Letter grade available for other majors. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

GCC - 598 Pre-Proposal Research for Integrated Biomedical Sciences

Laboratory research in an area that will form the basis of a dissertation proposal or master's thesis. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

GCC - 599 Thesis Research for Integrated Biomedical Sciences

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/Advisor'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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

GCC - 611 Cancer Biology I

In this pro-seminar series students will learn the underlying molecular and cellular biology involved in carcinogenesis, tumor growth, and metastasis, with an emphasis on modern techniques and strategies used to dissect these mechanisms and 'target' tumor cells. This course will provide the student 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. Students will learn: 1) how cellular processes are altered during cancer, 2) how different cancer types are being modeled and studied in the laboratory, and 3) how novel therapeutic strategies are being developed to target an individual tumor based upon its genetic mutational status. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 3

GCC - 612 Cancer Biology II

This is an extension of GCC 611. Basic concepts are applied towards specific organ sites of cancer and actual diagnostic testing. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

GCC - 620 Introduction to Teaching

This course builds crucial educational skills that Ph.D. graduates will need to function as teachers in academia. Designed as a mentored experience for Ph.D. candidates, the course will offer theoretical and practical experience in graduate teaching. Individually designed series of practicum units will be arranged for each student, which will best support student interests and learning needs to build a teaching portfolio. Over the span of multiple terms, students will enroll in 1-2 credit hours based on prior teaching experiences and recommendations from the Course Director and from their advisor. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-2

GCC - 621 Vascular Biology

This vascular biology course is designed to explore modern concepts of vascular biology and human vascular diseases, and will introduce and discuss current basic and clinical advances in the field. Vascular diseases are the leading cause of death and disability, with more than 17 million deaths worldwide. The course will emphasize molecular aspects of vascular biology, physio pathological processes, and the development of advanced therapeutic technology in vascular disease. The focus on current research directions will provide excellent opportunities for students interested in vascular biology as they plan their own research careers. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

GCC - 630 Microbiome in Health and Disease

This course will teach students how to think about the microbiome function and potential therapeutics. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

GCC - 642 Biosolid Mechanics

This course will provide an introduction to continuum mechanics and related constitutive modeling approaches for biological tissues. Continuum mechanics topics include linear elasticity, nonlinear elasticity, viscoelasticity and poroelasticity. Constitutive modeling applications include bone, cartilage, and ligament/ tendon skeletal tissues. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

GCC - 650 Neuroscience for Basic & Clinical Applic

Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

GCC - 651 Advanced Neuropharmacology/Neurophysiolo

Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

GCC - 652 The Changing Nervous System

To guide student learning in how neuroplasticity occurs in the context of brain development, learning and memory, psychiatric disorders and neurological disease; from genetic, molecular, biochemical and cellular changes to circuit remodeling. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

GCC - 694 Advanced Topics for Translation Cancer Research

This course is an advanced topics seminar course for PhD students focused on translational cancer research. Some seminar dates will be combined with others in the GCC 694-698 series when seminar integrates biomedical science research topics. PHD in Integrated Biomedical Sciences None NA Required Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

GCC - 695 Advanced Topics Seminar for Cardiovascular & Respiratory Biology

This course is an advanced topics seminar course for PhD students focused on translational cancer research. Some seminar dates will be combined with others in the GCC 694-698 series when seminar integrates biomedical science research topics. PHD in Integrated Biomedical Sciences None NA Required Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

GCC - 696 Advanced Topics Seminar in Immunity, Infection & Inflammations

This course is an advanced topics seminar course for PhD students focused on immunity, infection and inflammation research. Some seminar dates will be combined with others in the GCC 694-698 series when seminar integrates biomedical science research topics. PHD in Integrated Biomedical Sciences None NA Required Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

GCC - 697 Advanced Topics Seminar for Musculoskeletal Track

This course is an advanced topics seminar course for PhD students focused on function and disorders of the musculoskeletal system. Some seminar dates will be combined with others in the GCC 694-698 series when seminar integrates biomedical science research topics. PHD in Integrated Biomedical Sciences None NA Required Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

GCC - 698 Advanced Topics Seminar for Neuro Research

This course is an advanced topics seminar course for PhD students focused on function and disorders of the nervous system. Some seminar dates will be combined with others in the GCC 694-698 series when seminar integrates biomedical science research topics. PHD in Integrated Biomedical Sciences None NA Required Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

GCC - 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/ Advisor'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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

GCC - 711 Advanced Readings in Molecular Biology

Reading course that covers literature central to the topics of GCC-501 and the application to the disease processes. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

GCC - 712 Advanced Readings in Cellular Biochem

Reading course that covers literature central to the topics of GCC-502 and the application to the disease processes. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

GCC - 713 Adv Readings in Functional Cell Biology

Reading course that covers literature central to the topics of GCC-503 and the application to the disease processes. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 1

GCC - 714 Adv Readings in Functional Tissue Bio

Readings course that covers literature central to topics of GCC-504 and the application to the disease process. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 1

IMM - 507 Basic Immunology I

Introduction to immunology, with emphasis placed on the components, nature, and organization of the immune system. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

IMM - 508 Basic Immunology II

A continuation of Basic Immunology I. This course focuses on activation and regulation of the immune system. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

IMM - 510 Advanced Immunology I

Introduction to immunology, with emphasis placed on the components, nature, and organization of the immune system. Prerequisite: IMM 507, IMM 508, IMM 509 or equivalent. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

IMM - 515 Research Seminar

Seminar on contemporary topics in immunology and virology. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

IMM - 520 Advanced Readings in Immunology, Microbiology and Virology

In this course, students will choose, under the direction of the faculty coordinator, one or more papers from the recent scientific literature, and present it orally to the class. Presentations will

provide adequate background to the topic, explanation and assessment of the relevant methodology employed, interpretation of results, discussion of the significance, and validity of the conclusions. Each student will make at least one presentation per quarter. P/N grading only. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

IMM - 610 Special Topics

Detailed study of contemporary topics in immunology are presented in a five week block. Topics such as inflammation, host defense, membrane structure, and antigen presentation are included. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-12

IMM - 615 Pre-Dissertation Research

Research credits prior to acceptance to doctoral candidacy. (P/N only) Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

IMM - 620 Doctoral Research

Research credits after admission to candidacy. (P/N only) Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

IMM - 900 Independent Study

Specialized course work designed around the needs of an individual student. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-4

IMM - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

MPH - 500 Intro to Medical Physics

An introductory course in physics for residents in diagnostic radiology, nuclear medicine and radiation oncology. The course covers medical x-ray equipment design and use, clinical dosimetry, and quality assurance Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: Yes. Credit(s): 1

MPH - 521 Therapeutic Radiology Physics

An introductory course in clinical medical physics for therapeutic radiology trainees, including residents, students, and fellows. Structure of matter, radioactive decay, production of radiation, treatment machines, and radiation interactions are studied. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

MPH - 522 Dosimetry Applied Therp Radiol

Intermediate course in clinical medical physics for therapeutic radiology trainees, including residents, fellows, students, dosimetrists and technologists. Measurement of exposure and dose, calibration of high energy photon and electron beams, and dose distributions for external-beam therapy are studied. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

MPH - 523 Brachythrpy Physc Rad Prtn QA

This course is designed for residents in therapeutic radiology, students and fellows. Topics include basic physics of radioactivity, and use of radioactive isotopes in clinical radiotherapy, principles of radiation protection, quality assurance, and error reduction in radiation oncology. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

MPH - 524 Special Topics: Radiation Oncology Physics

Course covers advanced topics in radiation oncology physics including: dose calculation algorithms, medical imaging applied to radiation oncology, errors and uncertainties, 3D-CRT, IMRT/ IGRT, radiosurgery, biological models (NTCP-TCP), and outcome studies. This course is offered every fourth year. Different topics will be covered each quarter. The students must register each quarter during the year the course is offered. Prerequisite: MPH-522 Prerequisite: MPH- 522. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: Yes. Credit(s): 1-12

MPH - 525 Radiotherapy Physics Review

Review of medical physics concepts for therapeutic radiology residents, dosimetry trainees, and students and fellows in medical physics. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

MPH - 526 Fundamentals Radiation Biology

This course describes the effects of ionizing radiation on both individual cells and on the human being as a whole. Factors that modulate these effects, such as oxygen, dose rate, and various chemicals, will be explored. This course is suitable for residents in radiation oncology, nuclear medicine, and diagnostic radiology, as well as graduate students with an interest in radiation effects. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-5

MPH - 527 Radiation Oncology

Basic concepts and principles of nonsurgical cancer management. The natural history of cancers in various organs will be reviewed and therapeutic strategies developed based on the pathophysiology of different cancer sites. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

MPH - 570PA Clinical Physics Practicum: Diagnostic Imaging

Students participate in providing clinical physics service under supervision. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-12

MPH - 570PB Clinical Physics Practicum: Radiation Therapy

Students participate in providing clinical physics service under supervision. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-12

MPH - 570PC Clinical Physics Practicum: Protection Radiation

Students participate in providing clinical physics service under supervision. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-12

MPH - 580 Master's Research

See course director for description. (Variable) Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-12

MPH - 608 Topics in Medical Physics

Course covers selected topics in radiation detection, interaction, and protection. Topics will also be selected from radiation dosimetry and diagnostic and therapeutic imaging. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-12

MPH - 621 Medical Physics Research Seminar

This seminar serves as a forum for review of the ongoing research by the faculty, residents, appropriate staff members, fellows, and students. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

MPH - 622 Radiological Physics Laboratory

A practical course directed towards understanding of the instruments, computers, apparatus, and facilities used in applied radiation work. Includes carrying out scientific evaluation and essay-type reporting. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-12

MPH - 623PA Clinical Physics Practicum: Diagnostic Imaging

Students participate in providing clinical physics service under supervision. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-12

MPH - 623PB Clinical Physics Practicum: Radiation Therapy

Students participate in providing clinical physics service under supervision. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-12

MPH - 623PC Clinical Physics Practicum: Protection Radiation

Students participate in providing clinical physics Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-12

MPH - 900 Independent Study

The student will undertake a creative project design under the supervision of a faculty member. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-12

MPH - 999 Continuous Enrollment

Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No.

NEU - 511 Techniques in Neuroscience

Graduate students rotate through various faculty members' laboratories and master techniques commonly in use in neuroscience laboratories. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 2

NEU - 591 Advanced Neuroscience Proseminar

Taught jointly by participating faculty, seminar format is used to encourage extensive discussion and participation. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 2

NEU - 690 Selected Topics in Neuroscience

Study of contemporary topics in neuroscience. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 3

NEU - 699 Doctoral Research

Research credits after admission to candidacy. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

NEU - 900 Independent Study

Specialized course work designed around the needs of an individual student. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 1-12

NEU - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

PHR - 556 Tools for Research

This course focuses on the practical elements required to work as a scientist in modern times. It includes didactic lecture and computer practice on Power Point, poster making, importing into word documents, Adobe Photoshop, Sigma Plot, Grants.org, on line proposal submission, advanced med-line searches, Excel spreadsheets, and reference managing systems. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

PHR - 594 Structure Function and Pharmacology Of Cell Receptors

Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

PHR - 699 Doctoral Research

Laboratory research for the doctoral dissertation for PhD candidates only. By special arrangement. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

PHR - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

PHY - 503 Physiology of Striated Muscle

This course serves as an introduction to the basic properties of cellular electrophysiology using the cardiac muscle as an example. It introduces structural, molecular and cellular factors of cell excitation as well as its spread throughout the cell and/or tissue. The course should be useful to students of the cardiovascular system or muscle at all different levels across disciplines such as physiology, biochemistry, pharmacology and pathophysiology. The course includes lectures as well as laboratory sessions in which experimental techniques are demonstrated that allow the quantification of the parameters discussed in the lecture. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 3

PHY - 511 Graduate Physiology I

Comprehensive physiology course dealing with all major or a 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 5

PHY - 512 Graduate Physiology II

Continuation of PHY 511. 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 3

PHY - 590 Special Topics in Physiology

Advanced course dealing with selected topics in physiology. Particular subjects vary from year to year. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

PHY - 690 Research Topics in Physiology

With a member of the staff, the student participates in a laboratory-based experience in an area of current research. The level of participation depends on the student's background and will include examination of the literature, a review of the topics being investigated and opportunities to participate in experimental work. In addition to work in the laboratories, independent experimental or bibliographic projects may be undertaken with the approval of a faculty member. A report is prepared describing the work attempted and accomplished. PF grade Prerequisite: PHY-452. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-9

PVM - 553 Observational Epidemiology

Course will provide an in-depth description of case- control and cohort studies. This includes: the different types (e.g. hospitalor population-based controls, retrospective and prospective cohorts, nested case- control), their strengths, weaknesses and uses, the definition and selection of cases and controls, matching and sampling, the definition and selection of exposure and comparison groups, the ascertainment of disease status and exposure status, and issues in analysis and interpretation of data, including the role of bias (selection bias, confounding bias, recall bias, misclassification of disease and exposure status), the effect of non-participation and loss to follow-up, and the application of various analytic approaches (stratification, standardization, and multivariate models). The computation, interpretation and application of basic epidemiologic concepts and statistics will be reinforced throughout the course, including measures of disease frequency (prevalence, incidence, attack rate) and measures of association (relative risk, odds ratio, risk difference, population attributable risk). Landmark studies illustrating the different types of case-control and cohort studies will be described. Trainees will be assigned readings from basic epidemiologic texts as well as publications from major casecontrol and cohort studies. Retake Counts for Credit: Yes. Pass/ No Pass Grading Allowed: No. Credit(s): 1

PVM - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

Health Sciences

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 nonparametric statistical procedures. Computerized statistical programs, such as SPSS, will be used Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSC - 358 Global Health

This course introduces major global health challenges, programs and policies. The array determinants of health will be examined with a global perspective. Principles and practices of populationbased 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 and head and neck. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSC - 364 Health Care Systems and Policies

Health Systems and Policies is designed to inform students of the present structure and design of the healthcare 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 healthcare reform legislation. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

HSC - 366 Introduction to Research

This course uses the construction of research proposals and reflective journal entries to introduce students to methods of scientific research including review of literature, research designs, sampling techniques, data analysis, and related issues. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

HSC - 414 Patient Assessment

Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSC - 423 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

HSC - 425 Health Care Informatics

This course will introduce students to health informatics. It examines trends and emerging technologies involved in health care delivery and information systems/technology management within diverse health care settings. Content includes the provider order entry (CPOE), the electronic medical record, pharmacy systems, billing systems, business intelligence/data warehousing systems and bio-surveillance methods. In addition, students will discuss ethical and legal considerations and aspects related to the use of emerging technology and information systems in the delivery of health care. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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, neuroanatomy, brain regulation
of behavior and body physiology, and neural development. Drug abuse and diseases involving the central nervous system will also be discussed. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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 associate with research. It also elaborates on the ethical decision making framework, and ethical principles that govern the practice of medicine. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisite: Departmental permission. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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: Departmental permission. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSC - 458 Microbiology

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 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. An overview of the autonomic nervous system pharmacology, cardiovascular pharmacology, central nervous system pharmacology, analgesic medications, drugs used to treat diabetes, hypoglycemic drugs, antibiotics and chemotherapy will be discussed. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 3

HSC - 461 Leadership Theory & 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 multi-source feedback and reflective learning. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 which synthesizes their academic and professional accomplishments. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSC - 467 Issues and Trends in Health Care

Current issues and trends in health care are discussed. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSC - 480 Principles and Health & Wellness

This course provides students with a holistic overview of the multi-faceted dimensions of health and wellness across the lifespan. 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSC - 483 Community Health

Community health explores available public health services regarding the well-being of a population. Health care promotion and prevention strategies are explored in concert with the role of health care institutions and the public sector. Regulatory mandates promoting public and community health and financing options are discussed. Legal and ethical imperatives emergent in public health services are also identified. Health information data is utilized in the planning of a community and/ or public health project. This course will explore health conservation and disease prevention as they relate to specific community settings. Students will observe and analyze how a variety of community resources can contribute to health promotion, including churches, youth groups, social clubs, etc. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

HSC - 485 Fitness & 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: 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). Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSC - 634 Issues and Trends in Healthcare

Current issues and trends in health care are discussed. An overview of the United States 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSC - 652 Research Process: Quantitative Design & Methods I

This course promotes the development, integration, and application of the knowledge, attitudes, and skills required to function as a clinical scientist. This course provides an overview of the research process and a brief history of clinical research within the context of current issues and trends in healthcare. 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSC - 653 Research Process: Quantitative Design & Methods II

This course promotes 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSC - 654 Grantsmanship

This course will assist you 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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSC - 656 The Dissertation Proposal

The student and advisor uses 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 advisors to define activities of their own choosing that will enhance the student's professional development. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSC - 661 Professional Development I

The student contracts with faculty to increase their knowledge base and improve their skill in leadership and cooperation in a health science professional specialty area. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

HSC - 662 Professional Development II

The student and advisor uses 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 advisors to define activities of their own choosing that will enhance the student's professional development. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

HSC - 663 Professional Development III

The student and advisor uses 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 advisors to define activities of their own choosing that will enhance the student's professional development. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 1-12

HSC - 901 Professional Track

Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSC - 906 Research Seminar II

Prerequisite: HSC-615 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

HSC - 998 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

Health Systems Management

HSM - 606 Health Care Organization & the Patient Experience

This course provides an overview of the health care in the United States - covering the political, economic and social organization of the delivery of care as well a newly emerging factor - the perspective of the patient. 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 and debates, students will gain an understanding of the major issues facing the health care system and consider alternative approaches to improve the system. Students will have the opportunity to observe and interview patients and providers in actual clinical settings to understand their interface with the system and related medical, social, and economical issues. The course will introduce patient experience measurement and monitoring tools, techniques for listening to the "voice of the patient" and how all the elements of CMS' value based purchasing plan tie together. Credit(s): (3)

HSM - 608 Human Resources Management

This course provides an understanding of the human resource management knowledge and skills required of the health systems manager in an environment that is constantly changing. Skills acquired include recruiting and managing talent, training and developing talent, engaging/motivating employees, and leadership capability. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSM - 610 Professional Seminar

The purpose of this course is to review basic professional principles in preparation for careers in health care management. In this course, professionalism in terms of time management, project management, and written verbal, and oral communication skills, including email and executive memo etiquette is reinforced with helpful tips and in-class exercises. Building upon these skills, the course will then be designed to prepare students for employment interviews and for careers in health management. Exercises include recorded video, consulting case studies, dining simulations and interactions with health care experts in the areas of association, consulting, insurance, group practice, and federal government management. Students will gain confidence and competence in networking and job search strategies. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSM - 612 Health Care Corporate Finance

The course will provide students with the fundamentals of finance needed in healthcare leadership. This includes an overview of financial statements, balance sheets, transaction analysis, financial ratio analysis, and principles of financial reporting. The foundations of finance and valuation, time value of money, and capital structure will also be covered. Students will be able to read and understand health care organization financial statements, analyze financial statements and understand how they relate, interpret an organization's profitability, solvency and liquidity, explore the sources and costs of capital and the factors of investment decisions, and learn valuation principles. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

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 healthcare. 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 ICARE 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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 ICARE values is also expected. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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 PT students with fulltime 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 part-time (PT) students, who work fulltime, 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 "distinquishing competencies" plus the Professionalism competency. Demonstration of the Rush ICARE (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. Pass/No Pass Grading Allowed: Yes. 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 PT students with fulltime 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 part-time (PT) students, who work fulltime, 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 ICARE (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. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-3

HSM - 628 Health Care Economics & 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; the patient, provider, industry and government. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

HSM - 632 Statistic for Health Care Management

This course focuses on concepts and procedures for using descriptive and inferential statistics. Differences between parametric and non-parametric statistical tests will be emphasized. This course is predominantly an application based course incorporating the use of computerized statistical programs such as SPSS. Prerequisite: Undergraduate statistics Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

HSM - 636 Quality, Safety & Operational Improvement in Healthcare

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 multi-disciplinary 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, multi-media, 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. Prerequisite: HSM 606 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

HSM - 640 Health Care Planning & Marketing

This course develops students' understanding and appreciation of the health care planning, communications and marketing processes. Through discussions, cases, teach 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 are able to discuss, assess and critically and marketing initiatives. Prerequisites: HSM 606, HSM 612 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

HSM - 644 Health Care Managerial Finance & 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. Prerequisite: HSM 612 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

HSM - 648 Health Law & 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisites: HSM 606 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

HSM - 656 Master's Project I

The overall goal of this course is to integrate quantitative 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 quantitative research project that results in a high guality, 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 research question; developing an appropriate research design and 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 and best practices to provide new insight for health care management or policy. Prerequisites: HSM 606, 610 or concurrently, HSM 626, 636, 632, 616 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

HSM - 660 Master's Project II

The overall goal of this course is to integrate quantitative 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 quantitative research project 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 research question; developing an appropriate research design and 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 and best practices to provide new insight for health care management or policy. Prerequisites: HSM 656, 632, 628, 616 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

HSM - 664 Organizational Analysis and Change Leadership and Lifelong Learning

This course is designed to increase students' knowledge and competencies in organizational analysis and leadership, with a special emphasis on the transformative change taking place in the health ecosystem. 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 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 on the exercises. The course concludes with an emphasis on personal leadership and lifelong learning, with a focus on helping students enhance their selfawareness concerning strengths and development needs as they relate to their career aspirations. Prerequisites: HSM 502 and HSM 515 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

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 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 real 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 628, 616, 640, 636 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

HSM - 688 Topics in Health Systems Management

Electives have been developed to accommodate the diverse educational needs of our students. Topics in Health Systems Management provide students the opportunity to further develop their health care leadership knowledge, skills and attitudes. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

HSM - 900 Independent Study

Specialized course work designed around the needs of an individual student. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-12

HSM - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No.

Imaging Sciences

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. Prerequisite: Admission to the Department. Entry Level MRI students. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1-3

IS - 310 Sectional Anatomy & 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1-5

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1-4

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 other. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 6

IS - 331 Education

An introduction to basic principles and techniques used in Imaging Sciences education. Topics include: patient education, in-service education, course design, objectives, lesson plan development, learning activities, use of media, development of presentations, testing and evaluation. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 & image production, pulse sequences, flow phenomena, artifacts in MRI, scanning parameters, Contrast media administration, along with Functional Imaging techniques. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: 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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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 bio effects 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

IS - 444 MRI Positioning/Protocols 4 Semester Hours

MRI 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 Magnetic Resonance Imaging. Anatomy and Pathophysiology is 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 Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 4

IS - 447P Clinical Practicum I 6 Semester Hours

Supervised clinical experience in the imaging track selected. This course is designed so 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 1000 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 selfdirected 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 selfdirected 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 Musculo-skeletal imaging will be covered in this course. CT protocols vary from site to site and most often are dependent on radiologist's preference. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 healthcare organizations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

IS - 457P Clinical Practicum II 6 Semester Hours

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 6

IS - 458 Leadership 3 Semester Hours

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

IS - 463 Research & 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

IS - 467P Clinical Practicum III 6 Semester Hours

Supervised clinical experience in the imaging track selected. This course is designed so 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 1000 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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 6

IS - 468 Clinical Seminar III

This course builds on the previous learning_x000D_related to imaging sciences. This course will_x000D_allow the students to engage in self-directed_x000D_study to prepare for the American Registry of_x000D_Radiologic Technologist (ARRT) by completing_x000D_registry review board modules. This course will_x000D_provide the students the opportunity to integrate_ x000D_the theory and clinical practice in order to meet_x000D_ the complex needs of patients. ARRT registry_x000D_review modules and case presentations will be_x000D_completed. This course will provide a review of_x000D_medical imaging with an emphasis on problem_x000D_solving and critical thinking in the imaging_x000D_track selected. The course is intended for senior_x000D_students to prepare for the ARRT's credentialing_x000D_exam. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

IS - 481P Clinical Specialty Practicum 6 Semester Hours

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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 6

IS - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

Interprofessional Education

IPE - 502 Interprofessional Patient Centered Teams

This program will introduce students to the four Interprofessional Educational and Collaborative Practice (IPEC) domains: Values/Ethics, Roles/Responsibilities, Teams/Team work, and Communication. Students will use experiential team based learning to apply knowledge, skills, and values of the IPEC competencies. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No.

Medical Laboratory Science

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 nonprotein 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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). Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

MLS - 525 Laboratory Fundamentals

Concepts of laboratory mathematics, e.g. solutions, molarity, dilutions, buffers, and standard curves, and molecular techniques, e.g. nucleic acid structure and function, amplification and sequencing will be covered extensively in this course. The student will also get an introduction to the profession of Medical Laboratory Science with a discussion of the various professional, accrediting and certifying organizations along with a description of the past, present and future of the profession. Professional behavior will be described including plagiarism prevention, service to the community and profession, and diversity and inclusion. In the laboratory, students will learn basic laboratory techniques, such as use of a microscope, pipetting, spectrophotometry, urinalysis, quality control, and the isolation and characterization of DNA and RNA. Laboratory safety will be introduced in this course. Medical terminology is included as an online component. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 6

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

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 advisor, 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 advisor as well as the MLS faculty. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 5

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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, flowcytometry, 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

MLS - 582P Clin Practicum-Microbiology I

In this practicum, students will spend time in the clinical bacteriology laboratory observing and performing tests for the identification of clinically significant bacteria. The determination of antimicrobial susceptibility, detection of resistance, and interpretation of susceptibility patterns will be reinforced. Instrumentation and advanced methodologies are emphasized. Students will interact with other healthcare professionals, e.g. pharmacists, physicians, and infection control nurses during rounds and/or case conferences. 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

MLS - 583P Clin Practicum-Microbiology II

The laboratory procedures involved in isolating and identifying parasites, mycobacteria, yeast, molds, and viruses will be observed and performed by the student during this practical experience in the clinical laboratories. 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

MLS - 584P Clin Pract-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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 3

MLS - 586P Patient Care Techniques

Pre-analytical 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 pre-analytical 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 healthcare providers. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

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 multi-disciplinary 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

MLS - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

Occupational Therapy

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 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 501L Functional Anatomy with Lab

The primary goal of this course is to understand and evaluate the musculoskeletal system related to the skill components of occupational behavior. The gross anatomical structures of are presented with application of the assessment and treatment of occupational performance dysfunction. The student will learn through lecture and prosected laboratory specimens the gross structures of the human body, with an emphasis on the structures vital for functional performance. The cardiorespiratory, gastrointestinal, genitourinary, musculoskeletal, and head/ neck systems will be covered; a large content focus is on the musculoskeletal system with emphasis on the upper extremities and upper trunk. Corequisite: OCC-501 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

OCC - 502 OT History and Philosophy

Overview of the historical foundations of occupational therapy as they relate to the frames of reference and philosophical perspectives upon which the field is based. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

OCC - 503 Foundational Theories in Occupational Therapy

This course focuses on the prevalent theories of occupational therapy and the impact of theory on clinical 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 lifespan. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 504 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 504L Functional Anatomy W/Lab

The primary goal of this course is to understand and evaluate the musculoskeletal system related to the skill components of occupational behavior. The gross anatomical structures of are presented with application of the assessment and treatment of occupational performance dysfunction. The student will learn through lecture and prosected laboratory specimens the gross structures of the human body, with an emphasis on the structures vital for functional performance. The cardiorespiratory, gastrointestinal, genitourinary, musculoskeletal, and head/neck systems will be covered; a large content focus is on the musculoskeletal system with emphasis on the upper extremities and upper trunk. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

OCC - 505 Clinical Foundations Skills

The primary goal is for students to acquire basic clinical reasoning and practice skills as a foundation for their clinical placements and preceptorship at Rush University Medical Center and in the community. Pass/no pass grading only. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

OCC - 506 Medical Conditions Seminar

Selected medical, surgical, neurological and orthopedic conditions with emphasis on their etiology, treatment and prognosis will be explored through presentations and discussions. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 507 Psychosocial Dysfunction

This course focuses on the functional abilities that are compromised by mental disorders and the side effects of pharmacotherapy. Interdisciplinary and occupational therapy interventions of mental disorders and chemical dependency are reviewed from the rehabilitation and occupational performance perspectives. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 508 Group Dynamics

Didactic and experiential activities designed to familiarize the student with basic principles underlying group process and group behavior and clinical application of these principles in occupational therapy are studied. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 509 Analysis of Occupational Performance

Focus will be on the development of task analysis skills by applying logical thinking, critical analysis, problem solving and creativity. Students will demonstrate an ability to grade and adapt occupation-based tasks and purposeful activity including the interaction of performance areas, components, and contexts through dynamic classroom exercises. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 510 OT Perspectives in Ethics and Multiculturalism

This course will focus on understanding the many dimensions of multiculturalism so that the students may develop a basis from which to be sensitive to the uniqueness of individuals and increase awareness of cultural diversity. Various perspectives with regards to the cultural beliefs about health, illness, and treatment and how these beliefs direct the formation of policy will also be explored. The cultural aspects of occupation will be discussed as well as the Cultural Competence Continuum. This course is also a supplement to the CHS interprofessional Ethics in Health Care course. It will cover the AOTA Code of ethics and its application to current practice. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

OCC - 511 OT Interventions I

Students learn to apply theories and conceptual models for restoration of occupational performance based on psychosocial principles. The occupational therapy planning and implementation process is introduced and developed through concurrent interface with the pre- clinical experience. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 5

OCC - 512 OT Interventions II

Students learn to apply theories and conceptual models for the restoration of occupational performance based on biomechanical and rehabilitative principles. Laboratory component includes splinting, wheelchair/positioning experiences and skill building in interventions and documentation. This course interfaces with the pre-clinical experience. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 5

OCC - 513 OT Interventions III

Students learn to apply theories and conceptual models for the restoration of occupational performance based on motor learning, cognitive-perceptual and rehabilitation models of practice. Student will become familiar with basic splinting principles and demonstrate skill in constructing static splints. The occupational therapy planning and implementation process is introduced and developed through concurrent interface with the pre-clinical experience. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 5

OCC - 514 OT Interventions IV

Students learn to apply theories and conceptual models for the prevention, development, remediation and restoration of occupational performance as it relates to various pediatric populations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

OCC - 515 OT Interventions I

Students learn to apply theories and conceptual models for restoration of occupational performance based on psychosocial principles. The occupational therapy planning and implementation process is introduced and developed through concurrent interface with the pre- clinical experience. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 516 OT Interventions I Fieldwork

This course will offer lecture and practical application opportunities to facilitate the development of professional behaviors required for successful fieldwork experiences. A supervised Level I fieldwork experience related to the theory and application of occupational therapy in the areas of physical disabilities, pediatrics and psychosocial practice will also be completed. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

OCC - 517 OT Interventions II Fieldwork

This course will provide didactic and lab training of the use of physical agent modalities. In addition, this course focuses on development of professional behaviors to prepare students for fieldwork experiences. A supervised two-week field experience related to the theory and application of occupational therapy in the areas of physical disabilities, pediatrics and psychosocial practice will also be a component of this course. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

OCC - 518 OT Interventions III Fieldwork

This course will provide didactic and lab training of the use of physical agent modalities and review of clinical skills necessary for successful completion of Fieldwork experiences. In addition, this course focuses on development of professional behaviors to prepare students for fieldwork experiences. A supervised two-week field experience related to the theory and application of occupational therapy in the areas of physical disabilities, pediatrics and psychosocial practice will also be a component of the course. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

OCC - 519 OT Interventions II

Students learn to apply theories and conceptual models for the restoration of occupational performance based on biomechanical and rehabilitative principles. Laboratory component includes splinting, wheelchair/positioning experiences and skill building in interventions and documentation. This course interfaces with the pre-clinical experience. Prerequisite: OCC-515 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

OCC-521 - OT Interventions III

Students learn to apply theories and conceptual models for the restoration of occupational performance based on motor learning, cognitive-perceptual and rehabilitation models of practice. Student will become familiar with basic splinting principles and demonstrate skill in constructing static splints. The occupational therapy planning and implementation process is introduced and developed through concurrent interface with the pre-clinical experience. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC-522 - OT Interventions IV

Students learn to apply theories and conceptual models for the prevention, development, remediation and restoration of occupational performance as it relates to various pediatric populations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC-523 - OT Interventions I Fieldwork

This course will offer lecture and practical application opportunities to facilitate the development of professional behaviors required for successful fieldwork experiences. A supervised Level I fieldwork experience related to the theory and application of occupational therapy in the areas of physical disabilities, pediatrics and psychosocial practice will also be completed. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC-524 - OT Interventions II Fieldwork

This course will provide didactic and lab training of the use of physical agent modalities. In addition, this course focuses on development of professional behaviors to prepare students for fieldwork experiences. A supervised two-week field experience related to the theory and application of occupational therapy in the areas of physical disabilities, pediatrics and psychosocial practice will also be a component of this course. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 525 Intro to Neuroscience

Lecture-discussion formats cover the anatomy, functions, and the selected lesion 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 systems. Examples of application to medical care and occupational therapy are included in selected assessment and treatment descriptions. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

OCC - 526 OT Interventions III Fieldwork

This course will provide didactic and lab training of the use of physical agent modalities and review of clinical skills necessary for successful completion of Fieldwork experiences. In addition, this course focuses on development of professional behaviors to prepare students for fieldwork experiences. A supervised two-week field experience related to the theory and application of occupational therapy in the areas of physical disabilities, pediatrics and psychosocial practice will also be a component of the course. Prerequisite: OCC-517 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

OCC - 530 OT Persp in Health & Wellness

This course provides students with a holistic overview of the multi-faceted dimensions of health and wellness across the lifespan. The six dimensions of health are explored within the context of occupational therapy. Students will also examine the influence of chronic disease on health, wellness, and occupational performance. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

OCC - 532 OT Perspectives in Technology

Exposure to assistive technology with emphasis on assessment, selection, characteristics, and application. Emphasis will be on low technology and high technology devices and systems to include wheelchairs, seating systems, switches, computer units, and the indications for use in the role of human performance. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

OCC - 536 Issues and Perspectives in Pediatric OT

Issues and perspectives, which are unique to the pediatric population are explored in this course. The course begins with foundational topics of occupational performance as it relates to various pediatric populations. To provide the students with clinical reasoning tools used in the occupational therapy process with children and their families, exploration of various frames of reference is then completed. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 4

OCC - 537 Issues and Perspectives in Geriatric OT

Focuses on an understanding of the occupational therapist's role in working with the geriatric population including service delivery systems, normal and pathological changes occurring as one ages and specific interventions utilized by practitioners. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 538 Evaluation & Assessments

Administration, scoring, interpretation, and reporting of selected tests and informal assessments useful in an occupational therapy evaluation of clients of varying ages and disability will be examined in this course. Students will critically assess the merits of various instruments based upon the essential components of credibility, and will recognize the strengths and limitations of the instruments reviewed. Focus on the clinical reasoning used in the evaluation and re-evaluation process [i.e. selection of assessments, interpretation and application of results] will be explored and implemented. Ethical considerations required in evaluation process will also be addressed. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 543 Health Care Organizations

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 544 Management Concepts for OT

Students will examine administrative activities related to the effective delivery of OT services, including program planning, organization, control and leadership. Personnel management, communication and effective use of professional and non-professional staff, fiscal accountability, quality management, marketing/promotions, and resource allocation will be presented. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC-545 - Management Concepts for OT

Students will examine administrative activities related to the effective delivery of OT services, including program planning, organization, control and leadership. Personnel management, communication and effective use of professional and non-professional staff, fiscal accountability, quality management, marketing/promotions, and resource allocation will be presented. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

OCC - 576 Sociocultural Aspects of Care

This course introduces students to the cultural issues that impact practice. Culture is multi-faceted and will be explored through a variety of viewpoints and applied to a variety of practice settings. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

OCC - 579 Research Methods & Evidence-Based Practice

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. This course will serve as a basis for research projects with assigned research faculty. Prerequisites: CHS 501. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 581 Qualitative Rsch Method/Design

This course provides the students with an opportunity to explore and experience how both mixed methods and qualitative research methodologies are used in clinical and management outcome research. Emphasis will be on design, data collection, analysis and interpretation, as well as, communication and presentation of findings. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

OCC - 583 Graduate Research Project

The three Graduate Research Project courses (OCC 583-1, OCC 583-2, OCC 583-3) are 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 master's project. Emphasis will be on strategies related to data collection, analysis, interpretation and data presentation. 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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

OCC - 584 Graduate Research Project I

The three Graduate Research Project courses (OCC- 584, OCC-585, OCC-586) are 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 master's project. Emphasis will be on strategies related to data collection, analysis, interpretation and data presentation. 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 week which will be a final paper and presentation. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

OCC - 585 Graduate Research Project II

The three Graduate Research Project courses (OCC- 584, OCC-585, OCC-586) are 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 master's project. Emphasis will be on strategies related to data collection, analysis, interpretation and data presentation. 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 week which will be a final paper and presentation. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

OCC-587 - Graduate Research Project

The three Graduate Research Project courses (OCC- 587, OCC-588, OCC-589) are 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 master's project. Emphasis will be on strategies related to data collection, analysis, interpretation and data presentation. 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 week which will be a final paper and presentation. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

IOCC-588 - Graduate Research Project I

The three Graduate Research Project courses (OCC- 587, OCC-588, OCC-589) are 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 master's project. Emphasis will be on strategies related to data collection, analysis, interpretation and data presentation. 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 week which will be a final paper and presentation. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

OCC-589 - Graduate Research Project II

The three Graduate Research Project courses (OCC- 587, OCC-588, OCC-589) are 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 master's project. Emphasis will be on strategies related to data collection, analysis, interpretation and data presentation. 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 week which will be a final paper and presentation. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

OCC - 590 Advanced Practice Seminar

This course will expose students to advanced and emerging practice topics to foster interest in future professional growth opportunities. Professional development and competencies for varied specialized role and functions are also explored. This course will provide didactic lectures, invited speakers and intentionally designed field outings to deliver the course content. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 591 Program Develop & Community Practice OT

Health care delivery continues to change and these changes tend to come quickly, with little perceived notice. It is important for occupational therapists to monitor their agency, practice, and context in general for impending changes and make recommendations for changes to existing services and/or develop proposals for new services traditional health care systems, as well as community-based programs. This class will introduce students to community-based practice, as well as the program development process. Students will also explore alternative funding strategies, such as grant writing to fund new or developing programs. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

OCC-592 - Program Development & Community Practice

Health care delivery continues to change and these changes tend to come quickly, with little perceived notice. It is important for occupational therapists to monitor their agency, practice, and context in general for impending changes and make recommendations for changes to existing services and/or develop proposals for new services traditional health care systems, as well as community-based programs. This class will introduce students to community-based practice, as well as the program development process. Students will also explore alternative funding strategies, such as grant writing to fund new or developing programs. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

OCC - 593 Advanced Fieldwork I

Supervised field experiences applying theoretical O.T. concepts on subjects having psychosocial/physical dysfunctions. Full-time student status is continued while engaged in fieldwork. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 8

OCC-594 - Advanced Fieldwork II

Supervised field experiences applying theoretical O.T. concepts on subjects having psychosocial/physical dysfunctions. Full-time student status is continued while engaged in fieldwork. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 8

OCC - 595 Advanced Fieldwork I

Supervised field experiences applying theoretical O.T. concepts on subjects having psychosocial/physical dysfunctions. Full-time student status is continued while engaged in fieldwork. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 8

OCC - 596 Advanced Fieldwork II

Supervised field experiences applying theoretical O.T. concepts on subjects having psychosocial/physical dysfunctions. Full-time student status is continued while engaged in fieldwork. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 12

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 multi-faceted dimensions of health and wellness across the lifespan. 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 601 Theory of Skill Acq/App-Therapeutic Prac

Through lecture and group discussion this seminar will introduce to the student the principles associated with the cognitive motor task taxonomy and skill acquisition from child to adult. These principles and theories will provide the student with selected concepts with a framework drawn from motor learning research as applied to both typical and special populations. The objective of this course is the development of an understanding of the learning processes and psychological procedures that support both new learning and recovery of learning as applied to both unfamiliar and familiar skills. Retake Counts for Credit: Yes. Pass/ No Pass Grading Allowed: No. Credit(s): 3

OCC - 602 Theory and Principles of Motor Control and Processes of Skilled OCC Perform

Through seminar discussion this course is designed to introduce the student to the theoretical, methodological, selected neurophysiological and mechanical factors essential to understanding the processes of human skilled performance and motor control. Such processes underlie the acquisition of skills and will be framed within the perception action paradigm, the dynamical systems, perspective and the human information processing model. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 603 Advanced Theories in Occupational Therapy

This course provides an in-depth examination of the development, organization and application of the theories that guide occupational therapy practice. Each student will complete a thorough analysis of one theory that is used in his or her practice area. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 604 Critical Topics in Occupational Therapy

This is an independent study in which the student in collaboration with faculty advisor will choose a topic of interest. Focus of course will be on thorough analysis and application of the topic. Project will be defined by student in association with faculty advisor. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 2

OCC - 605 Cognitive and Psychometric Behavior

This course will critically examine human behavior, routines, habits, and occupational performances and how these elements are influences by mental processes. The course will be discussion intensive and will focus on questions, methods, research findings, theories, and applications. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 606 Generating Pract Based Evid in Oc Therap

Introduction to the concepts of practice based evidence and its role in the study and solution of OT problems, the improvement of healthcare, and the development of OT science. Specific quantitative and qualitative design and relevant advanced statistical analysis will be discussed. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 the Rush University Medical Center will allow students the opportunity to apply skills learned in the classroom in a clinical setting. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 3

OCC - 610 Occupational Therapy Process

This course will introduce students to the fundamentals of the occupational therapy process including evaluation, documentation, and therapeutic relationships. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

OCC - 613 Physical Disabilities II

Application of theories and conceptual models for restoration of occupational performance based on motor learning, cognitiveperceptual 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 6-week group leadership experience. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

OCC - 620 Foundational Theories in OT

This course focuses on the prevalent theories of occupational therapy and the impact of theory on clinical 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 lifespan. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

OCC - 625 Functional Neuroscience & 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) Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 it relates to occupational therapy are also presented. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

OCC - 683 Evidence-Base 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

OCC - 684 Evidence-Base 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

OCC - 685 Evidence-Base 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 1

OCC - 820 Capstone Competencies

Students will complete competency requirements which will include a comprehensive examination. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 indepth 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

OCC - 900 Independent Study

Creative project designed by the student and supervised by faculty. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 1-12

OCC - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

Perfusion Technology

CVP - 605 Cardiopulmonary Anatomy and Physiology

This course provides an introduction to 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. Pass/No Pass Grading Allowed: 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. CVP 605 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. CVP 611 & CVP 612 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: Yes. 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. CVP 611 & CVP 612 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 5

CVP - 623 Adult & 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. CVP 622 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. CVP 620 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. CVP 622 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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 towards the goal of independent practice while under the watchful eye of the clinical instructor. CVP 641 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 12

CVP - 643 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. CHS 601 & CHS 610 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: No. Credit(s): 2

CVP - 681 Health Care Quality & Operations Management

The Health Care Quality & 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 healthcare 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 insure evidence based medicine is being delivered. CVP 680 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

CVP - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No.

PRF - 510 Seminar I

This seminar will focus on the principles of laboratory analysis with special emphasis on blood chemistry, coagulation/hematology and blood banking. Additionally focus will be placed on the hemodynamic monitoring of patients undergoing cardiovascular surgery. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

PRF - 541 Project Design & Research

In this series of courses students will complete a master's project which will be submitted for publication in a peer reviewed publication. Prerequisite: CHS 501 . Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

Physician Assistant Studies

PHA - CLIN1 Clinical Curriculum Enrollment

This course acts as place holder for billing purposes. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 1

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. Prerequisite: Successful completion, with a grade of 'C' or higher, of prerequisite undergraduate courses in human anatomy and human physiology. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 5

PHA - 512 History of 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 organsystem 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. Prerequisites: Successful completion, with a grade of 'C' or higher, of prerequisite undergraduate courses in human anatomy, human physiology, and psychology or equivalent social or behavioral science. Also requires concurrent enrollment in PHA 510 and PHA 514. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

PHA - 513 Professionalism and Practice I

This is the first of a three-part course series designed to introduce and familiarize students with the professional and practice issues of importance to the PA profession. PA Professionalism and Practice I is designed to introduce and familiarize the student with the major professional issues and communication skills important to a practicing PA working on a medical team. Topics include the history and development of the PA profession, the physician-PA relationship, PA scope of practice and professional regulations, licensure, certification/recertification, PA program accreditation, and PA professional organizations. The course also covers legal issues in health care related to PA practice, including the Healthcare Information Portability and Accountability Act (HIPAA), professional liability, laws and regulations, billing and reimbursement, quality assurance, and risk management. This course includes basic training in verbal and non-verbal communication skills needed for successful clinical practice. Prerequisites: Successful completion, with a grade of 'C' or higher, of prerequisite undergraduate courses in psychology or equivalent social or behavioral science. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

PHA - 514 Clinical Medicine I

This is the first in a three-part course series that provide 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 the management principles of various diseases in the following topic categories: introduction to pharmacology; genetics; nutrition; general pediatrics; infectious diseases; psychiatry; neurology; hematology; and, immunology. 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. Prerequisites: Successful completion, with a grade of 'C' or higher, of prerequisite undergraduate courses in human anatomy and human physiology. Also requires concurrent enrollment in PHA 510 and PHA 512. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

PHA - 515 Diagnostic Methods

This course will introduce PA students to the various diagnostic studies used in the screening, diagnosis, and management of disease. This course focuses on the common diagnostic tools of laboratory medicine that are available to the clinician. Many of the factors influencing the test selection process and the role of laboratory test findings in clinical decision making will be discussed. Topics include clinical laboratory studies, hematol-ogy, chemistry, microbiology, urinalysis, coagulation studies, and special testing. Prerequisite: Successful completion, with a grade of 'C' or higher, of prerequisite undergraduate courses in human anatomy and human physiology. Also requires concurrent enrollment in PHA 510 and PHA 514. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

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 principles pharmacology and pharmacotherapeutics 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: 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. Prerequisite: Successful completion of PHA 514. Also requires successful completion, with a grade of 'C' or higher, of prerequisite undergraduate courses in human physiology and biochemistry. Requires concurrent enrollment in PHA 522, PHA 524, and PHA 525. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

PHA - 521 Research & Statistics

This online 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. Prerequisites: Successful completion, with a grade of 'C' or higher, of prerequisite undergraduate courses in statistics. Also requires concurrent enrollment in PHA 522, PHA 524, and PHA 525. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisite: Successful completion of PHA 514 and PHA 512. Also requires concurrent enrollment in PHA 532, PHA 535, and PHA 536. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

PHA - 523 Professionalism & Practice II

This is the second of a three-part course series designed to introduce and familiarize students with the professional and practice issues of importance to the PA profession. This second course is an introduction to principles and practices of population health in the U.S. healthcare 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 healthcare access, population health trends, and current topics in public health policy and healthcare reform. Additionally, the role of social determinants of health on disease management is explored as a tool for reviewing health outcomes in the U.S. 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 healthcare outcomes Prerequisite: Successful

completion of PHA 513 and PHA 514. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisite: Successful completion of PHA 514. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 6

PHA - 525 Prin of Advanced Practice I

This is the first of a 2-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. Prerequisite: Successful completion of PHA 514. Also requires concurrent enrollment in PHA 524. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

PHA - 530 Principles of Pharmacology II

This is the second in a two-part course series designed provide students with an intensive study of the principles pharmacology and pharmacotherapeutics required for patient care. Emphasis in the course is placed on the applications of pharmacological principles in primary patient care. This course is organ systembased; the topics discussed will mirror the major organ systems covered in the Clinical Medicine III. Pharmacological principles discussed in this course include: 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. Prerequisite: Successful completion of PHA 520. Also requires concurrent enrollment in PHA 534 and PHA 535. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisite: Successful completion of PHA 522. Also requires concurrent enrollment in PHA 534 and PHA 535. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

PHA - 533 Professionalism & Practice III

This is the third of a three-part course series designed to introduce and familiarize students with the professional and practice issues of importance to the PA profession. 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 towards health and patient counseling. Prerequisite: Successful completion of PHA 513 and PHA 523. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisite: Successful completion of PHA 514 and PHA 524. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 6

PHA - 535 Prin of Advanced Practice II

This is the second of a 2-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, which will encompass knowledge students have gained in Diagnostic Methods, as well as Principles of Advanced Practice I. Prerequisite: Successful completion of PHA 525. Also requires concurrent enrollment in PHA 534. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

PHA - 536 Emergency & Surgical Medicine

This 2-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 post-operative patient assessment and care management will be emphasized. Prerequisite: Successful completion of PHA 514, PHA 524, and PHA 525. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisite: Successful completion of all first-year PA program courses and evaluations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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. Prerequisite: Successful completion of all first-year PA program courses and evaluations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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. Prerequisite: Successful completion of all first-year PA program courses and evaluations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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 healthcare team. Prerequisite: Successful completion of all first year PA program courses and evaluations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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 healthcare team. Prerequisite: Successful completion of all first year PA program courses and evaluations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

PHA - 586 Women's Health

The student will learn routine obstetrics, gynecologic health maintenance and patient education. Identification and management of pregnancy, infertility, gynecologic oncology, family planning, and psychosomatic disorders will be introduced. Normal psychological changes in obstetrics and gynecology will also be covered. Prerequisite: Successful completion of all first year PA program courses and evaluations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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. Prerequisite: Successful completion of all first year PA program courses and evaluations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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. Prerequisite: Successful completion of all first year PA program courses and evaluations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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. Prerequisite: Successful completion of all first-year PA program courses and evaluations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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 fourweek 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). Prerequisite: Successful completion of all first year PA program courses and evaluations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

PHA - 592 Elective II

Successful completion of all first year PA program courses and evaluations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

PHA - 593 Advanced Clinical Practice I

This course is part one of a 2-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. Prerequisite: Successful completion of second year PA rotations and evaluations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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. Prerequisite: Successful completion of PAS 593 - Advanced Clinical Practice I. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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 advisor 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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 advisor 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

PHA - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

Respiratory Care

RC - 413 Research Project I

Guided activities to develop an appropriate research question and research methodology for completion of the required research requirements. Prerequisite: Second year status. Prerequisite: Second-year status. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

RC - 421 Clinical Practice II

This course provides students the opportunity to further develop skills required in the intensive care of the respiratory patient. Topics include: initiation of mechanical ventilation, patient stabilization and monitoring, measurement and evaluation of hemodynamic variables, bronchial hygiene, evaluation for weaning, extubation, arterial line samples, and non-invasive monitoring. Students will rotate through bronchoscopy services and the O.R. for endotracheal intubation. Prerequisite: RC 411 . Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 12

RC - 422 Clinical Seminar II

Case presentations are required to integrate clinical and theory. Review of respiratory care as it pertains to the registry (RRT) credentialing examinations administered by the National Board for Respiratory Care (NBRC). A series of simulation examinations will be used to prepare the students for these exams. Emphasis will be placed on decision-making and problem-solving as they relate to clinical respiratory care. Current issues relevant to the cardiopulmonary sciences and respiratory care will be explored and issues and trends in health care will be discussed. Successful completion of the National Board for Respiratory Care (NBRC) certification examination is required in order to meet course requirements. Prerequisite: Second year status. Prerequisite: Second-year status. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

RC - 423 Research Project II

Guided activities to develop an appropriate research question and research methodology and begin data collection for completion of the required program research requirements. Prerequisite: Second year status Prerequisite: Second-year status. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

RC - 431 Clinical Practice III

An opportunity to acquire clinical experience is provided in perinatal and pediatric respiratory care in the areas of patient assessment and monitoring (invasive and non-invasive), basic care, mechanical ventilation ECMO, airway care, and labor and delivery assistance and transport. Also covered in the Pulmonary Function Laboratory are arterial and blood gas analysis, measurement of lung volumes and capacities, flow volume loops, diffusion testing and body plethysmography. Students will also have an opportunity for in-depth application and reinforcement of adult intensive care. Specialty rotations in polysomnography, cardiac cather lab, enditrachael integration, pulmonary rehabilitation, bronchoscopy, and exercise testing will be included. In addition, students are provided with the opportunity for the development of an area of specialization. Prerequisites: RC-421. Prerequisite: RC 421. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 12

RC - 431A Clinical Practice III Part A

The purpose of this clinical practice will be to allow the student to acquire special clinical skills and/or expertise which is not normally achieved in an associate's degree program or through work experience. The student may also use this course to refine or upgrade clinical skills which 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 Committee on Progress and Promotion for Respiratory Care. With the program director's permission this 12 hour course (RC 591) may be divided into two parts RC 591 A (6 hours) and RC 591 B (6 hours) accomplishing the same course goals outlined above over two terms. Prerequisite: RC 421. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 6

RC - 431B Clinical Practice III Part B

The purpose of this clinical practice will be to allow the student to acquire special clinical skills and/or expertise which is not normally achieved in an associate's degree program or through work experience. The student may also use this course to refine or upgrade clinical skills which 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 Committee on Progress and Promotion for Respiratory Care. With the program director's permission this 12 hour course (RC 591) may be divided into two parts RC 591 A (6 hours) and RC 591 B (6 hours) accomplishing the same course goals outlined above over two terms. Prerequisite: RC 421. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 6

RC - 432 Clinical Seminar III

Case presentations are required to integrate clinical and theory. Review of respiratory care as it pertains to the credentialing examinations administered by the National Board for Respiratory Care (NBRC). Practice examinations will be used to prepare the students for these exams. Emphasis will be placed on decision-making and problem-solving as they relate to clinical respiratory care. Current issues and trends relevant to the cardiopulmonary sciences and respiratory care will be explored. Successful completion of the National Board for Respiratory Care (NBRC) registry examinations are required in order to meet course requirements. Prerequisite: Second year status Prerequisite: Second-year status. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

RC - 433 Research Project III

Guided activities to develop an appropriate research question and research methodology and begin data collection for completion of the required program research requirements. Prerequisite: Second year status Prerequisite: Second-year status. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

RC - 601 Issues & Trends in Respiratory Care

Current issues relevant to the cardiopulmonary sciences and respiratory care will be explored. Health care delivery systems, new trends in education, organization and management, new treatments and technologies, ethical issues in health care, as well as issues related to professional development and practice will be discussed. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

RC - 602 Adv Critical Care Medicine

Advanced topics in critical care medicine will be discussed using an evidence-based practice approach. Diagnostic techniques, patient assessment and monitoring and special procedures in the ICU will be discussed. Readings, projects and writing assignments will include advanced life support, protocol based care, artificial ventilation and circulation, airway care, and recognition and treatment of cardiac, pulmonary, circulatory, renal, hepatic and neurological disorders in the critical care unit. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

RC - 603 Adv Cardiopulmonary Diagnostics

Advanced cardiopulmonary diagnostics and related technology will be discussed. The assessment skills needed to evaluate the patient's condition from clinical observations, laboratory tests and imaging studies will be reviewed. Advanced pulmonary function, stress and exercise testing, sleep laboratory, metabolic testing, advanced imaging techniques, and invasive and noninvasive cardiac testing will be described. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

RC - 604 Advance Neonatal and Pediatric Respiratory Care

Advanced topics in neonatal and pediatric respiratory care will be discussed using an evidence-based approach. Patient assessment, evaluation, and treatment will be reviewed. Topics will include: fetal assessment, neonatal assessment, neonatal respiratory care, neonatal pathology, pediatric pathology and pediatric respiratory care. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

RC - 605 Disease Management

Provides an in depth discussion of the concepts, procedures, and techniques used in the care of patients with acute and chronic cardiopulmonary disorders. The development and implementation of disease management programs for patients with asthma, COPD, and other chronic conditions is presented. Pulmonary rehabilitation, patient education, and smoking cessation programs are reviewed. Assessment and care plan development in the ambulatory and acute care settings is described, to include diagnosis and treatment of common disorders. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

RC - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

RCP - 511 Introduction to Respiratory Care

This course provides students with the principles of chemistry and physics as they apply to respiratory care, an introduction 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. Prerequisite: Admission to the program. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisite: Admission to the program. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisite: Admission to the program. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

RCP - 520 Respiratory Care Equipment & Techniques

This course provides students with the opportunity to gain handson 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. RCP 511, RCP 512 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 post-operative patient will be reviewed. RCP 512 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

RCP - 523 Mechanical Ventilation

Provides instruction in the theory, set-up, operation and maintenance of mechanical ventilators, their associated modes of ventilation and related equipment. Topics include: mechanical ventilator theory, ventilator operation, modes of ventilation, ventilator maintenance and trouble shooting. RCP 511, RCP 512 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. RCP 512 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. RCP 512, RCP 520 RCP 521, RCP 522, RCP 523 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. RCP 512, RCP 522 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

RCP - 533 Pediatric & 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. RCP 512, RCP 520 RCP 521, RCP 522, RCP 523 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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: introduction to the clinical affiliate, patient assessment, medical gas therapy, aerosol therapy, incentive spirometry, positive pressure breathing, chest physiotherapy, and airway care. Prerequisites: Satisfactory completion of first two semesters of course work. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Prerequisite: Admission to the program. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

RCP - 565 Research Project

Guided activities to complete the research protocol, create data collection instruments, and begin data collection. RCP 563 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

RCP - 566 Education

This course provides an introduction to 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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, healthcare finance, quality assurance and improvement, and healthcare regulation Prerequisite: Admission to the program. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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: 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 non- invasive monitoring. The students will also complete a pulmonary function, bronchoscopy observation, long-term care, and pediatric rotations. Prerequisite: Satisfactory completion of first-year coursework. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. RCP 512, RCP 522, RCP 530 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

RCP - 573 Research Project II

Guided activities to continue data collection, begin data analysis, interpret findings, and begin manuscript preparation. RCP 563 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 7

RCP - 577 Clinical Seminar

Learners review respiratory care across the lifespan 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. Prerequisite: Second-year status. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. RCP 563 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 8

RCP - 589 Disease Management/Home Health

This course places emphasis on decision-making and problemsolving 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

RCP - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all admitted students after completing one semester. Master 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

Rush Medical College

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. Elective Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

ANA - 791 Surgical Anatomy

A laboratory program of special dissections and demonstrations. The applied, clinical, and surgical aspects of anatomical regions are emphasized. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

BHV - 751 Sleep Disorders

Diagnosis and treatment of sleep and arousal disorders as recognized by the Association of Sleep Disorders Centers. Major diagnostic categories are reviewed in terms of clinical presentation, etiology, laboratory findings, and potential therapies. Students sit in with outpatients, interview in-patient consults, and review sleep studies. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-4

BHV - 781 Research in Psychology/Behavioral Science

Students may arrange research rotations individually with faculty at Rush. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter describing the student's activities, responsibilities, amount of supervision, and the specific dates of the rotation. Credit toward graduation is granted assuming that the research project is ongoing throughout the academic year. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

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, 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

DRM - 716 Dermatology

Dermatologic problems are studied under the direct supervision of the departmental faculty; diseases are considered from the standpoint of etiology, pathogenesis, diagnosis, course, and treatment. Clinical and histopathologic correlations are emphasized. Skin therapeutics is taught stressing biochemical and physiological considerations. There is a written final examination based on assigned reading. Third year students may take this elective only in May/June of their M3 year. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

DRM - 781 Research in Dermatology

Students may arrange research rotations individually with faculty at Rush. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter describing the student's activities, responsibilities, amount of supervision, and the specific dates of the rotation. Credit toward graduation is granted assuming that the research project is ongoing throughout the academic year. 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. Research rotations are scheduled for a minimum of four weeks of credit with the expectation that the full project will extend beyond the formal course duration. Depending on the proposal, the weeks of credit may or may not apply to the rule of eight weeks maximum credit for coursework in a single subspecialty. This decision is at the discretion of the Office of Clinical Curriculum. Elective Retake Counts for Credit: Yes. Pass/ No Pass Grading Allowed: Yes. Credit(s): 4-8

EMD - EXM Emergency Medicine Exam Remediation

Remediation of course examination. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

EMD - REM Emergency Medicine Clinical Remediation

Remediation of clinical weeks. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Required in M4 Year Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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 guiz 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 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

EMD - 781 Research in Emergency Medicine

Students may arrange research rotations individually with faculty at Rush. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter describing the student's activities, responsibilities, amount of supervision, and the specific dates of the rotation. Credit toward graduation is granted assuming that the research project is ongoing throughout the academic year. 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. Research rotations are scheduled for a minimum of four weeks of credit with the expectation that the full project will extend beyond the formal course duration. Depending on the proposal, the weeks of credit may or may not apply to the rule of eight weeks maximum credit for coursework in a single subspecialty. This decision is at the discretion of the Office of Clinical

Curriculum. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4-8

EMD - 822 Pediatric Emergency Medicine

Students evaluate pediatric patients in the Emergency Room under the supervision of an attending physician. Evening and weekend shifts may be included. Students are required to attend the Pediatric Department noon case conference. Elective Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

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 healthcare 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

FAM - 705 Family Medicine Leadership Program (FMLP)

The Family Medicine Leadership Program (FMLP) is a four-year, longitudinal curriculum designed to help meet the health needs of the population by training a select group of primary care focused medical students to become family medicine providers, mentors and leaders. The curriculum emphasizes patientcentered, community-based, interdisciplinary and experiential learning, with leadership development throughout the full four years of the student's undergraduate medical education. Students are assigned to outpatient practices that will serve as their longitudinal "home base" for their entire medical school experience. They are supervised by family medicine faculty mentors and become an integral part of the community-based 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 activities and learning activities that emphasize the patient-centered medical home, promote community service and scholarly pursuits, requiring independent study and self-directed learning, allowing for significant personal and professional growth. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

FAM - 710 Subinternship: Family Medicine

An intensive inpatient primary care experience at Rush Copley. The subintern will function in a capacity similar to an intern, with supervision by a senior Family Medicine resident and faculty physician. Required in M4 Year Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-4

FAM - 741 Urban Primary Care

An advanced preceptorship with three family physicians 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-4

FAM - 745 Private Practice Preceptorship

A preceptorship with an experienced family physician, both at the office and in the hospital. The student works in all areas of a busy physician's practice. Multiple sites in Chicago and suburbs are available. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

FAM - 781 Research in Family Medicine

Students may arrange research rotations individually with faculty at Rush. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter describing the student's activities, responsibilities, amount of supervision, and the specific dates of the rotation. Credit toward graduation is granted assuming that the research project is ongoing throughout the academic year. 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. Research rotations are scheduled for a minimum of four weeks of credit with the expectation that the full project will extend beyond the formal course duration. Depending on the proposal, the weeks of credit may or may not apply to the rule of eight weeks maximum credit for coursework in a single subspecialty. This decision is at the discretion of the Office of Clinical Curriculum. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4-8

HHV - 711 Medical Ethics

Collaborating with at least one seasoned 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 of 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

MED - EXM Medicine Exam Remediation

Remediation of course examination. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4-8

MED - REM Medicine Clinical Remediation

Remediation of clinical weeks. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4-8

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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Required Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 (4) 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. Required in M4 Year Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

MED - 712 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. Elective Retake Counts for Credit: Yes. Pass/ No Pass Grading Allowed: Yes. Credit(s): 4

MED - 713 Cardiovascular Research

In this course, a student's program is individually planned with emphasis on understanding basic research techniques and completion of a project with the goal of submitting an abstract and/or manuscript. The student is assigned to a specific faculty member based on his/her individual interest. The research program of the Section of Cardiology encompasses treatment and prevention of chronic heart failure, arrhythmias, and coronary artery disease; echocardiography; myocardial cell contraction; molecular biology of heart cell differentiation; and vascular biology. 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 Office of Clinical Curriculum before beginning the rotation. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

MED - 716 Poison Control

In this course students learn the basics in management of a poisoned or overdosed patient, including decontamination of toxins via all routes (i.e., ingestion, oculardermal, and inhalation). The student gains a working knowledge of signs/symptoms, antidotal therapy, toxicologic laboratory, nomogram interpretation monitoring parameter and management appropriate to a variety of poisons including prescription and over-the-counter medicines, household products, and plants. Students attend morning rounds and case conferences at the Toxikon Group at Stroger Hospital or the UIC College of Medicine. Students work on the Illinois Poison Center emergency telephone lines under supervision of IPC staff. The Illinois Poison Center is a 24-hour emergency service fielding approximately 90,000 calls a year from parents, schools, work sites, emergency rooms, occupational medicine clinics, etc., regarding a variety of toxicological emergencies. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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 participate 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, Elective Retake Counts for Credit; Yes, Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-4

MED - 732 Digestive Diseases

This course is divided into two 2-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, conference, 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

MED - 736 Hematology

This course provides an intensive exposure to clinical hematology. Students meet with residents, fellows and a teachingattending 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 (multi-headed) 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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 on diagnostic and therapeutic approaches. Teaching is conducted in a case-study format in which students see new patients and present them to the attending on consultation rounds. Rush and Stroger Hospitals have a joint fellowship training program in Infectious Disease. Rush students will spend two weeks at Rush and two weeks at Stroger Hospital on the respective Infectious Disease Consultative Services; visiting students will spend all four weeks at Rush. In addition, students will attend a weekly two-hour infectious disease conference at Rush and a one-hour infectious disease conference at Stroger where they may present cases. Sixteen lectures on basic infectious disease topics are presented over the four weeks. Students are NOT allowed to drop this course less than 8 weeks prior to the start. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

MED - 747 Global & Community Health

In this course, students spend between 2 and 4 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 2-4 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

MED - 755 Quality & Safety in the Hospital

In this course students are assigned to the RUMC Attending Directed service and assume primary responsibility for patient care under close supervision, provided by an assigned attending hospitalist. Students have the unique opportunity to work oneon-one with an attending hospitalist, and interface with case management, physical therapy, pharmacy, nursing, primary care physicians outside of the hospital, emergency medicine and critical care physicians and medical/surgical consultants to provide high-quality and safe inpatient care. Students participate in a series of workshops and didactic sessions addressing important topics in quality improvement and patient safety. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 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 primarily on in-patients at Rush University Medical Center, but there is an opportunity to work with out-patients in the Rush Center for Lung Diseases. The essentials of pulmonary physiology, the use and interpretation of pulmonary function testing, and the provision of mechanical ventilatory support are emphasized during the rotation. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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 urticarla), as well as connective tissue diseases and immunodeficiency syndromes are explained. Students are responsible for following medicine as well as pediatric inpatient consults at RUMC and Stroger Hospitals 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 guiz are given to measure achievement as a basis for evaluation. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

MED - 781 Research in Medicine

Students may arrange research rotations individually with faculty at Rush. In order to receive credit for such a rotation, the person

to whom the student will be responsible must write a letter describing the student's activities, responsibilities, amount of supervision, and the specific dates of the rotation. Credit toward graduation is granted assuming that the research project is ongoing throughout the academic year. 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. Research rotations are scheduled for a minimum of four weeks of credit with the expectation that the full project will extend beyond the formal course duration. Depending on the proposal, the weeks of credit may or may not apply to the rule of eight weeks maximum credit for coursework in a single subspecialty. This decision is at the discretion of the Office of Clinical Curriculum. Elective Retake Counts for Credit: Yes. Pass/ No Pass Grading Allowed: Yes. Credit(s): 4-8

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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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 team work, 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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

MED - 795 Geriatric Medicine

This course draws upon a number of resources within the Rush system, 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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/ week in the outpatient clinic; and 2-3 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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 towards 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

MED - 832 Digestive Diseases

This course is divided into two 2-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, conference, 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

MED - 836 Hematology

This course provides an intensive exposure to clinical hematology. Students meet with residents, fellows and a teachingattending 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 (multi-headed) 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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 multi-disciplinary team rounds that include an Infectious Disease attending, Medicine house staff, clinical pharmacist, and physician assistants (PA'S). 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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 2-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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

MED - 850 Short Stay Telemetry Short Stay Telemetry Elective

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 ~48hr stay while they are on the observation unit. Students will be based on the telemetry units Mon- Fri between the hours of 8am and 6pm. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/ No Pass Grading Allowed: Yes. Credit(s): 4

MED - 872 Pulmonary Consultation Services

This course consists of Stroger Hospital 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 Hospital 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 5:00 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. Elective Retake Counts for Credit: Yes. Pass/ No Pass Grading Allowed: Yes. Credit(s): 4

NEU - EXM Neurology Exam Remediation

Remediation of course examination. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

NEU - REM Neurology Clinical Remediation

Remediation of clinical weeks. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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 and Stroger Hospitals, 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 Hospital, 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. Required Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

NEU - 781 Research in Neurology

Students may arrange research rotations individually with faculty at Rush. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter describing the student's activities, responsibilities, amount of supervision, and the specific dates of the rotation. Credit toward graduation is granted assuming that the research project is ongoing throughout the academic year. 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. Research rotations are scheduled for a minimum of four weeks of credit with the expectation that the full project will extend beyond the formal course duration. Depending on the proposal, the weeks of credit may or may not apply to the rule of eight weeks maximum credit for coursework in a single subspecialty. This decision is at the discretion of the Office of Clinical Curriculum. Elective Retake Counts for Credit: Yes. Pass/ No Pass Grading Allowed: Yes. Credit(s): 4-8

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 which 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 8 weeks prior to the rotation start date. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-4

OBG - EXM Obstetrics/Gynecology Exam Remediation

Remediation of course examination. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 6

OBG - REM Obstetrics/Gynecology Clinical Remediation

Remediation of clinical weeks. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4-6

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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 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. Required Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 6

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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-4

OBG - 767 Reproductive Endocrinology & 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. Elective Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

OBG - 781 Research in Obstetrics/Gynecology

Students may arrange research rotations individually with faculty at Rush. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter describing the student's activities, responsibilities, amount of supervision, and the specific dates of the rotation. Credit toward graduation is granted assuming that the research project is ongoing throughout the academic year. 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. Research rotations are scheduled for a minimum of four weeks of credit with the expectation that the full project will extend beyond the formal course duration. Depending on the proposal, the weeks of credit may or may not apply to the rule of eight weeks maximum credit for coursework in a single subspecialty. This decision is at the discretion of the Office of Clinical Curriculum. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4-8

PED - EXM Pediatrics Exam Remediation

Remediation of course examination. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 8

PED - REM Pediatrics Clinical Remediation

Remediation of clinical weeks. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 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 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. Required Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Required in M4 Year Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

PED - 715 Chronic Diseases in Children

Based at Shriner's Hospital for Crippled Children, students participate in an active inpatient and outpatient program which provides referral services to children with musculoskeletal disorders, neural tube defects and other chronic diseases. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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 follow private and clinic patients for both health maintenance and acute and chronic medical problems. 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 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 which presents during the rotation. The student is provided up to 8 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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 sub-intern 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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, and urticaria), as well as connective tissue diseases and immunodeficiency syndromes are explained. Students are responsible for following medicine and pediatric inpatient consults at Rush and Stroger Hospitals and report to the attending physicianon-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. 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 guiz are given to measure achievement as a basis for evaluation. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

PED - 742 Pediatric Hematology/Oncology

This course provides an introduction to 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

PED - 746 Pediatric Infectious Disease

This course focuses on clinical and laboratory evaluation of pediatric infections. An active inpatient consultation service provides ample opportunity for patient evaluation and follow-up. Correct use of laboratory facilities is stressed. Pathophysiology of infectious diseases, differential diagnosis, and antibiotic use are discussed on daily ward rounds and weekly conferences. Students see outpatients with diagnostic problems as well as attend specialized clinics for children with HIV infection, tuberculosis and congenital toxoplasmosis. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 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. Elective Retake Counts for Credit: Yes. Pass/ No Pass Grading Allowed: Yes. Credit(s): 4

PED - 781 Research in Pediatrics

Students may arrange research rotations individually with faculty at Rush. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter describing the student's activities, responsibilities, amount of supervision, and the specific dates of the rotation.

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 Office of Clinical Curriculum before beginning the rotation. Research rotations are scheduled for a minimum of four weeks of credit with the expectation that the full project will extend beyond the formal course duration. Students may arrange research rotations individually with faculty at Rush. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter describing the student's activities, responsibilities, amount of supervision, and the specific dates of the rotation. Credit toward graduation is granted assuming that the research project is ongoing throughout the academic year. 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. Research rotations are scheduled for a minimum of four weeks of credit with the expectation that the full project will extend beyond the formal course duration. Depending on the proposal, the weeks of credit may or may not apply to the rule of eight weeks maximum credit for coursework in a single subspecialty. This decision is at the discretion of the Office of Clinical Curriculum. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4-8

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 post-partum period. Care of the most common complications occurring at this age will be emphasized. Visiting students are eligible for four-week rotations only. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-4

PED - 804 Adolescent & 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-4

PED - 842 Pediatric Hematology/Oncology

This course provides an introduction to 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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 Hospital 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

PMR - 781 Research in Physical Medicine & Rehabilitation

Students may arrange research rotations individually with faculty at Rush. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter describing the student's activities, responsibilities, amount of supervision, and the specific dates of the rotation. Credit toward graduation is granted assuming that the research project is ongoing throughout the academic year. 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. Research rotations are scheduled for a minimum of four weeks of credit with the expectation that the full project will extend beyond the formal course duration. Depending on the proposal, the weeks of credit may or may not apply to the rule of eight weeks maximum credit for coursework in a single subspecialty. This decision is at the discretion of the Office of Clinical Curriculum. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4-8

PMR - 791 Physical Medicine & Rehabilitation

This course introduces the student to the field of Physical Medicine and Rehabilitation (PM&R). The course includes introduction in the care of patients with disabilities due to strokes, spinal cord injuries, head trauma, amputations, movement disorders, arthroplasties, etc. In addition, the student is expected to observe, understand, and learn what services are provided by the allied health professional staff, and when it is appropriate to prescribe these services. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-4

PSY - EXM Psychiatry Exam Remediation

Remediation of course examination. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

PSY - REM Psychiatry Clinical Remediation

Remediation of clinical weeks. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 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. Required Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4-6

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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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, family therapy, and group therapy. Emphasis is placed on crisis management and brief therapy in inpatient settings. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

PTH - 781 Research in Pathology

Students may arrange research rotations individually with faculty at Rush. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter describing the student's activities, responsibilities, amount of supervision, and the specific dates of the rotation. Credit toward graduation is granted assuming that the research project is ongoing throughout the academic year. 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. Research rotations are scheduled for a minimum of four weeks of credit with the expectation that the full project will extend beyond the formal course duration. Depending on the proposal, the weeks of credit may or may not apply to the rule of eight weeks maximum credit for coursework in a single subspecialty. This decision is at the discretion of the Office of Clinical Curriculum. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4-8

PTH - 791 Pathology

This course is aimed at students who are considering post-graduate 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 realize that 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

PVM - 781 Research in Preventive Medicine

Students may arrange research rotations individually with faculty at Rush. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter describing the student's activities, responsibilities, amount of supervision, and the specific dates of the rotation. Credit toward graduation is granted assuming that the research project is ongoing throughout the academic year. 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. Research rotations are scheduled for a minimum of four weeks of credit with the expectation that the full project will extend beyond the formal course duration. Depending on the proposal, the weeks of credit may or may not apply to the rule of eight weeks maximum credit for coursework in a single subspecialty. This decision is at the discretion of the Office of Clinical Curriculum. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4-8

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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

RAD - 711 Interventional Radiology

This clinical clerkship exposes the student to interventional radiology with emphasis on patient care. Both non-vascular as well as vascular interventional examinations are performed on inpatients as well as outpatients. Students have assigned readings and are able to attend lectures given by the Diagnostic Radiology attending staff and residents included under the Diagnostic Radiology clerkship. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-4

RAD - 781 Research in Radiology

Students may arrange research rotations individually with faculty at Rush. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter describing the student's activities, responsibilities, amount of supervision, and the specific dates of the rotation. Credit toward graduation is granted assuming that the research project is ongoing throughout the academic year. 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. Research rotations are scheduled for a minimum of four weeks of credit with the expectation that the full project will extend beyond the formal course duration. Depending on the proposal, the weeks of credit may or may not apply to the rule of eight weeks maximum credit for coursework in a single subspecialty. This decision is at the discretion of the Office of Clinical Curriculum. Elective Retake Counts for Credit: Yes. Pass/ No Pass Grading Allowed: Yes. Credit(s): 4-8

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 are tested by a written final examination. Students are also urged to attend the two daily departmental teaching conferences. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

RMC - M3 Clinical Curriculum Enrollment

This course acts as place holder for billing purposes. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 1

RMC - M4 Clinical Curriculum Enrollment

This course acts as a place holder for billing purposes. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMC - 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. Retake Counts for Credit: Yes. Pass/ No Pass Grading Allowed: No. Credit(s): 1

RMD - EXM Primary Care Exam Remediation

Remediation of course examination. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

RMD - REM Primary Care Clinical Remediation

Remediation of clinical weeks. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: Yes. Credit(s): 2-4

RMD - 505 Physicianship Program V

The 2-year Physicianship Program is a patient-centered, integrated, multi-disciplinary program designed to provide students with a foundation of clinical knowledge, skills, attitudes, and behaviors so they are prepared for full-time clinical duties beginning with their 3rd-year core clerkships where students practice physician skills in the context of patient care. The Physicianship Program is competence-based and aligned with national recommendations. M2 Year. WI Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 519 Capstone III

Continuation of RMD 518. 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 yr. 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 identify and complete learning objectives, work with a faculty advisor and submit 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. Required Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 1

RMD - 520 Capstone IV

Continuation of RMD 519. The Capstone Project is a selfdirected, longitudinal activity that will commence during the M1 year and culminate in a presentation at the end of the M3 yr. 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 identify and complete learning objectives, work with a faculty advisor and submit 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. Required Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 529A Evidence-Based Medicine I

In this course, students compare and contrast the methodologies used to establish the scientific basis for evidence-based practice (EBP). This foundation will allow them to achieve broader EBP objectives during their clinical years. Required Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 1

RMD - 529B Evidence-Based Medicine II

Continuation of RMD 529A. In this course, students compare and contrast the methodologies used to establish the scientific basis for evidence-based practice (EBP). This foundation will allow them to achieve broader EBP objectives during their clinical years. Required Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 540 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. Elective Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 541 Humanities in Medicine II

Continuation of RMD 540. 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. Elective Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 542 Spanish for Medical Professionals I

The primary goal of this course is to make it possible for students to communicate with patients whose dominant language is Spanish. The best way to learn a language is to practice as often as possible. From the onset of this course, students are encouraged to use their Spanish language skills in class in situations similar to those they may encounter in a medical environment with Spanish-speaking patients. There are in-class activities, such as role-playing, brief conversations, interviewing, and history taking. Students also expand their Spanish vocabulary with an emphasis on medical terminology. The students review the essentials of Spanish grammar to enhance their ability to communicate. Furthermore, the course includes informal presentations about different aspects of Hispanic culture to both enhance the quality of the relationship with Spanish-speaking patients and to avoid misunderstandings about certain cultural values and expectations. By familiarizing students with conversational Spanish and medical Spanish, this course will enable students to apply their learning to real-world situations, to assist with communications, and ultimately to break down the barriers between doctors and patients. This course also includes a series of cultural extracurricular activities and Spanish language websites for students to practice Spanish independently outside of the classroom. By visiting museums, restaurants and attending Hispanic movie sessions, students will be able to engage in Spanish learning activities between classroom sessions. Students will be able to utilize the internet educational resources to fit their individual learning styles, and to complement their in-class instruction and their particular medical interests. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 543 Spanish for Medical Professionals II

The primary goal of this course is to make it possible for students to communicate with patients whose dominant language is Spanish. The best way to learn a language is to practice as often as possible. From the onset of this course, students are encouraged to use their Spanish language skills in class in situations similar to those they may encounter in a medical environment with Spanish-speaking patients. There are in-class activities, such as role-playing, brief conversations, interviewing, and history taking. Students also expand their Spanish vocabulary with an emphasis on medical terminology. The students review the essentials of Spanish grammar to enhance their ability to communicate. Furthermore, the course includes informal presentations about different aspects of Hispanic culture to both enhance the quality of the relationship with Spanish-speaking patients and to avoid misunderstandings about certain cultural values and expectations. By familiarizing students with conversational Spanish and medical Spanish, this course will enable students to apply their learning to real-world situations, to assist with communications, and ultimately to break down the barriers between doctors and patients. This course also includes a series of cultural extracurricular activities and Spanish language websites for students to practice Spanish independently outside of the classroom. By visiting museums, restaurants and attending Hispanic movie sessions, students will be able to engage in Spanish learning activities between classroom sessions. Students will be able to utilize the internet educational resources to fit their individual learning styles, and to complement their in-class instruction and their particular medical interests. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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. Elective Retake Counts for Credit: No. Pass/No. Pass Grading Allowed: Yes. Credit(s): 1

RMD - 546 Sonographic Anatomy II

Continuation of RMD 545. 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. Elective Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 550 Capstone V

Continuation of RMD 520. The Capstone Project is a selfdirected, longitudinal activity that will commence during the M1 year and culminate in a presentation at the end of the M3 yr. 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 identify and complete learning objectives, work with a faculty advisor and submit 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. Required Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 1

RMD - 551 Capstone VI

Continuation of RMD 550. The Capstone Project is a selfdirected, longitudinal activity that will commence during the M1 year and culminate in a presentation at the end of the M3 yr. 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 identify and complete learning objectives, work with a faculty advisor and submit 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. Required Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 552 Capstone VII

Continuation of RMD 551. The Capstone Project is a selfdirected, longitudinal activity that will commence during the M1 year and culminate in a presentation at the end of the M3 yr. 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 identify and complete learning objectives, work with a faculty advisor and submit 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. Required Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 560 The Foundation of Medical Practice

Students are introduced to the structure and pedagogical methodology of the Rush Medical College pre-clerkship curriculum. Students are introduced to the roles that define the Rush curriculum and how those roles function to organize the curriculum. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 561 Host Defense and Response

This course uses a multi-disciplinary case based approach to the structure and function of cells, tissues and organs as they pertains to infectious diseases and the immune system in the normal and disease state. Students learn to identify alterations and underlying pathophysiology which 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 also learn key techniques in communicating with patients, families, and colleagues. Finally, students examine epidemiological and socioeconomic aspects of infectious disease and diseases of the immune system and explore selected ethical issues related to the clinical cases presented in the course. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 562 Vital Fluids

This course uses a multi-disciplinary case based approach to the structure and function of cells, tissues and organs as they pertain to cardiovascular system and renal function in the normal and disease state. Students learn to identify alterations and underlying pathophysiology which 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 the cardiovascular system 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 in cardiovascular and renal 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 cardiovascular and renal disease and explore selected ethical issues related to the clinical cases presented in the course. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 563 Energy Metabolism and Nutrition

This course will use a multi-disciplinary case based approach to the structure and function of cells, tissues and organs as they pertain to the digestive system, metabolism of food components and nutritional status. 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 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. Students will also learn key techniques in communicating with patients, families, and colleagues. Finally, students will examine epidemiological and socioeconomic aspects of digestive system disease and nutritional status and explore selected ethical issues related to the clinical cases presented in the course. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 564 Movement and Mechanics

This course uses a multi-disciplinary case based approach to the structure and function of cells, tissues and organs as they pertain to the digestive system, metabolism of food components and nutritional status. 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 also learn appropriate diagnostic modalities in evaluation of diseases that affect the digestive system and nutritional status. 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 in diseases of the digestive system or that relate to nutritional status. 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 digestive system disease and nutritional status and explore selected ethical issues related to the clinical cases presented in the course. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 565 Brain, Behavior and Cognition

This course uses a multi-disciplinary case based approach to the structure and function of cells, tissues and organs as they pertain to the digestive system, metabolism of food components and nutritional status. Students learn to identify alterations and underlying pathophysiology which 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 the digestive system and nutritional status. Students are also expected to describe the mechanism of action and use of pharmacologic agents for the treatment of these diseases, and to construct differential diagnoses for common presenting symptoms in diseases of the digestive system or that relate to nutritional status. 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 digestive

system disease and nutritional status and explore selected ethical issues related to the clinical cases presented in the course. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 566 Reproduction and Sexuality

This course uses a multi-disciplinary 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 which 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 learn key techniques in communicating with patients, families, and colleagues. Finally, students examine epidemiological and socioeconomic aspects of reproductive system disease, sexuality, and renal disease, and explore selected ethical issues related to the clinical cases presented in the course. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 567 Growth, Development and the Life Cycle

This course uses a multi-disciplinary case based approach to normal neo-natal to geriatric development and disease related to different stages of the life cycle. Students learn to identify alterations and underlying pathophysiology which occur in the disease state, the significance of symptoms, signs and other ancillary data. Students also learn appropriate diagnostic modalities in evaluation of normal development and diseases related to different stages of the life cycle. 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 associated with specific stages of the life cycle. 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 health and disease through the life cycle and explore

selected ethical issues related to the clinical cases presented in the course. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 568 Introduction to Hematology

This course uses a multi-disciplinary 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 learn to identify alterations and underlying pathophysiology which occur in the disease state, the significance of symptoms, signs and other ancillary data. Students also learn appropriate diagnostic modalities in evaluation of hematologic 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 hematologic 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 hematologic diseases, and explore selected ethical issues related to the clinical cases presented in the course. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

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, multi-organ system cases. Students learn to identify alterations and underlying pathophysiology which occur in multi-organ system diseases, the significance of symptoms, signs and other ancillary data. Students also learn appropriate diagnostic modalities in evaluation of multi-organ 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 multi-organ 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 also learn key techniques in communicating with patients, families, and colleagues. Finally, students examine epidemiological and socioeconomic aspects of multi-organ system diseases, and explore selected ethical issues related to the clinical cases presented in the course. The second segment consists of a focused preparation for the USMLE Step 1 Examination. Students use the NBME CBSSA, extensive on-line 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

RMD - 572 Health Equity & Social Just I

Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 574 Vital Fluids

This course will use a multi-disciplinary case based approach to the structure and function of cells, tissues and organs as they pertain to cardiovascular system and renal function in the normal and disease state. 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 cardiovascular and renal systems 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 key techniques in communicating with patients, families, and colleagues. Finally, students will examine epidemiological and socioeconomic aspects of cardiovascular and renal diseases and explore selected ethical issues related to the clinical cases presented in the course. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 575 Vital Gases

This course will use a multi-disciplinary case based approach to the structure and function of cells, tissues and organs as they pertain to the respiratory system in the normal and disease state. 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 key techniques in communicating with patients, families, and colleagues. Finally, students will examine epidemiological and socioeconomic aspects of respiratory system diseases and explore selected ethical issues related to the clinical cases presented in the course. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

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 4 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. Required Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

RMD - 710 Transition to Residency I

In the year-long Transition to Residency course, students will master the skills to make a successful transition from undergraduate to graduate medical education (residency). In the course's initial year, the students will learn the elements involved in matching into a residency position. In order to maintain the flexibility and individuality of each student's fourth year experience, many of the resources will be made available as online modules which students can take when it fits into their schedule. Fall term will include USMLE Step 2 preparation, creating professional documents in support of application to residency, and refining interviewing skills. Spring term will include creation of rank order lists, financial aid literacy, and will culminate in a two-week Clinical Bridge course. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 711 Transition to Residency II

In the year-long Transition to Residency course, students will master the skills to make a successful transition from undergraduate to graduate medical education (residency). In the course's initial year, the students will learn the elements involved in matching into a residency position. In order to maintain the flexibility and individuality of each student's fourth year experience, many of the resources will be made available as online modules which students can take when it fits into their schedule. Fall term will include USMLE Step 2 preparation, creating professional documents in support of application to residency, and refining interviewing skills. Spring term will include creation of rank order lists, financial aid literacy, and will culminate in a two-week Clinical Bridge course. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 713 USMLE Step II Preparation

USMLE Step certification is necessary for receiving licensure to practice medicine. The step 2 portion is required for graduation from Rush Medical College. This exam assesses the ability of examinees to apply medical knowledge, skills, and understanding of clinical science essential for the provision of patient care under supervision, and includes emphasis on health promotion and disease prevention. The purpose of this course is to give students time, guidance and resources to prepare for successful completion of the Step 2 exam components: Clinical Knowledge (CK) and Clinical Skills (CS). Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-4

RMD - 714 Residency Interviewing Preparation

Residency interviews are an important opportunity for M4 students to visit a residency program and put their best face forward to secure a PGY 1 residency position. Interviewing skills are an important component of the selection process. This course will review basic interviewing techniques and enhance students' organization skills to optimize the interviewing process. They will create an effective strategy to research programs in advance of interviews, learn how best to answer difficult interview questions, create a tracking mechanism detailing program information and outcome, and develop a financial plan. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-4

RMD - 720 Careers in Medicine

Students interested in the CiM 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, 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). Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

RMD - 721 Ambulatory Medicine

Third year medical students will be placed in either a Family Medicine or Internal Medicine ambulatory office or clinic for two weeks. Students will independently evaluate, present, and care for patients while working with directly with attending preceptors. This will be a primarily outpatient experience and meant to immerse students in the ambulatory care of patients. Elective Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

RMD - 722 Clinical Bridge Course

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. Elective Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

RMD - 723 Medical Informatics

Students will be given an introduction to the field of clinical informatics and complete a research project in informatics. An overview of Healthcare Information Technology (HIT) 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. Elective Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

RMD - 726 Mindfullness 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 727 Advanced Concepts in Palliative Care

The role of physicians as care givers is deeply connected to their role as educators - of patients, of students and of 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 participate in medical education across RMC. This is a longitudinal experience with course content and participation spanning across the M4 year. Students participating in the 4-week option will develop a work that is considered to be educational scholarship. This can include a video, a publication, a presentation or a poster. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-4

RMD - 730 Clinical Nutrition

Students will determine what foods make up a healthy diet and make recommendations to change food intake to improve the diet. They will know what foods make up nutrition therapeutic diets to prevent or treat acute and chronic disease. This will be accomplished by projects, online course material to read or interact with and collaborating with registered dietitians at RUMC for nutrition support recommendations. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2

RMD - 780 Basic Biomedical Research I

One of a two-course series, RMD-780 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. Elective Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 781 Basic Biomedical Research II

Continuation of RMD 780. This is one of a two term course that will introduce the students to various aspects of the theory and practice of biomedical research. It includes lectures, journal club, a written project proposal, practical experience and a written paper on a laboratory technique. Elective Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMD - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

RMT - 505E Physicianship V - Exam Makeup

Physicianship V exam makeup only. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

RMT - 505R Physicianship V - Remediation

Physicianship V remediation only. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

SUR - EXM Surgery Exam Remediation

Remediation of course examination. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-8

SUR - REM Surgery Clinical Remediation

Remediation of clinical weeks. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

SUR - 701 Core Clerkship: Surgery

The Core Clerkship in Surgery will consist of an 8-week general surgery component in the M3 year. During Surgery, the principles

of pre-operative and post-operative 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. Required Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 8

SUR - 710 General Surgery Subinternship

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. Required in M4 Year Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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, pre-operative evaluation and post-operative 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. Elective Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

SUR - 716 Plastic & Reconstructive Surgery

The primary goal of this clerkship is to provide an introduction to 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

SUR - 726 Principles of Urology

This clerkship provides further experience in the diagnosis and management of urological problems as a supplement to the basic clerkship in surgery. Elective Retake Counts for Credit: Yes. Pass/ No Pass Grading Allowed: Yes. Credit(s): 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

SUR - 731 Pain Management

This rotation exposes the experienced student to the care and management of patients with low back pain, post herpetic 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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 Service, Foot-Ankle-Hand Service, Sports Medicine Service, Pediatric and Tumor Service, or the Spine Service. 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

SUR - 751X Orthopedics-Away

Intended for students considering a career path requiring a knowledge of musculoskeletal problems. Students work with individual attendings on either the Joint Reconstructive Service, Foot-Ankle-Hand Service, Sports Medicine Service, Pediatric and Tumor Service, the Spine Service, or the Shriner's Hospital Pediatric Service. Students work with individual attendings in an office clinic setting, assist in surgery, and round on inpatients. Students are required to attend various clinical and resident education conferences. All students meet weekly with the course director for a student-only education conference. Educational goals include review of functional anatomy, understanding of injury triage, and concepts of treatment. Night call is not required, but is encouraged. Prerequisite: SUR 701, fourth year standing. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-4

SUR - 752 Orthopedic Research

Students may arrange research rotations individually with faculty at Rush. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter describing the student's activities, responsibilities, amount of supervision, and the specific dates of the rotation. 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 Office of Clinical Curriculum before beginning the rotation. Research rotations are scheduled for a minimum of four weeks of credit with the expectation that the full project will extend beyond the formal course duration. Depending on the proposal, the weeks of credit may or may not apply to the rule of 8-weeks maximum credit for coursework in a single subspecialty. This decision is at the discretion of the Office of Medical Student Programs. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

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 neurosurgicaloriented disorders are addressed. Conferences with both the resident and attending staff are held weekly. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-4

SUR - 756X Neurosurgery-Away

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. Emphasis is placed on the basic neurosciences especially neuroanatomy and pathophysiology. Prerequisite: SUR 701. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 which 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 Jack A. Cohen, M.D., the Associate Chairman for Education in the Department of Ophthalmology (Jack_A_Cohen@rush.edu). 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Office practice, in addition to the care of hospitalized patients, provides the basis for clinical instruction, with emphasis on case study and proper use of instruments. Departments of Pathology, Radiology and Otology Conferences and Journal Club are included. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4-6

SUR - 761X Surgical Oncology-Away

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, tumor conference, and head and neck tumor conference is required. Prerequisite: SUR 701. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Elective Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

SUR - 771 Thoracic Surgery

The diagnosis, operative, and postoperative care of patients with pulmonary and esophageal disorders are studied in both hospitalized and ambulatory patients. In addition, students assist in patient care, and topics are assigned for discussion. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 2-4

SUR - 771X Thoracic Surgery-Away

The diagnosis, and operative and postoperative care of patients with pulmonary and esophageal disorders are studied in both hospitalized and ambulatory patients. In addition, students assist in patient care, and topics are assigned for discussion. Prerequisite: SUR 701 Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4

SUR - 781 Research in Surgery

Students may arrange research rotations individually with faculty at Rush. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter describing the student's activities, responsibilities, amount of supervision, and the specific dates of the rotation. Credit toward graduation is granted assuming that the research project is ongoing throughout the academic year. 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 Office of Clinical Curriculum before beginning the rotation. Research rotations are scheduled for a minimum of four weeks of credit with the expectation that the full project will extend beyond the formal course duration. Depending on the proposal, the weeks of credit may or may not apply to the rule of 8-weeks maximum credit for coursework in a single subspecialty. This decision is at the discretion of the Office of Medical Student Programs. Elective Retake Counts for Credit: Yes. Pass/ No Pass Grading Allowed: Yes. Credit(s): 4

SUR - 782 Research in Anesthesiology

Students may arrange research rotations individually with faculty at Rush. In order to receive credit for such a rotation, the person to whom the student will be responsible must write a letter describing the student's activities, responsibilities, amount of supervision, and the specific dates of the rotation. Credit toward graduation is granted assuming that the research project is ongoing throughout the academic year. 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 Office of Clinical Curriculum before beginning the rotation. Research rotations are scheduled for a minimum of four weeks of credit with the expectation that the full project will extend beyond the formal course duration. Depending on the proposal, the weeks of credit may or may not apply to the rule of 8-weeks maximum credit for coursework in a single subspecialty. This decision is at the discretion of the Office of Medical Student Programs. Elective Retake Counts for Credit: Yes. Pass/ No Pass Grading Allowed: Yes. Credit(s): 4

SUR - 794 Advanced Surgery

Advanced Surgery offers an opportunity for Rush students and especially 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 similar to the 3rd year students and may assume some of the duties and responsibilities of the junior residents, depending upon their familiarity with the task involved. Students will become involved in preoperative and postoperative care, they will participate in surgery, and 4th year students rotating in Advanced Surgery will take part in the in-house call schedule on a shared rotating basis with 3rd year students. The work is primarily with hospitalized patients, however, there is an opportunity for ambulatory and elective surgery. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 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 pre-operative evaluation preparations of surgical and obstetric patients. Prerequisite: MED 701, OBG 701, SUR 701. Elective Retake Counts for Credit: Yes. Pass/ No Pass Grading Allowed: Yes. Credit(s): 2-4

SUR - 796 Transplantation

The clinical aspects of transplantation, including donor and recipient surgery, and pre-operative and post-operative care are studied. The student participates in organ preservation care as well. Seminars on the fundamental and clinical aspects of transplant immunology are held. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 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. Multi-level supervision and teaching is available from attending physicians and residents. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: 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. Multi-level supervision and guidance is provided by the attending physicians and residents as well as the clinical support staff. Elective Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 4-8

SUR - 808X Trauma/Critical Care Surgery-Away

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. Multi-level supervision and teaching is available from attending physicians and residents. Prerequisites: SUR 701, fourth-year standing. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 4-8

Specialist in Blood Bank

SBB - 560 Human Blood Group Systems and Principles & 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

SBB - 561 Clin Immunohematogy & 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 & pediatric transfusion practice, hemolytic disease of the newborn, transplantation, anemias, infectious and noninfectious complications of blood transfusion. Taught only online. Extensive computer use required. Prerequisites: General knowledge of immunohematology and consent of the instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 & platelet preservation, the oxygen dissociation curve, basic coagulation, allogeneic & autologous blood donor selection, whole blood collection & component preparation, labeling, storage, distribution & use, donor testing, transfusion infectious diseases, storage lesions, hematopoietic progenitor cell (HPC) collection & use. Taught only online. Extensive computer use required. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. 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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 3

SBB - 564 SBB Project & 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 3

SBB - 565 Blood Bank Comprehensive Review

A comprehensive review and exam is 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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 2

SBB - 580 Human Blood Group Systems

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, and genetics as they relate to blood group systems. Taught only online. Extensive computer use required. Prerequisites: General knowledge of immunohematology and consent of the instructor. Prerequisites: General knowledge of immunohematology and consent of the instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

SBB - 581 Principles & Methods of ABID

Review of methods for the detection and identification of antibodies with specificity for human red cell antigens. Topics include, but are not limited to, history of transfusion medicine, serological systems, direct and indirect antiglobulin tests. Focus on resolution of complex antibody problems. Taught only online. Extensive computer use required. Prerequisites: General knowledge of immunohematology and consent of the instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 2

SBB - 582 Blood Procur/Blood Prod Manufa

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 & platelet preservation, the oxygen dissociation curve, basic coagulation, allogeneic & autologous blood donor selection, whole blood collection & component preparation, labeling, storage, distribution & use, donor testing, transfusion infectious diseases, storage lesions, hematopoietic progenitor cell (HPC) collection & use. Taught only online. Extensive computer use required. Prerequisites: General knowledge of immunohematology and consent of the instructor. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 3

SBB - 583 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. Prerequisites: General knowledge of immunohematology and consent of the instructor. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 3

SBB - 584 Clin Immunohematogy & 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 & pediatric transfusion practice, hemolytic disease of the newborn, transplantation, anemias, infectious and noninfectious complications of blood transfusion. Taught only online. Extensive computer use required. Prerequisites: General knowledge of immunohematology and consent of the instructor. Prerequisites: General knowledge of immunohematology and consent of the instructor. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4

SBB - 585 Comprehensive Review

Is a comprehensive review in preparation for the ASCP SBB Certification Exam. SBB 585 is designed to help fulfill requirements for eligibility to take the Specialist in Blood Bank Technology (SBB) certification examination given by the American Society of Clinical Pathologists Board of Registry. SBB 585 is a core course for the specialist in Blood Banking Technology Certification Program (SBB). Therefore, students pursuing this certification should achieve a grade of B or better in this course. Due to prerequisites required to progress in the SBB program, SBB students who receive a grade of incomplete or a grade below B for this course will not be allowed to register for subsequent SBB core courses. LT grade Prerequisites: General knowledge of immunohematology and consent of the instructor. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 3

SBB - 586 SBB Clinical Practicum

Field experience under supervision of a professional expert in a blood center and/or hospital transfusion service setting. Students enrolled in the SBB Traditional curriculum must participate in clinical site visits and serologic resolution of clinical specimens. Students must take a minimum of 4 QH within 4 quarters. It is recommended that the student take no more than 4 QH within any given quarter. Clinical sites include, but are not limited to, apheresis centers, donor centers, stem cell processing centers, and transfusion service centers. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: Yes. Credit(s): 1-6

SBB - 587 SBB Project

Course consists of current topics in transfusion medicine, scientific and technical writing, and presentation skills. The selected topics include Research, Education, Reading & Evaluating a Research Paper, Parentage Testing, Medico-Legal & Ethical Issues, and a review of Laboratory Math pertinent to the SBB candidate. SBB 587 is a core course for the Specialist in Blood Banking Technology Certification Program (SBB). Therefore, students pursuing this certification should achieve a grade of B or better in this course. Due to prerequisites required to progress in the SBB program, SBB students who receive a grade of incomplete or a grade below B for this course will not be allowed to register for subsequent SBB core courses. LT grade Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 3

SBB - 900 Independent Study

Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1

SBB - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

Vascular Ultrasound

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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: No. Credit(s): 2

VAS - 320L Physics & 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 and 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. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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 VAS345L Advanced Procedures Lab. Students will observe actual patient exams in the hospital laboratory. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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, post-operative, 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 VAS345L. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: No. Credit(s): 2

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. Prerequisites: Students must successfully complete the required first year courses (C grade or higher) prior to this clinical course. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

VAS - 443 Senior Topics III/Comprehensive Review Comprehensive Review

Students will attend multiple review classes in preparation for the comprehensive Rush comprehensive exam and the ARDMS credentialing exams. They are required to submit a case study abstract to the national professional organization for consideration to present at the annual meeting. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: 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. Pass/No Pass Grading Allowed: No. Credit(s): 4

VAS - 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. Retake Counts for Credit: Yes. Pass/No Pass Grading Allowed: No. Credit(s): 1-12

VAS - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No.

Speech-Language Pathology

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. Credit(s): 1

SLP - 510 Prof Issues for Speech-Language Pathologists

This course provides an overview of professional issues for speech-language pathologists. Topics include regulatory guidelines, licensure, scope of practice, professional code of ethics, healthcare reimbursement and fiduciary responsibility, risk management and legal issues, effective communication skills, best professional practice (HIPPA, FERPA), and other current professional areas. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 lifespan and from diverse cultural backgrounds, in a variety of on-campus settings. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 lifespan and from diverse cultural back¬grounds, in a variety of settings. Opportunities for continuous professional and interprofessional education (IPE) and development to enhance team performance and outcomes are available. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: 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 lifespan and from diverse cultural back–grounds, in a variety of settings. Opportunities for continuous professional and interprofessional education (IPE) and development to enhance team performance and outcomes are available. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 4-6

SLP - 521 Language Disorders in Children I: Birth Through Age Five

This course covers language development and disorders from birth through five 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1
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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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 multi-disciplinary approach to treatment through the craniofacial team. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: 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. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 1

SLP - 589P SLP Practicum IV

This is an advanced clinical experience with clients/patients/ students presenting with speech, language, cognitive-communication, voice, motor-speech, and/or swallowing impairments. Students will devise and integrate evaluative, therapeutic, counseling, and report-writing skills with patients/clients/students across the lifespan and from diverse cultural backgrounds, in a variety of settings. Relationship between speech-language pathology and health care, education, and other professions are further examined. Opportunities for continuous professional and interprofessional education (IPE) and development to enhance team performance and outcomes are available. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 6

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 lifespan and from diverse cultural back¬grounds, in a variety of settings. Opportunities for continuous professional and interprofessional education (IPE) and development to enhance team performance and outcomes are available. Retake Counts for Credit: No. Pass/ No Pass Grading Allowed: No. Credit(s): 8-10

SLP - 592 Grand Rounds

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: Yes. 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. Credit(s): (1)

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. Retake Counts for Credit: No. Pass/No Pass Grading Allowed: No. Credit(s): 1-6

SLP - 999 Continuous Enrollment

The requirement for Continuous Enrollment applies to all students admitted or re-admitted 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. Pass/No Pass Grading Allowed: No. Credit(s): 1

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