Masters of Science in
Clinical Research
Rush University Graduate College

Program Manual
2017-2018

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Program Director
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Clinical Research Program Overview

Clinical Research: Philosophy
The Master of Science program is designed to provide physicians and other health care professionals the tools necessary to undertake and evaluate clinical research. This program is part of the Graduate College. The two-year, thesis-requiring program involves one year of didactic lectures scheduled in late afternoons followed by a one-year, mentored clinical research experience. Both years are 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, as well as clinical research with a faculty mentor.

Clinical Research: 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 and some students pursue the course of study following a BS or BA degree.

- Online application
- Fill out the online application document
- Upload your Statement of purpose and Resume
  1. Statement of Purpose: In a maximum of 500 words, address (A) any past activities, work and/or research experience that influenced your decision to enter your intended field of study, (B) the path you took to prepare, both academically and personally, for a career in health care and (C) your career goals and how a Rush University degree can be instrumental to achieving them.
- Pay the application fee.
- Official transcripts to be sent from all institutions attended at college or university level.
Note: Applicants from institutions outside of the US must provide an ECE course-by-course evaluation of their official transcripts. Evaluation from other credentialing agencies will not be accepted. Rush/Stroger residents and fellows do not need to submit their official transcripts.
- Three letters of recommendation (2 should come from academic sources)
- GRE scores or USMLE Step 1 and Step 2 (both CS and CK) scores, only one competitive exam needed for Rush and Stroger residents, fellows and faculty.
- Official TOEFL score will be required for non-native English speakers only. The score from USMLE Step 2 CS can replace TOEFL. Students with work experience demonstrating language proficiency can be considered on a “case-by-case basis”. The only term of entry is in the Fall.
Application Deadlines:

- All applications strongly encouraged to be in by June 1st for best consideration.
- July 15th is the final deadline for all international applicants.
- July 30th is the final date for Rush and Stroger affiliates to be considered for admission although the program may be full by then.

**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 6:30 p.m.

**Suggested Program of Study**

**Fall Semester I**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>*CRE-557</td>
<td>Clinical Trials I</td>
<td>2</td>
</tr>
<tr>
<td>*CRE— 558</td>
<td>Clinical Trials II</td>
<td>2</td>
</tr>
<tr>
<td>*GCC-551</td>
<td>Ethics in Biomedical Research and the IRB</td>
<td>2</td>
</tr>
<tr>
<td>*PHR-556</td>
<td>Tools for Research</td>
<td>1</td>
</tr>
<tr>
<td>*GCC-546</td>
<td>Principles of Biostatistics I</td>
<td>2</td>
</tr>
<tr>
<td>GCC-548</td>
<td>Bioinformatics</td>
<td>1</td>
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**Spring Semester I**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>*GCC-552</td>
<td>Introduction to the Regulatory Process: Drug Discovery and Development</td>
<td>2</td>
</tr>
<tr>
<td>*GCC-547</td>
<td>Principles of Biostatistics II</td>
<td>2</td>
</tr>
<tr>
<td>PVM-553</td>
<td>Observational Epidemiology</td>
<td>1</td>
</tr>
<tr>
<td>GCC-549</td>
<td>Bioinformatics II</td>
<td>1</td>
</tr>
</tbody>
</table>

**Summer Semester I**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>*CRE-597</td>
<td>Thesis Research</td>
<td>1-9</td>
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</tbody>
</table>

**Year II**

**Fall Semester II**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCC 593</td>
<td>Grantsmanship</td>
<td>1</td>
</tr>
<tr>
<td>CRE 559</td>
<td>Readings in Special Populations</td>
<td>1</td>
</tr>
<tr>
<td>*CRE 597</td>
<td>Thesis Research</td>
<td>1-9</td>
</tr>
</tbody>
</table>

**Spring Semester II**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>*CRE-597</td>
<td>Thesis Research</td>
<td>1-9</td>
</tr>
<tr>
<td>CRE-523</td>
<td>Readings in Clinical Research</td>
<td></td>
</tr>
</tbody>
</table>

* required courses
International Students must consult the Program Director for required credit hours prior to registration.

Students may take electives in topics dealing with epidemiology and bioinformatics in the first year and Grantsmanship. In the second year students are encouraged to take the recommended readings courses. Elective choices should be discussed with the Program Director prior to registration. The students will also meet periodically with the program director during the second year to monitor progress on their master's thesis research project.

Minimum Credit Hour Requirements
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.

Required Courses:
CRE 557, CRE 558, GCC 546, GCC 547, GCC 551, GCC 552 and PHR 556 (a total of 13 credit hours)

Required Research Course:
CRE 597 (a minimum of 12 credit hours)

Elective Courses:
CRE 523, CRE 559, GCC 548, GCC 549, GCC 593 and PVM 553 (a minimum of 2 credit hours)

Clinical Research: Thesis Process
The second year is designed to undertake a mentored clinical research project. 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 of the first year the student can submit the project in the form of a scientific abstract with anticipated methods, statistical analyses, power analysis and projected outcomes, as an oral abstract. The program director must approve the abstract. Once approved, an IRB application can be submitted. Only clinical projects will be considered for this program. The student and a faculty mentor will identify a clinical research project. The student will submit that project in the form of a proposal 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 year. The student is expected to complete all of the data collection by the beginning of the spring semester of the 2nd year for submission of the written thesis and deliver an oral defense by the end of the second semester of the second year. The student will be encouraged to write an original manuscript where they are the first author, summarizing his or her work and submit that manuscript for review and publication. This manuscript can then be modified to meet the University standards for thesis submission and serve as the Master's Thesis. If a manuscript is not written and submitted, the student must still submit a written thesis with an oral defense for consideration for degree completion. The mentor and program director must sign the completed thesis document accepting the thesis for completion of the program. There are no written or oral qualifying exams for this program.

Clinical Research: Graduation Requirements

The successful completion of the Master's in Clinical Research curriculum with the required credit hours and a minimum of a B cumulative GPA will qualify the student for graduation. The student must submit and defend a master's thesis work. The student's advisor and the Program Director must approve the student's thesis.

Clinical Research: Academic Policies

Each student in the program at the start of the first year classes will be issued a Program Manual detailing program policies, procedures and schedules.

A student 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. The course director will develop a remediation plan to ensure the student has mastery of the subject area covered. Failure to remediate the no-pass grade will automatically require the Program Director to review the student's status and officially place the student on academic probation for a period of one semester.

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.

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 Master of Science in Clinical Research program follows the University Policies on Academic Honesty and the University Statement on Student Conduct.

Student Academic Appeals Policy

Numerous checks are in place to assure the fair treatment of students. However, if a
grievance does develop, 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. Any student may appeal a final course grade or failure of their thesis to be accepted that results in his or her being placed on academic probation, or dismissal from the University. A student may also appeal an unacceptable delay in graduation from the University or the result of a disciplinary proceeding to the Dean of the Graduate College.

Graduate College/Rush University Academic Policies
Academic policies specific to the Graduate College are located in the Graduate College Catalog. In addition, the Academic Resources and Policies section of the manual contains Rush University academic policies.

Tuition:
The tuition is set by the Financial Office at Rush University in connection with the Graduate College. The student must be current with all financial responsibilities. Students may request financial assistance through the Business Office. Rush employees may receive LEAP assistance. Stroger employees may receive a program discount as determined by the Graduate College. Financial aid through loans can be discussed with the University Financial Office.

Legal Requirements:
All students must follow the Program's policies and procedures, as well as the policies and procedures of the Graduate College. International students must maintain all United States required visa and passport requirements to have legal status as a student in the United States. Students who are not citizens of the U.S. must maintain required immigration status to remain active students. Students who lose visa approval status may re-apply for active status if their immigration status is within the requirements of the International Office at Rush University and meets the requirements of the U.S. State Department.

Appeal Process:
Students failing a class may request a make-up exam. Failing a "make-up" exam, a student may request permission for another attempt to the Program Director. Failure on two make-up attempts will be recorded as a course failure. Students must maintain a B average of their GPA to be students in good standing in the Graduate School. Students who have other disciplinary problems may utilize the appeal process outlined in the Policies and Procedures of the Graduate College. Students requiring help may request a meeting with the Program Director to address their problems, and/or deficiencies. Students who have other problems and/or affecting their participation in the Program should meet with the Program Director to resolve the problem(s). All information will be held confidential and every effort will be made to resolve the student's problems. Students may appeal the decision of the Program Director to the Dean of the Graduate College who makes the final determination.
Program Goals & Objectives

The purpose of the program is to train advanced healthcare professionals to undertake and evaluate clinical research. Training for physicians and other health care professors is often lacking in the fundamentals of clinical trial design, how to undertake clinical studies and how to evaluate their results critically. Today's trainees in medicine will need the skills necessary to contribute to our medical knowledge base by being able to undertake clinical research. Physicians and other health providers need the ability to critically evaluate clinical research and apply it to patient care and medical education. The medical field and its ability to advance therapeutics depends on evidence based medicine. Fundamental to evidence based medicine is the initiation and execution of well-designed clinical trials. The Masters in Clinical Research aims to provide our trainees the tools necessary to design, initiate and execute well-conceived and clinically meaningful clinical research.

Program Objectives:

To train advanced health care professionals to initiate, perform and evaluate clinical research.

Program Learning Objectives:

1) To understand how to formulate a research question.

2) To know how to develop the proper study design to answer a research question.

3) To know how to utilize statistics to plan clinical research, analyze the results of clinical studies and to evaluate study results.

4) To understand the need for ethical conduct of clinical trials and the responsibilities of clinical investigators.

5) To know how to manage clinical trials.

6) To understand the utility, as well as limitations of Meta-Analysis and how
to perform a Meta-Analysis.

7) To understand how to access and utilize large depositories of clinical data for clinical research.

8) To be able to conduct and write up an independent research project.

9) To understand how to develop and write a clinical research grant and identify potential funding sources.

10) To understand and know how to utilize observation studies to further clinical research objectives.

Individual Course Objectives

GCC-557 & GCC-558 Clinical Trials I & II

1) To formulate a persuasive research question.

2) To appropriately power a study.

3) To know the attributes and limitations of various trial designs.

4) To understand how to analyze clinical data, its validity and generalizability.

5) To manage clinical trials and collect accurate data.

GCC-546 & 547 Biostatistics:

1) To understand the available statistical tests and how to apply them.

2) To know what test is appropriate for what data set.

3) To be able to adjust results for various covariates that could confound data analysis.

GCC-551 Ethics and IRB

1) To understand the problems of ethical handling of patients in clinical trials.

2) To understand the ethical responsibilities of clinical investigators.

3) To understanding the methods and procedures of an Investigational Review Board (IRB) and how it operates.
GCC-545 Bioinformatics I

1) To understand the need for systemic reviews.
2) To be able to understand and interpret a Meta-Analysis.
3) To be able to understand the significance of a systematic review and how it can aid clinical investigation.

GCC-556 Tools for Research

1) To be able to employ computer based techniques to facilitate clinical research.
2) To optimize data collection and analysis.
3) To optimize reporting clinical trial results.


1) To understand the rules & regulations involving drug and device clinical studies in the United States.
2) To understand the U.S. FDA process of drug and device evaluation and approval.
3) To know the requirements to understand clinical trials involving study medications and devices.

PVM-553 Epidemiology

1) To know the different types of observational studies that can be used in Clinical Research.
2) To be able to use epidemiologic techniques to address clinical problems in support of randomized controlled trials, or as an alternative.

GCC-549 Bioinformatics II

1) How to effectively handle large data sets in clinical research.
2) How to access large data sets to address clinical problems.

CRE-597 Thesis Research

1) How to undertake an independent research project by actually initiating and carrying out a student directed project.
2) To understand firsthand the process of obtaining regulatory approvals to initiate a clinical trial.

3) Alternatively how to utilize the technique of Meta-Analysis to address a clinical research problem by undertaking an independent Meta-Analysis.

CRE-559 Readings in Disparities

1) To become aware of the problems of disparities in the medical care system in the U.S. and the importance of evaluating disparities in clinical research.

2) How to integrate the evaluation of disparities in a clinical research project. CRE-523 Readings in Clinical Research

1) Understanding the problems clinical researchers can encounter.

2) Discuss solutions to methodologic problems that experienced clinical researchers at Rush University Medical Center have encountered.

CRE-557 Readings in Special Populations

1) How to integrate special populations in clinical research.

2) The importance of involving special populations in clinical research and how this integration relates to the generalizability of the research.
Graduate College Student Honor Code

I pledge to adhere to the Rush University values of innovation, collaboration, accountability, respect, and excellence. I recognize that good scholarship requires honesty and that behaviors that impede learning or undermine academic and clinical evaluation are inconsistent with Rush University values and must be reported.

**Reporting:**
Infractions must be reported to the faculty/staff member responsible for the class and/or laboratory. Infractions may be reported directly to the Associate Dean of the Graduate College who will refer the matter to the Honor Code Committee. The Committee comprised of both faculty and students will then meet in private session.

**Guidelines:**
Any violation of the Rush University Statement on Student Conduct or Academic Honesty should be reported. Other behaviors that impede learning or undermine academic evaluation also should be reported. Any behaviors covered in the Rush University Statements on Diversity, Equal Opportunity, Affirmative Action or the Harassment Policy and Procedures are handled through the office of the Associate Vice President for Equal Opportunity in the Office of the President via phone or e-mail. I understand that this signed document becomes part of my permanent record, and I must uphold the letter and spirit of this Honor Code throughout my graduate education.
Appendix

Rush University Statement on Student Conduct

Rush University seeks to create a climate that encourages its members to act as responsible adults in an academic community. Generally, institutional disciplinary measures are invoked only in response to conduct that adversely affects the University/Medical Center’s pursuit of its educational objectives and mission. Penalties may range from warning, probation, suspension, or expulsion from the University/Medical Center. A partial list of disruptive behaviors that would subject a student to disciplinary action includes the following:

- All forms of academic dishonesty
- Obstruction or disruption of teaching, research, administration, or other University/Medical activities.
- Theft of or damage to University/Medical Center property or the property of a member of the University/Medical community.
- Physical abuse of any person or action that threatens or endangers the safety of others.
- Misrepresentation, falsification, alteration, or misuse of University/Medical Center documents, records or identification.
- Unauthorized use or entry of University/Medical Center facilities.
- Conduct that is inconsistent with the ethical code of the profession the student is preparing to enter.
- Unlawful use or possession of controlled substances.
- Unlawful use or possession of firearms or other weapons.

Rush University Statement on Academic Honesty

Rush University students and faculty belong to an academic community with high scholarly standards. As essential as academic honesty is to the relationship of trust 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. A partial list of academically dishonest behaviors that would subject a student to disciplinary actions includes:

- Cheating: Using unauthorized material or unauthorized help from another person in any work submitted for academic credit
- Fabrication: Inventing information or citations in an academic or clinical exercise
- Facilitating Academic Dishonesty: Providing unauthorized material or information to another person
- Plagiarism: Submitting the work of another person or persons, as one’s own without acknowledging the correct source
- Unauthorized Examination Behavior: Conversing with another person, passing or receiving material to/from another person or temporarily leaving an examination site to visit an unauthorized site.
Graduate College Contacts

Address:
600 S. Pauline St. Armour Academic Center, Suite 438
Chicago, IL 60612
Main Office: 312-942-3589
Fax: 312-942-7441
Conference Room (438a)
Conference Room: 312-942-8137

Professional Faculty/Staff

Dr. James Mulshine, Acting Dean
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Suite 438E AAC
Phone: 312-942-3589

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Phone: 312-942-3589

John Somberg, MD, Clinical Research Program Director
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Phone: 312.942-6590

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Suite 438D AAC
Phone: 312.563-3391

Marisol Vega, Admissions Specialist
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Suite 438 AAC
Phone: 312-942-7994

Kelly D. Boles, Program Coordinator for Clinical Research
Kelly_Boles@rush.edu
Suite 438H AAC
Phone: 312-942-8331
Course Descriptions

GCC — 551 Ethics in Biomedical Research and the IRB (2 credit hours)

This course covers the role of the Institutional Review Board in Clinical Research. The course includes didactic lectures on the requirements of informed consent, regulatory processes, intellectual property, the role of the office of research integrity, as well as a required participation on IRB review panels at the University.

GCC — 546 Principles of Biostatics I (2 credit hours)

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.

GCC — 557 Clinical Trial Design I (2 credit hours)

Presents an overview of clinical trial design, including large simple trials, randomized double-blind trials, crossover trials, parallel studies, enrichment studies, as well as other designs. Topics covered include formulation of the Research Question, measurement of outcomes, studies in special populations, determining sample size, techniques of randomization and blinding, subject recruitment, observational studies, and different types of small randomized studies. The course addresses how studies are designed to answer specific research questions.
GCC — 548 Bioinformatics I (1 credit hour)

This course presents introductory material on methods and procedure of bioinformatics and how it may be helpful in undertaking clinical trials. Course covers methods, techniques and rational behind meta-analysis. The course aims to provide information to students planning a meta-analysis as their thesis project. The course will provide practical considerations on how to perform a meta-analysis, how to use the computer programs to undertake a meta-analysis, what constitutes an appropriate meta-analysis study, how to perform a statistical analysis and how to assess the validity of the analysis.

PHR — 556 Tools for Research (1 credit hour)

This course focuses on the practical elements required to work as a clinical investigator 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.

CRE — 558 Clinical Trials Design II (2 credit hours)

This course is a continuation of Clinical Trials I covering genetic data and the era of personalized medicine, assessing and reporting of adverse events, assessment of quality of life, the function of Data and Safety Monitoring Board, techniques involved in the study closeout, methods of reporting and interpreting clinical trials, economic analysis in clinical trials and the emerging field of comparative effectiveness research. The course also focuses on protocol applications of clinical trials design and data interpretation. Prerequisite CRE — 557

GCC — 593 Introduction to Grantsmanship (1 credit hour)

Included in each of the various sections of federal grants, foundation applications, and biotech contracts. In addition, it talks about ways of identifying sources for funding, a survey of the NIH landscape and how to prepare budgets. The online submission process is also reviewed.
GCC — 547 Principles of Biostatistics II (2 credit hours)

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.

GCC — 552 Drug & Device Development: The U.S. Regulatory Process (2 credit hrs.)

Lecture covers the process of Drug & Device Discovery, the IND or IDE process, preclinical research, clinical research process for Drug & 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, orphan drug development, as well as PKIPD modeling in Drug Development.

PVM — 553 Observational Epidemiology I (1 credit hour)

Course will provide an in-depth description of case control and cohort studies, This includes: the different types (e.g. hospital- or 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 case-control and cohort studies.
GCC-549 Bioinformatics II (1 credit hour)

Introduction to techniques of large data sample management and analysis to answer clinical questions. The development of large data bases for research purposes. How to use clinical electronic medical records and insurance data basis in clinical research are topics to be covered in Bioinformatics II.
## Masters of Science in Clinical Research – First Year

**Fall Semester 2017**  
(Sept. 4 to Dec. 22, 2017)

<table>
<thead>
<tr>
<th>Course</th>
<th>Instructor</th>
<th>Room</th>
</tr>
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<tbody>
<tr>
<td>Clinical Trials I – CRE – 557</td>
<td>J. Somberg</td>
<td>960 AAC</td>
</tr>
<tr>
<td>Clinical Trials II – CRE – 558</td>
<td>J. Somberg</td>
<td>960 AAC</td>
</tr>
<tr>
<td>BioSTAT I – GCC – 546</td>
<td>J. Somberg</td>
<td>960 AAC</td>
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<td>Tools for Research – PHP – 556</td>
<td>J. Somberg</td>
<td>960 AAC</td>
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<td>Bioinformatics – GCC – 548</td>
<td>J. Somberg</td>
<td>960 AAC</td>
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<tr>
<td>Ethics &amp; IRB – GCC – 551</td>
<td>J. Somberg</td>
<td>960 AAC</td>
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</tbody>
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### Course Schedule

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Time</th>
<th>Topic</th>
<th>Instructor</th>
<th>Room</th>
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<tbody>
<tr>
<td>Tues</td>
<td>09/05</td>
<td>3:30 - 4:00 p.m.</td>
<td>Intro to MCR</td>
<td>J. Somberg</td>
<td>960 AAC</td>
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<tr>
<td></td>
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<td></td>
<td>Historic Perspective</td>
<td>J. Somberg</td>
<td>960 AAC</td>
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<tr>
<td></td>
<td>09/07</td>
<td>3:30 - 5:30 p.m.</td>
<td>Intro to Research Ethics</td>
<td>M. Welch</td>
<td>712 AAC</td>
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<td>Ethical Conduct of Research</td>
<td>M. Welch</td>
<td>712 AAC</td>
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<tr>
<td></td>
<td>09/12</td>
<td>3:30 - 4:30 p.m.</td>
<td>Grants</td>
<td>J. Garcia</td>
<td>712 AAC</td>
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<tr>
<td></td>
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<td>Formulating the Research Question</td>
<td>J. Somberg</td>
<td>960 AAC</td>
</tr>
<tr>
<td>Thurs</td>
<td>09/14</td>
<td>3:30 - 6:30 p.m.</td>
<td>Intro &amp; Descriptive Methods for Categorical Data</td>
<td>S. Basu</td>
<td>903 METC</td>
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<tr>
<td>Tues</td>
<td>09/19</td>
<td>3:30 – 4:30 p.m.</td>
<td>IRB Operations</td>
<td>J. Cobb</td>
<td>712 AAC</td>
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<td>Measurement of Outcomes</td>
<td>J. Somberg</td>
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<td>Study Population</td>
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<td>Thurs</td>
<td>09/26</td>
<td>3:30 - 6:30 p.m.</td>
<td>Descriptive Methods for Continues Data</td>
<td>S. Basu</td>
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<td>Tues</td>
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<td>3:30 – 4:30 p.m.</td>
<td>IRB Observation</td>
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<td>Randomization &amp; Blinding</td>
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<td>Fri-Sun</td>
<td>10/27 – 10-29</td>
<td>Clinical Trials Exam</td>
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<td>3:30 - 4:30 p.m.</td>
<td>Power Calculation Workshop</td>
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<td>Contracts</td>
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<td>3:30 - 6:30 p.m.</td>
<td>Estimation</td>
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<td>3:30 – 4:30 p.m.</td>
<td>Intellectual Property</td>
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<td>10/12</td>
<td>3:30 - 6:30 p.m.</td>
<td>Stat Midterm</td>
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<td>Tues</td>
<td>10/17</td>
<td>3:30 - 4:30 p.m.</td>
<td>Rush Research Portal</td>
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<td>Non-Inferiority Trials</td>
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<td>Thurs</td>
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<td>3:30 - 6:30 p.m.</td>
<td>Comparison of Means</td>
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# Masters of Science in Clinical Research – First Year Schedule
## Fall Semester 2017

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<thead>
<tr>
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<th>Time</th>
<th>Topic</th>
<th>Instructor</th>
<th>Room</th>
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<td>Tues</td>
<td>10/24</td>
<td>3:30 - 4:30 p.m.</td>
<td>Regulatory Mandates</td>
<td>D. Morris</td>
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<td>4:30 – 5:30 p.m.</td>
<td>Non-Inferiority Trials</td>
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<td>5:30 – 7:30 p.m.</td>
<td>Review Lecture</td>
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<td>3:30 – 6:30 p.m.</td>
<td>Advanced Analysis</td>
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<td>Clinical Trials Exam</td>
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<td>Tues</td>
<td>10/31</td>
<td>3:30 – 5:00 p.m.</td>
<td>Clinical Trials II Analyzing &amp; Reporting</td>
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<td>Adverse Events</td>
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<td>11/02</td>
<td>3:30 - 6:30 p.m.</td>
<td>Stat Exam Review</td>
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<td>3:30 – 4:30 p.m.</td>
<td>Assessment of Quality of Life</td>
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<td>Data Collection Management</td>
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<td>5:30 – 7:30 p.m.</td>
<td>Trials in Special Populations</td>
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<td>3:30 - 6:30 p.m.</td>
<td>STAT Exam</td>
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<td>Tues</td>
<td>11/14</td>
<td>3:30 - 5:00 p.m.</td>
<td>Scientific Misconduct</td>
<td>S. Guzk</td>
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<td>Clinical Trials Review</td>
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<td>Thurs</td>
<td>11/16</td>
<td>3:30 - 4:30 p.m.</td>
<td>Tools for Research Intro</td>
<td>B. Hendy</td>
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<td>4:30 – 7:30 p.m.</td>
<td>Bibliography Research Work</td>
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<td>11/21</td>
<td>3:30 – 4:30 p.m.</td>
<td>Study Closeout</td>
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<td>Data Safety Monitoring Board</td>
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<td>5:30 – 7:30 p.m.</td>
<td>Clinical Research &amp; Media</td>
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<td>Thurs</td>
<td>11/23</td>
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<td>THANKSGIVING HOLIDAY</td>
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<td>Tues</td>
<td>11/28</td>
<td>3:30 - 5:30 p.m.</td>
<td>Reporting &amp; Interpreting Trials</td>
<td>J. Somberg</td>
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<td>5:30 – 7:30 p.m.</td>
<td>Comparative Effectiveness Research</td>
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<td>Thurs</td>
<td>11/30</td>
<td>3:30 – 4:30 p.m.</td>
<td>Standard Curves</td>
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<td>4:30 – 5:30 p.m.</td>
<td>Photo Shop</td>
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<td>5:30 – 7:30 p.m.</td>
<td>Importation of Word</td>
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<td>Friday</td>
<td>12/01-12/03</td>
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<td>Final Exam/Clinical Trials II</td>
<td>J. Somberg</td>
<td>(take home exam)</td>
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<td>Tues</td>
<td>12/05</td>
<td>3:30 – 4:30 p.m.</td>
<td>Innovation &amp; Research</td>
<td>J. Somberg</td>
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<td>4:30 – 5:30 p.m.</td>
<td>Genetic Data &amp; Clinical Research</td>
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<td>5:30 – 7:30 p.m.</td>
<td>Review Lecture</td>
<td>J. Somberg</td>
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## Masters of Science in Clinical Research – First Year Schedule
### Fall Semester 2017

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<tr>
<th>Day</th>
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<th>Time</th>
<th>Topic</th>
<th>Instructor</th>
<th>Room</th>
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<td>Thurs</td>
<td>12/07</td>
<td>3:30 – 5:00 p.m.</td>
<td>Grants &amp; Gov</td>
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<td>5:00 – 7:00 p.m.</td>
<td>Intro to Bioinformatics</td>
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<td>Tues</td>
<td>12/12</td>
<td>3:30 – 4:30 p.m.</td>
<td>Bioinformatics 2</td>
<td>J. Somberg</td>
<td>971/975 AAC</td>
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<td>4:30 – 7:00 p.m.</td>
<td>Bioinformatics 3</td>
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<td>971/975 AAC</td>
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<td>Bioinformatics 4</td>
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<td>Bioinformatics 5</td>
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<td>3:30 – 4:30 p.m.</td>
<td>Bioinformatics 6</td>
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<td>Bioinformatics 7</td>
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<td>3:30 – 4:30 p.m.</td>
<td>Bioinformatics 8</td>
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<td>971/975 AAC</td>
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<td>4:30 – 7:00 p.m.</td>
<td>Bioinformatics 9</td>
<td>J. Somberg</td>
<td>971/975 AAC</td>
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</table>
# Master of Science in Clinical Research – Second Year

## Fall Semester 2017

### Courses:
- **GCC-593** (Carvey 1 credit)
- **CRE-559** (Lapidos/Dugan 2 credits)
- **CRE-523** (Somberg with permission 2 credits)

<table>
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<th>Time</th>
<th>Topic</th>
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<th>Room</th>
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<tr>
<td>Tues</td>
<td>09/05</td>
<td>5:15 - 6:30 p.m.</td>
<td>Course Overview</td>
<td>S. Lapidos and S. Dugan</td>
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<td>09/07</td>
<td>5:00 - 6:30 p.m.</td>
<td>Geography of NIH</td>
<td>P. Carvey</td>
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<td>Tues</td>
<td>09/12</td>
<td>5:15 - 6:30 p.m.</td>
<td>Health status indicators</td>
<td>Richardson</td>
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<td>09/14</td>
<td>5:00 - 6:30 p.m.</td>
<td>Grant formats</td>
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<td>Tues</td>
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<td>5:15 - 6:30 p.m.</td>
<td>Low birth weight and racial disparities</td>
<td>R. David</td>
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<td>09/21</td>
<td>5:00 - 6:30 p.m.</td>
<td>Specific Aims</td>
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<td>Tues</td>
<td>09/26</td>
<td>5:15 - 6:30 p.m.</td>
<td>Interdisciplinary research</td>
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<td>Thurs</td>
<td>09/28</td>
<td>5:00 - 6:30 p.m.</td>
<td>Specific Aims (workshop)</td>
<td>P. Carvey</td>
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<td>Tues</td>
<td>10/03</td>
<td>5:15 - 6:30 p.m.</td>
<td>Estimated deaths due to social factors</td>
<td>S. Lapidos and S. Dugan</td>
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<td>Thurs</td>
<td>10/05</td>
<td>5:00 - 6:30 p.m.</td>
<td>Innovation and Significance</td>
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<td>Tues</td>
<td>10/10</td>
<td>5:15 - 6:30 p.m.</td>
<td>Health equity and political economy</td>
<td>Crane</td>
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<td>10/12</td>
<td>5:00 - 6:30 p.m.</td>
<td>I &amp; S (Workshop)</td>
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<td>Racial disparities and voice preservation in head and neck cancers</td>
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<td>10/19</td>
<td>5:00 - 6:30 p.m.</td>
<td>Providing Background and Data</td>
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<td>5:15 - 6:30 p.m.</td>
<td>Alzheimer’s disease in African-Americans</td>
<td>James</td>
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<td>10/26</td>
<td>5:00 - 6:30 p.m.</td>
<td>Design and methods</td>
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<td>Tues</td>
<td>10/31</td>
<td>5:15 - 6:30 p.m.</td>
<td>Addressing socio-economic and racial disparities in health care</td>
<td>S. Lapidos and S. Dugan</td>
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<td>11/02</td>
<td>5:00 - 6:30 p.m.</td>
<td>Abstract</td>
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# Masters of Science in Clinical Research – Second Year Schedule

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<td>11/14</td>
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<td>Community based participatory research</td>
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<td>GCC 523</td>
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<td>Tues</td>
<td>11/28</td>
<td>3:30 - 6:30 p.m.</td>
<td>Course Wrap Up</td>
<td>S. Lapidos and S. Dugan</td>
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<td>11/30</td>
<td>5:00 - 6:30 p.m.</td>
<td>Summary Sheets and Intro</td>
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<td>Tues</td>
<td>12/05</td>
<td>4:00 - 6:00 p.m.</td>
<td>Thesis Presentation</td>
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<td>12/07</td>
<td>5:00 - 6:30 p.m.</td>
<td>Small Grants</td>
<td>P. Carvey</td>
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<td>Tues</td>
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<td>Thesis Presentation</td>
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<td>12/14</td>
<td>5:00 - 6:30 p.m.</td>
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<td>12/19</td>
<td>4:00 - 6:00 p.m.</td>
<td>Thesis Presentation</td>
<td>J. Somberg</td>
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*Classes End – Fall Semester*
Masters in Clinical Research Schedule  
Spring 2018 Semester-First Year

**Epidemiology – PVM 553 with Dr. Imke Janssen**

**Intro to Regulatory Processes – GCC 552 with Dr. John Somberg**

**Biostats II – GCC 547 with Dr. Sanjib Basu**

**Bioinformatics II – GCC 549 with Dr. John Somberg and Guest Experts**

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<th>Topic</th>
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<tr>
<td>Tues</td>
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<td>3:30-4:30</td>
<td>Intro to Epi</td>
<td>I. Janssen</td>
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<td>4:30-6:30</td>
<td>Screening &amp; Surveillance</td>
<td>I. Janssen</td>
<td>712</td>
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<td>Thurs</td>
<td>1/4</td>
<td>3:30-6:30</td>
<td>Epidemiology Techniques</td>
<td>I. Janssen</td>
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<td>Tues</td>
<td>1/9</td>
<td>3:30-4:30</td>
<td>Disease Occurrence, Mortality &amp;</td>
<td>I. Janssen</td>
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<td>Prognosis</td>
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<td>4:30-6:30</td>
<td>Measures of Association &amp; Risk</td>
<td>I. Janssen</td>
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<tr>
<td>Thurs</td>
<td>1/11</td>
<td>3:30-7:00</td>
<td>Biostatistics (1 &amp; 2)</td>
<td>S. Basu</td>
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<tr>
<td>Tues</td>
<td>1/16</td>
<td>3:30-4:30</td>
<td>Association &amp; Causation</td>
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<td>4:30-6:30</td>
<td>Bias &amp; Confounding</td>
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<td>Diagnostic Accuracy</td>
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<td>Biostatistics (4)</td>
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<td>L. Powell</td>
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<td>Fri</td>
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<td>Epi Exam (on line)</td>
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<td>Intro to Drug &amp; Device</td>
<td>J. Somberg</td>
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<td>U.S. Regulatory Process</td>
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<td>J. O’Donnell</td>
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<td>Censoring Data &amp; Propensity</td>
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<td>Drug Metabolism</td>
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<td>Masters Thesis</td>
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<td>Bioinformatics II Intro</td>
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<td>Trial Designs in Drug Development</td>
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<td>Non-Inferiority &amp; Superiority Trials</td>
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<td>3:30-5:30</td>
<td>Population Health from Benchmarking to common data models</td>
<td>B. Hota</td>
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<td>3:30-4:30</td>
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<td>HIPA, IRB in Clinical Research</td>
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<td>Comparative Effectiveness Res</td>
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<td>4/17</td>
<td>3:30-5:30</td>
<td>Bioinformatics II: Enhancing Quality &amp; Safety</td>
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<td>5:30-7:00</td>
<td>Practical Aspect of Bioinformatics</td>
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<td>3:30-7:00</td>
<td>Bioinformatics II Data Handling Process</td>
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<td>Bioinformatics II Laboratory</td>
<td>J. Somberg</td>
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<td>Fri</td>
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<td>Commencement</td>
<td>J. Somberg</td>
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<td>3:30-7:00</td>
<td>Thesis Research CRE-597 1st year presentations</td>
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<td>3:30-7:00</td>
<td>Thesis Research 1st year presentations</td>
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<td>4:30-6:00</td>
<td>Thesis Seminar</td>
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<td>Tues</td>
<td>6/5</td>
<td>4:30-6:00</td>
<td>Thesis Seminar</td>
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<td>Tues</td>
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<td>4:30-6:00</td>
<td>Thesis Seminar</td>
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<td>Tues</td>
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<td>4:30-6:00</td>
<td>Thesis Seminar</td>
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<td>Tues</td>
<td>6/26</td>
<td>4:30-6:00</td>
<td>Thesis Seminar</td>
<td>J. Somberg</td>
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## Masters in Clinical Research Schedule
### Spring 2018 Spring Semester
(5:30-6:45 PM)

Readings in Clinical Research – **CRE 523** with Dr. John Somberg and Colleagues
Thesis Research – **CRE 597** with Dr. John Somberg

<table>
<thead>
<tr>
<th>Day</th>
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<th>Time (P.M.)</th>
<th>Topic</th>
<th>Speaker</th>
<th>Room</th>
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<tr>
<td>Tues</td>
<td>1/9</td>
<td>5:30-7:00</td>
<td>Readings in Clinical Research</td>
<td>R. Doukky</td>
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<td>Tues</td>
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<td>5:30-7:00</td>
<td>Readings in Clinical Research</td>
<td>C. Goetz</td>
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<td>5:30-7:00</td>
<td>Readings in Clinical Research</td>
<td>J. O'Toole</td>
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<td>Tues</td>
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<td>5:30-7:00</td>
<td>Readings in Clinical Research</td>
<td>A. Torquati</td>
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<td>Readings in Clinical Research</td>
<td>R. Krishnan</td>
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<td>5:30-7:00</td>
<td>Readings in Clinical Research</td>
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<td>Readings in Clinical Research</td>
<td>J. Reiser</td>
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<td>Tues</td>
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<td>5:30-7:00</td>
<td>Readings in Clinical Research</td>
<td>G. Schaer</td>
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<td>Tues</td>
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<td>5:30-7:00</td>
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<td>Tues</td>
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<td>Readings in Clinical Research</td>
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<td>Tues</td>
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<td>5:30-7:00</td>
<td>Readings in Clinical Research</td>
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<tr>
<td>Tues</td>
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<td>5:30-7:00</td>
<td>Readings in Clinical Research</td>
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<td>2nd year student Thesis Presentations</td>
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<td>4/17</td>
<td>5:30-7:00</td>
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<td>J. Somberg</td>
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<td>5:30-7:00</td>
<td>Readings in Clinical Research</td>
<td>J. Somberg</td>
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| Thurs | 4/27 | Graduation | TBA |

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*Note: Room numbers are placeholders and should be verified.*
Course Syllabus: CRE-557 Clinical Trials I

Instructor Name: John Somberg MD
Email: jsomberg@rush.edu
Work Phone: 312-942-6590
Fax

Preferred Method of Contact: Email / Phone / Fax
Office Hours: 12-3:30 Tuesday
Credit Hours: 2

Course Purpose/Description

GCC – 557 Clinical Trial Design I

Presents an overview of clinical trial design, including large simple trials, randomized double-blind trials, crossover trials, parallel studies, enrichment studies, as well as other designs. Topics covered include formulation of the Research Question, measurement of outcomes, studies in special populations, determining sample size, techniques of randomization and blinding, subject recruitment, observational studies, and different types of small randomized studies. The course addresses how studies are designed to answer specific research questions. (letter grades 2 credits).

Course Type & Format (online, face-to-face, etc.) Lecture/Discussion/Lab & Online/On-Campus

Meeting Days and Times (table)

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<thead>
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<th>Date</th>
<th>Day of Week</th>
<th>Topic</th>
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**Required Text(s) (full citation)**
Fundamentals of Clinical Trials
Friedman, Furberg, DeMets
5th Edition/Springer

**Recommended Text(s) (full citation)**
Principles & Practice of Clinical Research
3rd Edition
Gallin & Ognibene
Academic Press
Required Equipment/Uniforms
None

**Software (full citation)**
None

**Pre-requisites (courses, achieved competencies)**
Admission to MCR Program

**Course Learning Objectives**

**Individual Course Objectives:**

GCC-557 & GCC-558 Clinical Trials I & II
1) To formulate a perceptive research question.
2) To appropriately power a study.
3) To know the attributes and limitations of various trial designs.
4) To understand how to analyze clinical data, its validity and generalizability.
5) To manage clinical trials and collect accurate data.

**Exam or Proctored Assessment(s) (as applicable)**
Exam (midterm & final)

**Attendance**
Attendance highly recommended.

**Late Work**
Expected to submit all assignments on time as specified by the Course Director.

**Learning Groups (as applicable)**
Students will work independently.

**Evaluation**
The student’s final grade will be determined as follows:

- Class assignments and discussions  ## points 10%
- Final examination  ## points 90%

**Total Points:** 100 pts

**Grading Scale**
A= 90%–100%
B= 80%–89%
C= 70%–79%

**Course communication, expectations, and etiquette**
The purpose of this course is to provide ...

(See Student Manual)
Email use....
Blackboard use....
Discussion use....
Example: The purpose of the discussion boards is to allow students to freely exchange ideas. It is imperative to remain respectful of all viewpoints and positions and, when necessary, agree to respectfully disagree. While active and frequent participation is encouraged, cluttering a discussion board with inappropriate, irrelevant, or insignificant material will not earn additional points and may result in receiving less than full credit. Frequency is not unimportant, but content of the message is paramount. Please remember to cite all sources—when relevant—in order to avoid plagiarism.

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HIPPA, Access, Use and Disclosure
TBD
Course Schedule and program

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Basic Mechanics of Materials applied to Musculoskeletal system – Dr. Raghu N Natarajan
1. Static analyses, Newton’s first law, area moment of inertia, bending of beams, torsion, contact forces (2 Lectures)
2. Loads in musculoskeletal system (1 Lecture)
3. Newton’s second law of motion, Impulse, Mass Moment of Inertia, Center of mass, impulse moment relationships (1 Lecture)
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5. Bone implant system, implant material (1 Lecture)
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1. Characterization of Tissue properties – 1 Lecture
2. Mineralized tissue, cortical and trabecular bone – 1 Lecture
3. Cartilage and Intervertebral Discs – 1 Lecture
4. Muscle, Capsules, Ligaments and Tendon – 1 Lecture

Overview

Session Learning Objectives (performance outcomes/objectives)
After this session, the student will be able to better understand how basic mechanics principles can be used to understand the motion of human joints, how bone and tissues behave from mechanics point of view.

Course Activities [any learning experience where feedback from faculty is NOT provided]
  Textbook Reading  TBD BY FACULTY
  Online Reading  TBD BY FACULTY

Discussion Board (as required by course format)  Discussion on the on going topic in the class and required by the faculty

Assignments/Assessments [any learning experience where faculty provides any feedback]
Assignments submitted by the students will be evaluated by the faculty and discussed in the following class.
Course Syllabus: CRE 558 Clinical Trials II

Instructor Name: John Somberg MD
Email: jsomberg@rush.edu
Work Phone: 312-942-6590
Fax

Preferred Method of Contact: Email / Phone / Fax

Office Hours: By appointment Tuesday 12-3

Credit Hours: 2

Course Purpose/Description

GCC – 558 Clinical Trials Design II

This course is a continuation of Clinical Trials I covering the utilization of genetic data and the era of personalized medicine in clinical trials, assessing and reporting of adverse events, assessment of quality of life, the function of Data and Safety Monitoring Board, techniques involved in the study closeout, methods of reporting and interpreting clinical trials, economic analysis in clinical trials and the emerging field of comparative effectiveness research. The course also focuses on protocol development and the optimization of clinical trials design and data interpretation. Prerequisite GCC – 557 (letter grades, 2 credits)

Course Type & Format (online, face-to-face, etc.) Lecture / Discussion / Lab & Online / On-campus

Meeting Days and Times (table)

<table>
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Required Text(s) (full citation)
Fundamentals of Clinical Trials
Friedman, Furberg, DeMets
5th Edition/Springer

Recommended Text(s) (full citation)
Principles & Practice of Clinical Research
3rd Edition
Gallin & Ognibene
Academic Press

Required Equipment/Uniforms
None

Software (full citation)
None

Pre-requisites (courses, achieved competencies)
GCC-558

Course Learning Objectives

Individual Course Objectives:
GCC-558 Clinical Trials II
1) To optimize the research question.
2) To integrate genetic data in clinical trials.
3) To know the attributes and limitations of advanced trial designs.
4) To understand how to analyze clinical data, its validity and generalizability.
5) To manage clinical trials and collect accurate data as well as the storage of the data to optimize analysis.
6) To effectively undertake comparative effective research.
7) To understand the benefits and limitations of Data, Safety Monitoring Boards.

Exam or Proctored Assessment(s) (as applicable)
Final Exam

Attendance
Attendance is highly recommended.

Late Work
Expected to submit all assignments on time as specified by the Course Director.

Learning Groups (as applicable)
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Evaluation
The student’s final grade will be determined as follows:
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Final examination # points 90%
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HIPPA, Access, Use and Disclosure
TBD
Course Schedule and program

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Overview

**Session Learning Objectives (performance outcomes/objectives)**
After this session, the student will be able to better understand how basic mechanics principles can be used to understand the motion of human joints, how bone and tissues behave from mechanics point of view.

**Course Activities** [any learning experience where feedback from faculty is NOT provided]

- **Textbook Reading** TBD BY FACULTY
- **Online Reading** TBD BY FACULTY

**Discussion Board (as required by course format)** Discussion on the on going topic in the class and required by the faculty

**Assignments/Assessments** [any learning experience where faculty provides any feedback]
Assignments submitted by the students will be evaluated by the faculty and discussed in the following class.
Instructors
- Sanjib Basu, Sanjib_Basu@rush.edu

Course objectives
- To introduce clinical investigators to the basic biostatistical concepts and techniques used to answer research questions
- To learn to recognize when each technique is appropriate or inappropriate
- To acquire the computing skills necessary to carry them out

Textbook

Blackboard
- This course will utilize Blackboard. Course related material will be posted on Blackboard and course announcements will be sent to your Blackboard Email address.

Exam
- Take home Exam 1 will be posted tentatively around September 29.
- Take home Exam 2 will be posted tentatively around October 20.

Grade
- Take home Exam 1: 50%  ●  Take home Exam 2: 50%
- Final Grade: Pass/Fail. Based on weighted total \( \geq 70\% \)

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<th>Date and Time</th>
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<th>Chapter</th>
<th>Suggested Problems</th>
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<td>Introduction and Descriptive Methods for Categorical Data</td>
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<td>Probability and Probability Models</td>
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<td>Estimation of Parameters</td>
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<td>Midterm Exam</td>
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<td>Oct 19, 2017</td>
<td>Introduction to Tests of Significance</td>
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<td>Comparison of Means &amp; Proportions</td>
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<td>Correlation and Final Exam</td>
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<td>1, 2, 5, 9, 10, 12, 19*</td>
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<td>Nov 09, 2017</td>
<td>Review/discussion</td>
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<td>Final Exam</td>
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Course Syllabus: GCC-548  Bioinformatics I  Fall 2017

Instructor Name  John Somberg MD  
Email  jsomberg@rush.edu  
Work Phone  312-942-6590  
Fax  
Preferred Method of Contact  Email/ Phone / Fax  
Office Hours:  By appointment Tuesday 12-3 PM  
Credit Hours  1  

Course Purpose/Description  
This course presents introductory material on methods and procedure of bio-informatics and how it may be helpful in undertaking clinical trials. Course covers methods, techniques and rational behind meta-analysis. (1 credit, P or F grade). The course aims to provide information to students planning a meta-analysis as their thesis project. The course will provide practical considerations on how to perform a meta-analysis, how to use the computer programs to undertake a meta-analysis, what constitutes an appropriate meta-analysis study, how to perform a statistical analysis of the results and how to assess the validity of the analysis.

Course Type & Format (online, face-to-face, etc.)  Lecture/Discussion/Lab & Online/On-Campus  

Meeting Days and Times (table)  

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Required Text(s) (full citation)  
Introduction to Meta-Analysis
Michael Borenstein

**Recommended Text(s) (full citation)**
Intro to Meta-Analysis
Borenstein

**Required Equipment/Uniforms**
None

**Software (full citation)**
None

**Pre-requisites (courses, achieved competencies)**
GCC-557 & 558

**Course Learning Objectives**
GCC-548 Bioinformatics

1) To understand the need for systemic reviews.

2) To be able to understand and interpret a Meta-Analysis.

3) To be able to understand the significance of a systematic review and how it can aid clinical investigation.

**Exam or Proctored Assessment(s) (as applicable)**
Meta-Analysis Project

**Attendance**
Attendance is recommended.

**Late Work**
Expected to submit all assignments on time.

**Learning Groups (as applicable)**
Students will work independently.

**Evaluation**
The student’s final grade will be determined as follows:

- Class assignments and discussions: ## points 10%
- Final examination: ## points 90%

Total Points: 100 pts

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- **Textbook Reading** TBD BY FACULTY
- **Online Reading** TBD BY FACULTY

**Discussion Board (as required by course format)** Discussion on the ongoing topic in the class and required by the faculty

**Assignments/Assessments** [any learning experience where faculty provides any feedback] Assignments submitted by the students will be evaluated by the faculty and discussed in the following class.
Course Syllabus: GCC 551 Ethics in Biomedical Research and the IRB  

Fall, 2017

Instructor Name  
Mary Jane Welch, DNP, APN, CIP

Email  
mary_jane_welch@rush.edu

Work Phone  
312-942-7276

Fax

Preferred Method of Contact  
Email/ Phone /

Office Hours:  
By appointment

Credit Hours  
2

Course Purpose/Description
The purpose of this course is to learn the ethical principles that are the basic foundation of human subject research; the rules and regulations that govern said research, the process of Institutional Review Board review; as well as the regulations and the business of human subject research.

This course provides the framework around which clinical research projects must navigate. The course includes didactic lectures on the ethics of human subject research, the history of research regulations, operations of an IRB, requirements of informed consent, regulatory processes of grants and contracts, scientific integrity, intellectual property and additional regulatory mandates required for clinical research. Additionally, the course requires preparation of protocol reviews and participation on IRB review panels inside the University.  

2.00

Course Type & Format: Lecture/Discussion/ Case Studies/ Lab/ Online/On-Campus

Meeting Days and Times (table)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Day of Week</th>
<th>Topic</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>09/07/2017</td>
<td>Thursday</td>
<td>Intro to Res. Ethics</td>
<td>Welch</td>
</tr>
<tr>
<td>2</td>
<td>09/07/2017</td>
<td>Thursday</td>
<td>Ethical Conduct/ Res.</td>
<td>Welch</td>
</tr>
<tr>
<td>3</td>
<td>09/12/2017</td>
<td>Tuesday</td>
<td>Grants</td>
<td>Garcia</td>
</tr>
<tr>
<td>4</td>
<td>09/19/2017</td>
<td>Tuesday</td>
<td>IRB Operations</td>
<td>Cobb</td>
</tr>
<tr>
<td>5</td>
<td>09/26/2017</td>
<td>Tuesday</td>
<td>IRB Operations</td>
<td>Young</td>
</tr>
<tr>
<td>6</td>
<td>10/03/2017</td>
<td>Tuesday</td>
<td>Contracts</td>
<td>Kampshmidt</td>
</tr>
<tr>
<td>7</td>
<td>10/10/2017</td>
<td>Tuesday</td>
<td>Intellectual Property</td>
<td>Vijayan</td>
</tr>
<tr>
<td>8</td>
<td>10/17/2017</td>
<td>Tuesday</td>
<td>Rush Res. Portal</td>
<td>Demarco</td>
</tr>
<tr>
<td>9</td>
<td>10/24/2017</td>
<td>Tuesday</td>
<td>Reg. Mandates</td>
<td>Morris/Guzik</td>
</tr>
<tr>
<td>10</td>
<td>11/14/2017</td>
<td>Tuesday</td>
<td>Scientific Integrity</td>
<td>Guzik</td>
</tr>
<tr>
<td>11</td>
<td></td>
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<td></td>
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<td>12</td>
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<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Required Text(s) (full citation)

Course Learning Objectives
- To learn what and why of the ethics, regulations and pragmatics of human subject research.
- To increase understanding of the multiple requirements and regulations to be followed in order to conduct human subject research.
- To review protocols and participate in IRB meetings to provide hands-on experience of how to write protocols that are ethical and compliant.

Attendance
100 % Attendance is required for IRB Observation, and 2 self-scheduled IRB meetings.

Late Work
Expected to submit all assignments by the end of the semester.

Learning Groups
Students will work independently

Evaluation
The student’s final grade will be determined as follows:

a. A brief written assessment of the Belmont Report and how it should effect your future research. 25 points
b. Review a protocol using the provided template, active participation in an IRB meeting, and submission of the completed review template (X 2) 25 points (X2)
c. Submit one brief opinion paper, discussing your overall experience and your thoughts about the IRB process. 25 points

Total Points: 100 pts

Grading Scale
A= 90%–100%
B= 80%–89%
C= 70%–79%

Course communication, expectations, and etiquette
It is expected that this course will increase your understanding of the ethical conduct and review of human subject’s research as a serious undertaking that is directed by many laws, regulations and best practices.

During the fall session, there will be didactic classes and you will participate in two actual IRB meetings.
1. **Attend the “IRB Observation” class prior to scheduling your two IRB participation sessions.**
   a. The IRB Observation class is scheduled for **9/26/17**.
   b. You must either attend in person, or demonstrate viewing of the recorded class prior to scheduling your two IRB participation meetings.
   c. Please note the interactions of the IRB and jot down any thoughts or questions and submit via email to [mary_jane_welch@rush.edu](mailto:mary_jane_welch@rush.edu).

2. **Attend two sessions of IRB meetings as non-voting participants. These meetings are to be completed between 09/27/2017 and 12/14/2017 (sign up as instructed below #6).**
   a. For each meeting you attend, **you** are to choose a new study to review prior to the meeting and be prepared to discuss your review during the meeting.
   b. This should be a study of some interest to you. Focus on reviewing primarily the consent and the protocol.
   c. You will be emailed the agenda and access to the documents prior to the meeting date you have scheduled.
   d. Review using the appropriate IRB Checklist which will be available on blackboard.
   e. The completed IRB checklist should be handed in to IRB staff at the conclusion of the IRB meeting. These two submissions will be required to pass the course.
   f. Please sign up for your choice of meetings as soon as possible, keeping in mind that during the holidays, meetings are often cancelled due to lack of quorum. The date you schedule to attend an IRB meeting, will direct the emailing of the agenda to you.

3. **At the conclusion of your 2 IRB experiences, submit one brief opinion paper, discussing your overall experience and your thoughts about the IRB process. This is also a submission required to pass the course.**

   You will receive training to access the Rush Research Portal (RRP) as part of this course. If you have any questions regarding the Research Portal, you may contact Tony DeMarco at ext. 2-5097. Please contact Tony if you already have RRP access. You will then not be required to attend his class on **10/17/2017**. If you do not have RRP access and you miss the class, you will have to contact Tony and attend a general class held on Fridays at 11 AM.

   Contact Elanda Shannon via phone (312-563-2721) or email ([Elanda_T_Shannon@rush.edu](mailto:Elanda_T_Shannon@rush.edu)) for questions and to schedule your IRB meeting dates.

Rush has two Institutional Review Boards. They meet every Monday and Wednesday unless otherwise noted. **Monday’s board meets from 2:00-4:30 pm and Wednesday’s board meets from 1:00-3:30 pm.** Meetings are held in the large conference room on the 6th floor of Jelke (602A). Plan to allow 2 hours of preparation for each meeting you attend.
It is essential that you honor the confidential nature of these meetings and must not disclose the discussions you have heard or the decision of the Board, even if the PI is a friend or professor.

It is also essential that you recuse yourself from the review and discussion of any studies where you may have a real or perceived conflict of interest. If you are not sure, identify your concern to the IRB panel and allow them to decide. If you are listed on the study you must leave the room during the review of that study.

Attendance at the meetings assumes your consent to follow these rules. If you have a problem with these conditions, please contact Dr. Welch via email or at 312-942-7276.

We hope this experience provides an increased knowledge and understanding of the regulatory and ethical process of human research. We would also like to encourage you to consider becoming a member of an IRB at some point in your career.

For specific questions regarding IRB membership at Rush, please contact John Cobb, IRB Manager or Dr. Welch, AVP, Research Regulatory Operations.

**Disability Accommodations**

Rush University wishes to ensure that access to its facilities, programs and services are available to students with disabilities. The University provides reasonable accommodations to all students on a non-discriminatory basis consistent with legal requirements as outlined in the Americans with Disabilities Act (ADA) of 1990 and the Rehabilitation Act of 1973 and applicable implementing regulations of these statutes. A reasonable accommodation is a modification or adjustment to an instructional activity, facility, program or service that enables a qualified student with a disability to have an equal opportunity to participate in all Rush University student activities.

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**Academic Honesty and Conduct**

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Additional information on Intellectual Properties protection can be found at:

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Additional information on FERPA can be found at:
http://www.rushu.rush.edu/servlet/Satellite?MetaAttrName=meta_services&ParentId=1320160786561&ParentType=RushUnivLevel2Page&c=content_block&cid=1320160786609&level1-p=2&level1-pp=1204497836743&level1-ppp=1204497836743&pagename=Rush%2Fcontent_block%2FContentBlockDetail&rendermode=previewnoinsite

**HIPPA, Access, Use and Disclosure**
TBD
Course Schedule and program

*Important Note:* Changes may occur to the syllabus at the instructor's discretion. When changes are made, students will be notified via an announcement.
Instructor Name  Bill Hendey PhD  
Email  bill_hendey@rush.edu  
Work Phone  
Fax  
Preferred Method of Contact  email  
Office Hours: upon request  
Credit Hours  1  
Course Purpose/Description  
This course focuses on computer skills necessary to work as a scientist with the emphasis on data presentation and communication.  
Course content  
Overview:  
It includes didactic lecture and computer practice. We begin by discussing and demonstrating search strategies for scientific literature using pubmed. Students will learn how to organize import and format references in scientific papers. Data presentation is covered using Excel and Sigma Plot. Students also learn how to combine, enhance and annotate microscope images using Photoshop. Data presentation in PowerPoint slide shows is discussed. Finally, importing charts and images into Word is covered with an emphasis on image/graph layout skills necessary for grant proposals. There is also a class devoted to searching Grants.gov for grant information.  
Meeting Days and Times (table)  
See table on last page  
Required Text(s) (full citation)  
None  
Recommended Text(s) (full citation)  
None.  
Required Equipment/Uniforms  
N/A  
Software (full citation)  
Computers with all the appropriate software are provided in class.
Pre-requisites (courses, achieved competencies)
None

Course Learning Objectives
Upon completion of the course, the student will be able to:
1. Search the literature for a specific reference(s) or topic
2. Utilize a Bibliography program to catalog and organize references
3. Add and change reference formatting in a scientific paper/grant
4. Utilize Excel to summarize data from multiple experiments and to provide a way to standardize calculations for experimental procedures
5. Utilize Excel and other programs for charts
6. Use Photoshop to merge and annotate scientific micrograph.
7. Use Word to modify a grant proposal including changing reference formatting and insertion and lay out of graphs and figures.
8. Use NIH.gov to find grant information and tools.

Proctored Assessment(s) (as applicable)
Submission of projects via Blackboard

Attendance
See below

Late Work
Requires permission

Evaluation
Grades will be based on the completion of several projects. The projects are cumulative so don’t put them off. The course notes can be found on Blackboard along with the information necessary for the projects.
A= 85%–100%
B = 75%–84%
C= 60%–74%
F= < 59%

Course communication, expectations, and etiquette
This is a “hands on” course. Students are expected to follow the instructor’s demonstration. Attendance at the lectures is the best way to assure that you have access to the software and know how to do the work. Lectures are tailored to allow for questions and have natural break points built in for individual help. This is done to assure that everyone is on the same page. Please be respectful of the other students. The class should be a collaborative experience and I encourage you to help others while I am providing help to other students.

If you attend and do not do the work you are wasting your time and likely distracting the class. Anyone not preforming the assignment and distracting others will be asked to leave.
The course notes are online on blackboard. If you have the necessary software for a particular lecture, you may do the work at home and submit your projects via blackboard. Most students do not have Sigma Plot and Photoshop software and are unfamiliar with it. It is recommended that all students attend these lectures. However, both SigmaPlot and Photoshop are available in the METC 903 during or outside of class hours, so it is possible to use these programs without attending the lectures. (Other classes use the METC so they are not available to you during the times of the other classes-See schedule posted on the door, please do not disrupt other classes using the METC)

Projects: All projects are directly related to the lectures and instructions are on blackboard. Some of the projects will require you to use the class work material. Save the files to a Flash Drive or email them to yourself so you don’t have to repeat the work.

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Additional information on FERPA can be found at:
Course Schedule and program

**Important Note:** Changes may occur to the syllabus at the instructor’s discretion. When changes are made, students will be notified via an announcement.

Course content/schedule:

<table>
<thead>
<tr>
<th>Date</th>
<th>Room</th>
<th>Time *</th>
<th>Topic/Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/16</td>
<td>903</td>
<td>Thurs 3:30-4:30</td>
<td>Pubmed/Browser</td>
</tr>
<tr>
<td></td>
<td>903</td>
<td>Thurs 4:30-5:30</td>
<td>Bibliography/Refworks-Endnote</td>
</tr>
<tr>
<td></td>
<td>903</td>
<td>Thurs 5:30-6:30</td>
<td>Data-charting/Excel</td>
</tr>
<tr>
<td></td>
<td>903</td>
<td>Thurs 6:30-7:30</td>
<td>Data charting /Sigma plot</td>
</tr>
<tr>
<td>11/30</td>
<td>903</td>
<td>Thurs 3:30-4:30</td>
<td>Ethics of Photoshop</td>
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<tr>
<td></td>
<td>903</td>
<td>Thurs 4:30-5:30</td>
<td>Images/Photoshop</td>
</tr>
<tr>
<td></td>
<td>903</td>
<td>Thurs 5:30-6:30</td>
<td>Images/Photoshop</td>
</tr>
<tr>
<td></td>
<td>903</td>
<td>Thurs 6:30-7:30</td>
<td>Importing images and layout in Word</td>
</tr>
<tr>
<td>12/07</td>
<td>903</td>
<td>Thurs 3:30-5:00</td>
<td>Grants/gov -NIH website</td>
</tr>
<tr>
<td>Anytime during the course</td>
<td>Online only</td>
<td>Narrated Powerpoint available online</td>
<td>Powerpoint</td>
</tr>
<tr>
<td>TBD</td>
<td></td>
<td></td>
<td>Projects due</td>
</tr>
</tbody>
</table>
# Course Syllabus: CRE 559 Readings in Special Populations

**Fall, 2017**

**Instructor Name**: Sheila, Dugan, MD, Stan Lapidos, MS  
**Email**: [Sheila_dugan@rush.edu](mailto:Sheila_dugan@rush.edu); [stan_lapidos@rush.edu](mailto:stan_lapidos@rush.edu)  
**Work Phone**: 942-6644; 942-2753  
**Fax**:  
**Preferred Method of Contact**: Email/ Phone / Fax  
**Office Hours**: By appointment or Day of Week and Time of Day  
**Credit Hours**: 2

**Course Purpose/Description**: Understand the impact economic, social, geographical, cultural, racial, ethnic and other factors have on health status and their effect on and research studies and outcomes

**Course Type & Format**: (online, face-to-face, etc.)  
Lecture/Discussion/Lab & Online/On-Campus

## Meeting Days and Times (table)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Day of Week</th>
<th>Topic</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9/5</td>
<td>Tuesday</td>
<td>Course overview</td>
<td>Dugan, Lapidos</td>
</tr>
<tr>
<td>2</td>
<td>9/12</td>
<td>Tuesday</td>
<td>Health status indicators</td>
<td>Richardson</td>
</tr>
<tr>
<td>3</td>
<td>9/19</td>
<td>Tuesday</td>
<td>Low birth weight and racial disparities</td>
<td>R. David</td>
</tr>
<tr>
<td>4</td>
<td>9/26</td>
<td>Tuesday</td>
<td>Interdisciplinary research</td>
<td>Lapidos, Dugan</td>
</tr>
<tr>
<td>5</td>
<td>10/3</td>
<td>Tuesday</td>
<td>Estimated deaths due to social factors</td>
<td>Dugan Lapidos</td>
</tr>
<tr>
<td>6</td>
<td>10/10</td>
<td>Tuesday</td>
<td>Health equity and political economy</td>
<td>Crane</td>
</tr>
<tr>
<td>7</td>
<td>10/17</td>
<td>Tuesday</td>
<td>Racial disparities and voice preservation in head and neck cancers</td>
<td>Losavio</td>
</tr>
<tr>
<td>8</td>
<td>10/24</td>
<td>Tuesday</td>
<td>Alzheimer’s disease in African-Americans</td>
<td>James</td>
</tr>
<tr>
<td>9</td>
<td>10/31</td>
<td>Tuesday</td>
<td>Addressing socio-economic and racial disparities in health care</td>
<td>Dugan, Lapidos</td>
</tr>
<tr>
<td>10</td>
<td>11/7</td>
<td>Tuesday</td>
<td>Interpersonal violence, PTSD and inflammation</td>
<td>Gerhart</td>
</tr>
<tr>
<td>11</td>
<td>11/14</td>
<td>Tuesday</td>
<td>Community based participatory research</td>
<td>Reed</td>
</tr>
</tbody>
</table>
Course Learning Objectives:
Define health disparities and the causes and factors contributing to such disparities in a community or population.
Understand the importance of research design in investigating disparities.

Evaluation
The student’s final grade will be determined as follows:
Class assignments and discussions 100 points
Final examination
Total Points: 100 pts

Grading Scale
A= 90%–100%
B= 80%–89%
C= 70%–79%

Course communication, expectations, and etiquette: NA
The purpose of this course is to provide ...
Discussion use....
Example: The purpose of the discussion boards is to allow students to freely exchange ideas. It is imperative to remain respectful of all viewpoints and positions and, when necessary, agree to respectfully disagree. While active and frequent participation is encouraged, cluttering a discussion board with inappropriate, irrelevant, or insignificant material will not earn additional points and may result in receiving less than full credit. Frequency is not unimportant, but content of the message is paramount. Please remember to cite all sources—when relevant—in order to avoid plagiarism.

Disability Accommodations
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HIPPA, Access, Use and Disclosure
TBD
Course Schedule and program

**Important Note:** Changes may occur to the syllabus at the instructor's discretion. When changes are made, students will be notified via an announcement.

**Basic Mechanics of Materials applied to Musculoskeletal system** Dr. Raghu N Natarajan
1. Static analyses, Newton’s first law, area moment of inertia, bending of beams, torsion, contact forces (2 Lectures)
2. Loads in musculoskeletal system (1 Lecture)
3. Newton’s second law of motion, Impulse, Mass Moment of Inertia, Center of mass, impulse moment relationships (1 Lecture)
4. Static and dynamic structural analyses of musculoskeletal systems. (4 Lectures)
5. Bone implant system, implant material (1 Lecture)
6. Basic concept on design of joint replacements—hip knee, shoulder and spine. (2 Lectures)

**Tissue Properties and Characterization** – Dr. A. Espinoza
1. Characterization of Tissue properties – 1 Lecture
2. Mineralized tissue, cortical and trabecular bone – 1 Lecture
3. Cartilage and Intervertebral Discs – 1 Lecture
4. Muscle, Capsules, Ligaments and Tendon – 1 Lecture

Overview

**Session Learning Objectives (performance outcomes/objectives)**
After this session, the student will be able to better understand how basic mechanics principles can be used to understand the motion of human joints, how bone and tissues behave from mechanics point of view.

**Course Activities** [any learning experience where feedback from faculty is NOT provided]

- **Textbook Reading** TBD BY FACULTY
- **Online Reading** TBD BY FACULTY

**Discussion Board (as required by course format)** Discussion on the on going topic in the class and required by the faculty

**Assignments/Assessments** [any learning experience where faculty provides any feedback]
Assignments submitted by the students will be evaluated by the faculty and discussed in the following class.
Course Syllabus: CRE-597 Thesis Research  

Instructor Name  
John Somberg MD

Email  
jsomberg@rush.edu

Work Phone  
312-942-6590

Fax

Preferred Method of Contact  
Email/ Phone / Fax

Office Hours:  
By appointment Tuesday 12-3 PM

Credit Hours  
1-12 credits

Course Purpose/Description

Thesis Research

Thesis Research is the centerpiece of the Masters in Clinical Research Program. The course is a recurring one, usually taken in the 3rd, 4th & 5th semesters of the program where students undertake independent clinical research with a mentor(s). The research must be related to clinical work and approved by the Program Director. In the Spring of the 1st year the student works with a mentor to create an abstract presented in May that identifies a research question, the methods to undertake the research project, feasibility studies (that may be needed), IRB approval plan and a power calculation. The research can be a perspective study, a retrospective clinical study, a meta-analysis, or an analysis of a “big data” set relating to a clinical question. The abstract is discussed and defended in a presentation and if approved by the Program Director, the student may proceed to work on the project. Usually in the Spring of the second year in late April or May the student will present the thesis abstract and defend it in a public forum. The Thesis will be reviewed by the student’s mentor, as well as the Program Director. The Thesis must be approved by the Program Director and the Research Librarian before the student may graduate. The librarian will review if the Thesis conforms with requisite style, citation format and copyright requirements required for publication. During the course of work the student will review with the mentor and Program Director progress on the Thesis. At a minimum this review must occur each semester.

Course Type & Format (online, face-to-face, etc.)  
Lecture/Discussion/Lab&Online/On-Campus

Independent research with mentor(s).

Meeting Days and Times (table)

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<th>Day of Week</th>
<th>Topic</th>
<th>Instructor</th>
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<td>2</td>
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<td></td>
<td>Independent Research</td>
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</table>
CRE 597: Thesis Research

1) How to undertake an independent research project by actually initiating and carrying out a student directed project.

2) To understand firsthand the process of obtaining regulatory approvals to initiate a clinical trial.

3) Alternatively how to utilize the technique of Meta-Analysis to address a clinical research problem by undertaking an independent Meta-Analysis.

Exam or Proctored Assessment(s) (as applicable)
NA

Attendance NA

Late Work Na

Learning Groups (as applicable) (Students work independently)

Evaluation
The student’s final grade will be determined as follows:
## points 50% - Mentor Evaluation
## points 50% - Program Director Evaluation
Total Points: 100 pts
Grading Scale
A= 90%–100%
B= 80%–89%
C= 70%–79%

Course communication, expectations, and etiquette
The purpose of this course is to provide...

(see Program Manual)
Email use....
Blackboard use....
Discussion use....
Example: The purpose of the discussion boards is to allow students to freely exchange ideas. It is imperative to remain respectful of all viewpoints and positions and, when necessary, agree to respectfully disagree. While active and frequent participation is encouraged, cluttering a discussion board with inappropriate, irrelevant, or insignificant material will not earn additional points and may result in receiving less than full credit. Frequency is not unimportant, but content of the message is paramount. Please remember to cite all sources—when relevant—in order to avoid plagiarism.

Disability Accommodations
Rush University wishes to ensure that access to its facilities, programs and services are available to students with disabilities. The University provides reasonable accommodations to all students on a non-discriminatory basis consistent with legal requirements as outlined in the Americans with Disabilities Act (ADA) of 1990 and the Rehabilitation Act of 1973 and applicable implementing regulations of these statutes. A reasonable accommodation is a modification or adjustment to an instructional activity, facility, program or service that enables a qualified student with a disability to have an equal opportunity to participate in all Rush University student activities.

Additional information on disability accommodations and programs can be found at: http://www.rushu.rush.edu/catalog/aboutrush/disabilityrights.html.

Academic Honesty and Conduct
Rush University students and faculty belong to an academic community with high scholarly standards. As essential as academic honesty is to the relationship of trust 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.

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Intellectual properties protection
A core mission of Rush is to improve the public health. For this reason, Rush University Medical Center ("Medical Center") supports the research efforts of its faculty, staff, employees and students (collectively "Covered Individuals"). One way this is accomplished is by seeking patent protection for new technologies so they can be transferred to the private sector through licensing for further development, commercialization and distribution to the public.

All materials contained within this syllabus, course and course materials, whether in written form or presented any electronic transmission medium, represent the intellectual property of faculty or Rush University Medical Center. Students are prohibited from sharing or transmitting content or materials through any media without express consent or permission of the copyright holder. All rights reserved. Copyright (Rush University Medical Center (or faculty) and year).

Additional information on Intellectual Properties protection can be found at:

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

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Additional information on FERPA can be found at:
http://www.rushu.rush.edu/servlet/Satellite?MetaAttrName=meta_services&ParentId=132016078651&ParentType=RushUnivLevel2Page&c=content_block&cid=1320160786609&level1-p=2&level1-pp=1204497836743&level1-ppp=1204497836743&pagename=Rush%2Fcontent_block%2FContentBlockDetail&rendermode=previewnoinsite

HIPPA, Access, Use and Disclosure
TBD
Course Schedule and program

**Important Note:** Changes may occur to the syllabus at the instructor's discretion. When changes are made, students will be notified via an announcement.

**Basic Mechanics of Materials applied to Musculoskeletal system  Dr. Raghu N Natarajan**
1. Static analyses, Newton’s first law, area moment of inertia, bending of beams, torsion, contact forces (2 Lectures)
2. Loads in musculoskeletal system (1 Lecture)
3. Newton’s second law of motion, Impulse, Mass Moment of Inertia, Center of mass, impulse moment relationships (1 Lecture)
4. Static and dynamic structural analyses of musculoskeletal systems. (4 Lectures)
5. Bone implant system, implant material (1 Lecture)
6. Basic concept on design of joint replacements—hip knee, shoulder and spine. (2 Lectures)

**Tissue Properties and Characterization – Dr. A. Espinoza**
1. Characterization of Tissue properties – 1 Lecture
2. Mineralized tissue, cortical and trabecular bone – 1 Lecture
3. Cartilage and Intervertebral Discs – 1 Lecture
4. Muscle, Capsules, Ligaments and Tendon – 1 Lecture

**Overview**

**Session Learning Objectives (performance outcomes/objectives)**
After this session, the student will be able to better understand how basic mechanics principles can be used to understand the motion of human joints, how bone and tissues behave from mechanics point of view.

**Course Activities** [any learning experience where feedback from faculty is NOT provided]
- **Textbook Reading** TBD BY FACULTY
- **Online Reading** TBD BY FACULTY

**Discussion Board (as required by course format)** Discussion on the ongoing topic in the class and required by the faculty

**Assignments/Assessments** [any learning experience where faculty provides any feedback]
Assignments submitted by the students will be evaluated by the faculty and discussed in the following class.
**Course Syllabus:** GCC 593 Introduction to Grant Writing  
**Fall, 2017**

**Instructor Name**  
Paul M. Carvey, PhD

**Email**  
Paul_Carvey@rush.edu

**Work Phone**

**Fax**

**Preferred Method of Contact**  
Cell Phone (708) 921-7942

**Office Hours:**  
By appointment

**Credit Hours**  
1

**Course Purpose/Description**  
To introduce students to the common ways grants are written.

**Course Type & Format**  
Lecture/Discussion/ On-Campus

### Meeting Days and Times *(table)*

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Day of Week</th>
<th>Topic</th>
<th>Instructor</th>
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<tbody>
<tr>
<td>1</td>
<td>9-7</td>
<td>Thursday</td>
<td>Geography of NIH</td>
<td>Carvey</td>
</tr>
<tr>
<td>2</td>
<td>9-14</td>
<td>Thursday</td>
<td>Grant formats</td>
<td>Carvey</td>
</tr>
<tr>
<td>3</td>
<td>9-21</td>
<td>Thursday</td>
<td>Specific Aims</td>
<td>Carvey</td>
</tr>
<tr>
<td>4</td>
<td>9-28</td>
<td>Thursday</td>
<td>Specific Aims (workshop)</td>
<td>Carvey</td>
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<tr>
<td>5</td>
<td>10-5</td>
<td>Thursday</td>
<td>Innovation and Significance</td>
<td>Carvey</td>
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<tr>
<td>6</td>
<td>10-12</td>
<td>Thursday</td>
<td>I and S (workshop)</td>
<td>Carvey</td>
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<tr>
<td>7</td>
<td>10-19</td>
<td>Thursday</td>
<td>Providing Background and Data</td>
<td>Carvey</td>
</tr>
<tr>
<td>8</td>
<td>10-26</td>
<td>Thursday</td>
<td>Design and Methods</td>
<td>Carvey</td>
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<tr>
<td>9</td>
<td>11-2</td>
<td>Thursday</td>
<td>Abstract</td>
<td>Carvey</td>
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<tr>
<td>10</td>
<td>11-19</td>
<td>Thursday</td>
<td>Abstract Workshop</td>
<td>Carvey</td>
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<tr>
<td>11</td>
<td>11-16</td>
<td>Thursday</td>
<td>Editing with Purpose</td>
<td>Carvey</td>
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<tr>
<td>12</td>
<td>1-30</td>
<td>Thursday</td>
<td>Summary Sheets and Introduction</td>
<td>Carvey</td>
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<tr>
<td>13</td>
<td>12-7</td>
<td>Thursday</td>
<td>Small Grants</td>
<td>Carvey</td>
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<tr>
<td>14</td>
<td>12-14</td>
<td>Thursday</td>
<td>Training Grants</td>
<td>Napier</td>
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<td>15</td>
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</tbody>
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**Required Text(s)** *None*

**Recommended Text(s) None**

**Required Equipment/Uniforms None**

**Software *(full citation)* None**
Pre-requisites (courses, achieved competencies)  None

Course Learning Objectives

Overall Course Objectives:
1. The student will gain an overall understanding of the grant funding process and be able to communicate to others how the NIH functions. (i.e., understand the Geography of the NIH funding system).
2. The student will learn the fundamental elements of various types of grant applications.
3. The student will be able to identify the various tricks used by successful grant writers to convey the intent of their proposal to the reader succinctly and clearly. This will be demonstrated by the three writing assignments.
4. The student will learn the common flaws in proposal writing and will demonstrate that knowledge when they critique another person’s assignment.

Exam or Proctored Assessment(s)  Three graded writing assignments

Attendance

Attendance is required.

Late Work

Expected to submit all assignments on time as specified by the Course Director

Learning Groups (as applicable)  Students will work independently or with another student.

Evaluation

Written assignments will be graded P/NP based on the algorithm proposed in class.

The student’s final grade will be determined as follows:
Class assignments and discussions  100 points

Total Points:  100 pts

Grading Scale
A= 90%–100%
B= 80%–89%
C= 70%–79%

Course communication, expectations, and etiquette
The purpose of this course is to provide the student with the tricks

Email use: To communicate with the instructor
Blackboard use: To look at notes and submit assignments
Discussion use: To address questions and establish working strategies for writing.

The intent of this course is to discuss the “nuts and bolts” required to put a grant proposal together. This is referred to as grantsmanship. There is no set way to write a proposal. However, there are a large number of commonalities among proposals that achieve their goal – getting funded. Thus, one can approach the writing as a rogue and perhaps your style will be
found acceptable and you will get funded. However, you might be bucking the trend and you risk the possibility that your study section will not like your approach despite its good science. You need to appreciate that great science can easily be sunk by bad grantsmanship. I have seen it happen on many a study section. So, don’t assume that the review committee will fund you for the science. They fund you because you have sold them on your science. Selling your idea is what grantsmanship is all about.

There will be no tests but you will be graded on three writing assignments (Specific Aims, Significance and Innovation, and a Proposal abstract). In order to pass this class, you are expected to attend class and do the homework assignments. The homework assignments will be graded Pass/No Pass. You must pass all homework assignments. You are also expected to participate in discussions.

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Course Schedule and program

*Important Note:* Changes may occur to the syllabus at the instructor's discretion. When changes are made, students will be notified via an announcement.
RULES FOR GOVERNANCE

Including

POLICIES AND PROCEDURES

for the

FACULTY AND STUDENTS

of the

GRADUATE COLLEGE

of

RUSH UNIVERSITY

May 19, 2009

“These Graduate College Policies and Procedures are in conformance with Rush University Rules for Governance. A complete understanding of the Graduate College Policies and Procedures for the Rush University Rules for Governance requires reading the relevant Articles and Sections in the Rush University Rules for Governance which are referenced below in parentheses where applicable.”
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ARTICLE I

THE GRADUATE COLLEGE

Section 1. Purpose of the Graduate College

(a) The purposes of Rush University are 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 Graduate College, as an integral component of the University, seeks to prepare research investigators and leaders in the basic sciences focused on translational research. The College also aspires to make meaningful and significant contributions to the basic sciences through excellence in research and scholarship. In keeping with the Rush University practitioner-teacher model, the College integrates research, scholarship, and service into the teaching-learning process.

Section 2. Graduate College Mission and Vision

(a) 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.

(b) The vision of the Graduate College of Rush University is that its graduates will become productive scientists, educators, and leaders in their respective fields. In the arenas of academia, industry, and government, they will compete successfully for funding and train the next generation of researchers and educators.

Section 3. Graduate College Structure

(a) The Graduate College is organized by divisions. All divisions will reside within Rush Medical College departments or within the colleges of Nursing or Health Sciences. Each division will be led by a division director appointed by the department’s chairperson. Each division is comprised of all duly appointed faculty of the Graduate College who are herein referred to as Members of the Graduate College; there being no academic rank in the College.

(b) The senior representative body of the faculty Members of the Graduate College shall be referred to herein as the Graduate College Council. It will be comprised of all division directors, an elected Member representing each division, and three elected student representatives from the student body.

(c) The Dean of Graduate College has responsibility and accountability for administration of the College and shall exercise the chief executive function of the College. The Graduate College Dean reports to the Provost of Rush University. The Graduate College Dean:

(1) shall call meetings of the faculty at such times as s/he or the Graduate College Council may deem necessary. At least one such meeting must be held each year
(2) shall formulate and present policies to the Graduate College faculty for its consideration
(3) shall serve as the medium of communication for all official business of the College with other Medical Center, university authorities, faculty and students

(4) shall prepare the budget of the College

(5) shall provide consultation and recommendations concerning college matters such as: program/division evaluation, faculty appointments, and student admissions and progression.

(d) Responsibilities will include:

(1) establishing the administrative structure of the Graduate College with approval of the Board of Overseers, the duly appointed committee of the Board of Trustees to oversee the operation of Rush University (Article I: Section 4c)

(2) represent the Graduate College on the Executive Leadership Council, the Provost’s Council, and other related groups

(3) maintain high educational standards in compliance with accreditation guidelines and the mission of the College

(4) leadership in the development, updating and implementation of the Graduate College’s strategic plans

(5) perform regular division reviews in conjunction with the Graduate College Council

(6) oversee the continuous improvement of a curriculum that reflects the current/future needs of the students, clients, and the research community in a cost-effective manner

(7) support a comprehensive student recruitment and retention program to attain a qualified, diverse student body

(8) foster research in the disciplines that comprise the Graduate College

(9) support the recruitment and retention of a highly qualified and diverse faculty and provide an environment that develops their potential

(10) foster a culturally sensitive environment in the College and University

(11) seek increased endowment funds and expendable support monies for student stipends and programs in research, education, and practice that relate to the mission of the college

(12) develop a budget and allocate resources to support the College

(13) promote a culture of shared governance with the faculty

(14) assure the involvement of students, faculty and staff in the annual written performance evaluation of the Dean, the Associate and Assistant Deans, and the division directors of the division

(e) The Dean of the Graduate College may be assisted by one or more associate and/or assistant deans. The associate and assistant deans may run programs or Graduate College committees that meet the goals of the College. The associate and assistant deans are appointed by the Dean and facilitate the responsibilities of the Dean and the college’s administrative office.

(f) The College will be supported by an administrative staff.

Section 4. Approval of Policies and Procedures for the Graduate College

(a) All Policies and Procedures must be approved by a majority of the Graduate College Council. Following approval by the Graduate College Council, the Policies and Procedures for the Graduate College must be approved by a majority of the members of the Graduate College by secret ballot.
Following approval by the members, the document will be approved by University Council following review of its consistency and concordance with the University Rules for Governance. The document will then be submitted for approval by the Provost, the President, and the University’s Board of Trustees as stipulated in the Rush University Rules for Governance (Article I: Section 6).

Section 5:  **Amending the Policies and Procedures**

(a) Amendments to the Graduate College Policies and Procedures for the Rush University Rules for Governance may be initiated by the Dean, by the Graduate College Council, or by petition of at least six (6) voting Members from two or more divisions. Any proposals for change should be submitted in writing to the Graduate College Council, including the rationale for the change. The petitioner(s) may be asked to make an oral presentation of the proposal to the Council. The Council may solicit additional information from the petitioner(s) or others before approving, disapproving, or revising the proposal for change. The Graduate College Council will submit a decision in writing to the petitioner(s).

(b) Following approval of the proposed amendment(s) by a two-thirds majority vote of the Graduate College Council, the Council will determine if the change is substantive enough to merit a vote by the Members of the College. If yes, the change will be processed through secret ballot of the College’s Members, University Council, Provost’s Office, President’s Office, and the Board of Overseers, as stipulated in the Rules for Governance as described above. If no, the policy will go into effect immediately and be voted on by the College Members at the next review of the College’s Policies and Procedures. If the petitioner’s disagree with the Council’s findings, they can appeal to the Council to bring the new policy to a College Member ballot.

(c) Interim changes to the Policies and Procedures document can be implemented immediately following two readings of the policy change at Graduate College Council meetings. Such interim approval requires a two-thirds majority. However, these policy changes will be approved by the faculty at large at the next annual meeting in order to remain in effect while awaiting the next general Policies and Procedures review. A simple majority of the Graduate College Council can request a formal vote on any policy issue by the entire College faculty by petitioning the Dean in writing. During that approval period, implementation of that policy or procedure will be suspended.

(d) The Rules for Governance of the Graduate College containing its Policies and Procedures must be fully updated and approved every five (5) years by a majority of the Members of the Graduate College.
ARTICLE II

FACULTY ORGANIZATION

Section 1: Faculty Status

(a) Active Faculty

Active faculty in the College shall be made up of duly appointed Members. Member status in the College may be conferred to individuals who provide mentoring to students and/or serve on graduate student committees and/or teach for the College. As such, it is anticipated that the petitioner’s curriculum vitae will contain evidence of research experience, scholarly achievement, the capability to mentor students in research implementation and teach at the graduate level. The Graduate College does not provide rank and following appointment, active faculty will be designated as a Member of the Graduate College. Members of the Graduate College must hold appointments in other colleges of Rush University.

(b) Emeritus Member Status

Members who intend to retire may petition their division director for nomination to Emeritus status. The division director will submit a letter to the Dean detailing the rationale for maintaining Emeritus Member status. Upon recommendation by the Dean, the nomination will be forwarded to the Graduate College Council for approval. Upon approval by the Graduate College Council and acceptance by the Dean, the Emeritus Member will be informed in writing of the approval and will then have all rights and privileges afforded regular Member status, but will not have the right to vote (Article II; Section 2b).

(c) Adjunct Member Status

Faculty at other institutions may petition for Adjunct Member status in the College, but shall neither be considered active Members for voting purposes, nor active faculty of Rush University. Adjunct Members may take part in College faculty meetings, teach in the College, serve on student research committees, or advise students, but do not have the right to vote (Article II; Section 2d)

(d) Recommendations for Appointments

Faculty holding primary appointments in other colleges at Rush University may petition for regular membership. All recommendations for faculty membership shall originate with the division director. The division director will nominate a faculty member for appointment in the College in a written statement to the Dean. This letter will summarize the potential member’s credentials in research, scholarly activity and mentoring, and be accompanied by the applicant’s curriculum vitae.

(1) Although no formal criteria for appointment as a Member of the Graduate College are established, it is anticipated that the proposed Member will exhibit:
a. demonstration of excellence in research through publication in peer-reviewed articles as evidenced by first author and/or senior authorship status.

b. a history or potential to mentor students in the research process.

c. a history or potential to teach at the graduate college level.

d. although an MD, PhD, PharmD or other type of doctoral degree is normally required, faculty with a MS degree with a well established publication and mentoring history shall be considered.

(2) The division director’s letter will be forwarded, in advance, to the Graduate College Council with an updated curriculum vitae. The division director will present the potential member to the Graduate College Council and the Council will recommend the Member to the Dean following approval by a simple majority. Member rank in the Graduate College will be conferred in writing to the petitioner and his/her division director by the Dean within sixty (60) days of recommendation. After acceptance as a Member, the division director will provide an up to date curriculum vitae to the Graduate College Office for inclusion in the Member’s permanent file.

(e) Terms of Appointment

(1) The term of membership in the Graduate College will continue as long as the Member holds an appointment within another college of Rush University or status is changed by the Graduate College Council.

(2) Adjunct and Emeritus Members who have successfully petitioned for membership in the Graduate College, must be approved by the Dean annually following a written request by the division director.

(f) Conditions of Appointment

Members, Adjunct Members and Emeritus Members of the Graduate College accept their appointments with the understanding that they will abide by the Rules for Governance of the College and University. They also acknowledge that they may be called upon to mentor students, sit on advisory committees, teach within the College, or provide service to the College. The Members, Adjunct Members and Emeritus Members understand that they also will continue to pursue research and other scholarly activities.

(g) Leaves of Absence

(1) Article II, Section 2-17 of the Rules of Governance of Rush University provides conditions for the granting of scholarly and non-scholarly leaves of absence to faculty. The Graduate College does not provide for leaves of absence, but if a faculty member in another college is granted such a leave, the Graduate College will honor the conditions of that leave. The Member will notify the Graduate College Dean of the intended leave and its duration.

(2) Similarly, the Graduate College does not provide personal leaves of absence, but will honor leaves granted by other colleges according to its Rules for Governance. Upon completion of the leave, the Member’s faculty status will be reinstated.
(h) Termination, Suspension and Appeal

Appointments to the faculty may be terminated by retirement, non-renewal for Adjunct or Emeritus Members, acceptance of resignation, or recommendation by the division director for cause.

1. Members anticipating retirement or leaving the University will submit a letter of resignation to the Dean through their division director.

2. Membership in the Graduate College can be terminated following recommendation of the division director to the Dean following approval by the Member’s chairperson. The Member must be notified by letter at least three (3) months prior to the intended time of termination.

(i) Policies and Procedures for Actions Against and Appeals by a Faculty Member

1. Actions against a faculty Member are termination or suspension of appointment. Recommendation for actions against a Member must be for cause as outlined in Article II Section 3 of the University Rules for Governance and will be initiated by the division director with approval by the Member’s chairperson. Such recommendations can be made only after discussion between the Member and his/her department chairperson fail to reach a mutually acceptable agreement. If a mutually acceptable agreement is not reached, there will be an informal inquiry by the Member’s graduate division committee within the department. The committee will issue a nonbinding opinion regarding the proposed action(s) to the division director, department chairperson and the Member. Following review of the nonbinding opinion of the committee, the division director may choose to recommend termination or suspension of appointment, or to dismiss the proposed action. Should the division director determine that the termination or suspension of the Member is warranted, s/he shall provide the Member and the Dean the reason(s) for the action(s) in writing, within ten (10) working days of receipt of the opinion.

2. Upon receipt of such a statement from the division director, the Member shall have the right, within ten (10) working days, to request in writing, a review before the Graduate College Council. Such a request shall be addressed to the Dean.

3. The Graduate College Council will hold joint pre-review hearings with the parties and their legal counsel, if any, in order to clarify issues, affect stipulations of fact, provide for exchange of documents or other information, and achieve such other pre-review objectives as will make the hearing fair, effective, and expeditious.

4. Service of notice of the review by the Graduate College Council will be made at least ten (10) working days prior to the review. Notice will be provided by certified mail or by a commercial carrier, which can establish receipt of notice to the Member's last known address. The Member may waive appearing before the Council for a hearing and may respond to the charges in writing at any time before the date scheduled for the review. No individuals from the division involved will be eligible to vote at the appeal hearing. Members of the Graduate College Council may disqualify themselves for any reason. The Council will elect a chairperson to serve as the chair for the meeting. If the Member waives a hearing, but denies the charges against him/her, or asserts that the charges do not support a finding of adequate cause, the Council will evaluate all available evidence and rest its recommendation upon the
evidence in the record, and will submit a written report of its findings and the evidence used to the Member, the division director, the Dean and the Provost.

(5) The Graduate College Council will hold its formal review in executive session. Pending a decision by the Council, the Member may be suspended from some or all duties by the division director, with approval of the Dean or be assigned to other duties in lieu of suspension. If the faculty member received a salary, such salary may continue during suspension.

(6) During the review, the Member will be permitted to have legal counsel present, at his or her own expense, and may request that witnesses appear before the review committee. The chairperson and the Graduate College Council may also request that counsel be present during the review.

(7) Minutes of the review will be taken and a copy of the minutes will be made available without cost to the appealing Member, the division director and the Dean.

(8) Public statements and publicity about the case by either the Member or administrative officers will be avoided so far as is possible until the proceedings have been completed. The Graduate College Council members, the Member, and the Dean or his/her representative will have the right to question all witnesses. Where the witnesses cannot or will not appear, the Graduate College Council has the discretion to admit their statements into the record. The Dean, the department chair, the Provost, and the Member will be notified of the Appeals Committee's decision in writing.

(9) If the Graduate College Council concludes that adequate cause for suspension or dismissal has been established, it will be so recommend. If the Graduate College Council concludes that adequate cause for suspension or dismissal has been established, but that a lesser penalty would be more appropriate, it will be so recommended with supporting reasons. If the Graduate College Council should conclude that adequate cause for suspension or dismissal has not been established by the evidence in record, it will be so report. The division director, with the advice of the Dean, will have the option either to accept the findings, to not accept the findings or to withdraw the suspension or dismissal action. If the division director should not accept the findings and recommendations of the Graduate College Council, his/her reasons for doing so shall be submitted in writing to the Graduate College Council, the Dean, the Provost, and the Member within ten (10) working days of receipt of the Graduate College Council report. The final decision will rest with the Dean.

(10) Should the Member disagree with the outcome of the appeals process as described above, she/he may appeal to University Council in a letter addressed to the chair of the University Council as specified in the Rules of Governance Article II: Section 11c.

(11) Non-renewal of Adjunct or Emeritus status cannot be grieved.

Section 2: The Graduate College Council

The Graduate College Council is the duly designated senior representative body of the Graduate College (Article II: Section 9). It will reflect the intentions of the faculty at large. It will:

1. meet on a regular basis
2. publicize all meetings
3. distribute all approved minutes
4. oversee all aspects of the College
5. advise the Dean of the College on its activities
6. establish policies and procedures for the College and its students
7. oversee evaluation of its courses and curriculum
8. designate one of its members to serve on University Council
9. serve as the court of appeals for all faculty and student matters

(a) Graduate College Council Membership

(1) The Graduate College Council shall consist of two (2) members from each division within the Graduate College, three (3) student representatives from the Graduate College student body, the Graduate College Dean, associate deans, and assistant deans. The Dean or his/her designee shall serve as its chair.
(2) Division directors will serve as one division representative from the division on the Graduate College Council, but will not be eligible to vote.
(3) The second division representative will be elected by a majority of the Members in his/her division.
(4) The College Dean and associate/assistant deans will serve as ex officio members.
(5) One (1) student representative at large will be elected by the student body and have voting privileges.
(6) The elected President and Vice President of the Graduate Student Council will also serve as members of the Council with voting privileges.

(b) Method of Selection

(1) Division directors are appointed by the appropriate department chairperson and serve at the discretion of that chair. The division director shall be a Member of the Graduate College.
(2) The elected divisional representative(s) will be nominated by the division director from the Members in each division and be subsequently elected to that position by a majority of the Members in that division. Election of new division representatives will be completed in time to seat a new Council by the September Graduate College Council meeting.
(3) One (1) elected at large student representatives will be elected by a majority of the voting student body in time to seat its new representatives by the January Graduate College Council meeting.
(4) The elected president and vice president of the Graduate Student Council will automatically become voting student representatives on the Graduate College Council. If the elected president or vice president is a voting member of the Council at the time of his/her election, an election must be held immediately to identify a new voting, at large student member.

(c) Terms of Office

(1) Terms of office on the Graduate College Council for elected division representatives shall be for two (2) years. Under ordinary circumstances a member may be re-elected to the Graduate College Council for two succeeding term. Only under special circumstance may an elected representative serve for more than three terms and shall do so only following approval by the Graduate College Council. The term of office will officially begin on September 1 and end on August 30th.
(2) Terms of office for elected at large student representatives will be for two (2) years. The term of office will officially begin January 1 and end December 31. The terms of student representatives will be staggered whenever possible.

(3) The following divisions will nominate representatives by September 1st in odd numbered years:
   
   a. Immunology/microbiology
   b. Molecular Biophysics and Physiology
   c. Biochemistry
   d. Nursing
   e. Neuroscience

The following divisions will nominate representatives by September 1 of even numbered years:

   a. Pharmacology
   b. Anatomy and Cell Biology
   c. Medical Physics
   d. Behavioral Sciences

The Dean will orient every new member to policies and procedures prior to the beginning of their term.

(d) Resignations

Requests for resignation from the Graduate College Council must be petitioned through the division director. The division director will notify the Dean of the impending vacancy. The division will then hold a separate election for the new voting member to serve out the remainder of the former representative’s term. If there are more than twelve (12) months remaining on the voting member’s term, it will count as the first term of the six-year maximum tenure on the Graduate College Council. In the case of a student representative, resignations must be petitioned through the Student Council President. In the case of resignation of a student voting member, new elections will be immediately held by the Graduate Student Council for a replacement to serve out the remaining term.

(e) Committee formation

The Graduate College Council will designate all committees needed to carry out its mission and the mission of the College. The establishment of any committee must be approved by the Dean.

(f) Meetings

(1) The Graduate College Council will meet on a regular basis (preferably monthly). Agendas for that meeting will be distributed to the Council prior to each meeting along with the minutes from the previous meeting. All meetings are open to Members. Following approval of the minutes, they will be distributed to all Members via e-mail. These minutes will contain the time of the next scheduled meeting. An electronic and paper copy of approved minutes will be kept on file for all Graduate College Council meetings.
(2) The Graduate College Council can move into executive session at any time to discuss topics that may be too sensitive for public disclosure. A simple majority is required to call an executive session.

(3) The Dean, five voting members of the Graduate College Council, or five Members of the Graduate College can call for a special meeting of the Council at any time. Requests for special meetings must be made in writing to the Dean, and the faculty at large must be informed of any such special meeting. Such notice will include an agenda for the special meeting.

(4) The Dean, in conjunction with the Graduate College Council, will conduct an annual meeting of the faculty Members at large. The Members shall be informed of this meeting. The purpose of this meeting is to inform the faculty of the current status of the College, seek approval for any interim Policy and Procedure changes, vote on Rules for Governance and Policy and Procedure Documents, and provide an open forum for discussion of College activities.

(g) Rules of Order

All meetings will be conducted according to Robert's Rules of Order by the Officers of the Committee in their sequence. Unless otherwise specified, motion approval will require a simple majority.

(h) Committee on Course Evaluation

The Graduate College Committee on Course Evaluation (GCCCE) will be a committee designated by the Graduate College Council. Its purpose will be to examine all Graduate College courses, organize the data, and then report to the Graduate College Council in a timely fashion. The GCCCE will be headed by the Assistant Dean, ex officio of the College with administrative support from the GC office. It will be comprised of four faculty members (who cannot be core course directors) and two students. Division directors and the Graduate Student Council will nominate representatives who will then be elected by the Graduate College faculty and GC student body, respectively.
ARTICLE III

ORGANIZATION OF COLLEGE DIVISIONS

Section 1: College Divisions

(a) The primary mission of the division is to oversee the graduate program in its department. The division is the functional unit of the Graduate College. Medical, Nursing or Health Science college departments or sections will support a division. The Graduate College will provide funds to support the division’s mission within the department or section. The functions of the division are to:

1. overseen student admissions to the division
2. ensure the education of its students in general science
3. oversee the education of its students in the division’s area of specialty
4. provide research mentoring for its students
5. establish criteria for qualification for advanced candidacy
6. establish criteria for completion of dissertation work
7. ensure that its students comply with all regulations established by the University
8. Foster critical thinking in science
9. prepare the student for a future career in research
10. contribute to the teaching mission of the Graduate College
11. participate in Graduate College committees

(b) The division director is responsible for implementation of the division’s mission. The division director shall be a Member in good standing within the Graduate College. The division director is appointed by the chairperson or section director and serves at the pleasure of the chair/section director. In all matters relating to the Graduate College, the division director reports to the Dean of the Graduate College. It is anticipated that the division director will keep their departmental chair/section director informed of the activities within the Graduate College. The division director:

1. monitors the application pool for its division
2. recommends acceptance of students to the division’s program
3. recruits potential students to its division
4. recommends faculty within the divisions department for membership in the Graduate College
5. monitors the progress of all students within the division
6. participates in the Graduate College Council as an ex officio member
7. ensures the completion of division requirements by all of its students
8. chairs the division’s graduate student advisory council
9. serves as a source of information to division Members and students regarding all matters associated with the Graduate College
10. monitors the quality of courses offered within the division
11. monitors student compliance in all University regulatory policies

(c) Each division shall have a graduate student advisory group composed of Members of the Graduate College that meet at least twice a year to monitor and discuss the progress of its students. It is expected that this group will report on a regular basis to the department/section. In cases of
Graduate College Member or student grievances, the division’s advisory group shall function in the mediation process if the Member or student has failed to obtain satisfaction in meeting with the course director/laboratory mentor and/or division director. If the grievance involves the division director, the advisory committee will elect an acting chair during the grievance process.

Section 2: Forming a Graduate College Division

(a) New Graduate College divisions are formed by petitioning the Dean. A new division shall provide a program that is unique among the existing divisions and predict enrollment numbers of students who will perform a research project as part of their advanced degree. The formation of a new division shall not be allowed if its formation creates a conflict or foreseen competition with an existing division. Formation of a new division can only occur with the approval of the department’s or section’s chairperson or another college’s dean.

(b) Although research is the primary criterion for such a petition, the case must be made that the research projects performed by students of the proposed division are not part of some other certification process (e.g., a capstone research project in a recognized professional program where an external certification body is involved). Thus, a division shall be formed when its students would be conducting independent research and the research element of that student’s program would qualify for oversight by an outside certification body. The steps involved in forming a new division are as follows:

1. There shall be an initial discussion with the Graduate College Dean to evaluate the feasibility of the formation and to establish that its formation would not constitute a conflict with an existing division’s mission.
2. Following the discussion with the Dean, the department/section/college will submit a written plan for the formation of the division to the Dean that will include a statement of mission, an intended curriculum, anticipated enrollment, anticipated faculty members, and a description of types of research that would be conducted.
3. The Dean of the Graduate College will discuss the plan with the Provost.
4. Following approval to proceed by the Provost, the written plan will be submitted to the Graduate College Council for recommendation of acceptance to the Dean.
5. Following approval by the Dean and Provost, the application for the new division will be submitted for approval by the Rush University Board of Overseers.
6. Following approval by all representative bodies at Rush, the application would then be submitted to the Illinois Board of Higher Education.
7. Pending approval by the Illinois Board of Higher Education, the appointed division director will petition the recommendation of new Members before the Graduate College Council.
8. Once Members have been identified, an election will be held within the division by its Members for voting representation on the Council.

Section 3: Dissolving a Division

(a) A division can be dissolved through petition to the Dean with approval of the Graduate College Council. The division director will submit a written statement to the Dean outlining the reason for the dissolution. A 2/3 majority of current Members of the division and the department/section...
chairperson or college dean responsible for the division must sign this petition. The letter shall also outline the potential impact of such dissolution on the Graduate College. A division can only be dissolved once all students in that division have completed their programs or a contingency plan that will not adversely affect the students has been developed and accepted by all parties. The steps in this process are as follows:

1. petition to the Dean
2. permission from the Provost
3. recommendation for approval by the Graduate College Council
4. approval by the University Board of Overseers
5. submission of letter to the State Board of Higher Education

(b) Upon dissolution, all Members of that division will forfeit their Member status in the Graduate College. Membership can be reinstated through petition to the Council by another division director.

Section 4: Division Review

All divisions within the College will be reviewed every five (5) years. The Dean of the College will establish the specific review process, but it is expected that the departmental/section chairperson or responsible dean, division director, Members, and students will be interviewed as part of this process. The process shall occur in two steps:

Step 1: The division director will be sent a set of questions approved by the Graduate College Council concerning the perceived status of the program and its well-being. In addition, the division director will be sent a request for general information about the division’s activities and enrollment. The general information request will include information for a five-year period and shall include:

1. enrollment numbers
2. number of applicants
3. number of matriculants
4. number of graduates
5. the gender determinations for the matriculants
6. numbers of students from under-represented minorities
7. numbers of students who have been placed on academic probation
8. student publication numbers
9. number of Members in the division along with lost or new Members during that period
10. Member productivity profiles (numbers of peer-reviewed publications and amount of external funding)
11. Member teaching activities
12. number of division graduate advisory committee meetings held/year
13. a copy of the division’s graduate student handbook
14. a “vision of the future” statement by the division director

Step 2: Two members of the Graduate College Council will interview at least two Members of the division, at least two students, the division director and the departmental/section chairperson or
relevant college dean. The review committee will collate and digest the information and then write a report. This report will be submitted to the Graduate College Council for review and discussion. The Council will then recommend to the Dean that the report be accepted or that a more in-depth review be initiated. If the latter, the Dean will form a task force of college Members to follow up on the initial review. If significant problems are identified by this second review, the dean will prepare a remediation plan in collaboration with the division director. This milestone-driven plan will be sent to the department/section chairperson or college dean as well as the Provost of the university. The Graduate College Council will monitor the implementation of the plan and will determine the division’s capability to effectively carry out a graduate program annually. Should the Graduate College Council determine that a division no longer has the capability to carry out a graduate program; it will recommend dissolution of the division to the Dean. A dissolution vote recommendation shall require a two-thirds majority of the Council.
ARTICALE IV
THE STUDENT BODY

The student body of the Graduate College comprises students seeking advanced training in research leading to the Master of Science and Doctor of Philosophy degrees. These students participate in coursework, laboratory exercises, research experiences, presentations, scholarly discussion, reading groups, and conduct self-directed research. Students graduating from the College’s programs will receive training consistent with the College’s vision, which is to graduate students who will become productive scientists, educators and leaders in their respective fields. In the arenas of academia, industry and government, they will compete successfully for funding and train the next generation of researchers and educators.

Section 1: Acceptance of Students into College Programs

(a) Students shall be admitted to the Graduate College by the Dean following recommendation from the division director. Students should meet the following requirements:

1. students will have taken the Graduate Record Exam (GRE) and demonstrated proficiency in verbal, quantitative and writing
2. if students are from a non-English speaking country, the Test Of English as a Foreign Language (TOEFL) shall be a minimum of 79-80 (EBT), 213 (Computer based) or 550 (paper based)
3. students will have an undergraduate/graduate science major demonstrating competency in science
4. students without an undergraduate science major will have taken additional science courses to ensure competency in general science, which would include introductory biology and chemistry and at least two additional advanced science courses
5. students who have not taken the GRE may be admitted if they have taken other internationally recognized exams (e.g., Medical College Admission Test [MCAT])
6. students with advanced degrees (e.g., graduate level MD or PharmD) will not be required to take a placement exam
7. students will have completed an application to the College
8. students will have provided a complete set of official undergraduate and graduate college transcripts (if applicable) along with three letters of recommendation

(b) The Graduate College Council may approve admittance of students who are deemed to have questionable proficiency. The division director will present the student’s case, along with supporting documentation from the student’s application to the Council and provide a rationale as to why the student should be admitted. The student shall be accepted if a simple majority of the Council supports the applicant.

(c) Once a division has made the decision to accept a student, the division director will inform the Dean by completing the Acceptance Routing Form (see appendix). This form shall include the following information:
1. full name of the student
2. expected date of matriculation
3. offers of financial support with the specific amount
4. offers of additional benefits (e.g., insurance coverage)
5. the possible need for involvement by the International Services Office
6. whether the student will pay tuition or the tuition will be waived
7. anticipated length of the acceptance

(1) The Dean will inform the registrar’s office, which will send out a general acceptance letter. The Dean will also initiate an acceptance letter specifying the conditions and terms of the acceptance including all information needed for the student to matriculate. The student will acknowledge acceptance of the offer in writing by completing the University’s “Intent to Register” form. The division director will be notified when this form is received. The registrar’s office will send an additional packet of information to the student and the International Affairs Office will contact the student if necessary. The division director will be the point of contact for any issues pertaining to the division (e-mail address included in the acceptance letter) and the Graduate College office will be the point of contact for all matters concerning the College or University.

(d) The same process will be followed for students to be rejected. The division director will provide the division’s name, student name, and provide the reason the student is being rejected. The Dean’s office will then send out the rejection letter.

(e) A student cannot be accepted until their application file is complete.

(f) For regular classes on campus, once the student arrives on campus, they should inform the division director immediately. They will have been sent forms for enrollment and given the date of orientation. The students should attend orientation to facilitate the enrollment process that is accomplished by the admissions office of the University. Registration for the matriculating Quarter occurs as part of this process.

(g) Upon matriculation the division shall provide the student with a handbook outlining:

   (1) all course requirements preferably with a year-by-year synopsis of recommended courses with course numbers
   (2) required grade performance for all required and elective courses
   (3) requirements for qualifying exams
   (4) description of the general content of the qualifying exam
   (5) process for passing qualifying exams
   (6) process for remediating qualifying exams
   (7) selection of an advisor (if applicable)
   (8) requirements for thesis/dissertation committee selection
   (9) expectations for research work
   (10) form of thesis/dissertation proposal
   (11) thesis/dissertation committee process
   (12) description of the defense process
   (13) requirements for completion of degree
Section 2: Academic Policies

The Graduate College adopts college-wide policies and procedures and reviews division regulations. Students follow the college and division policies in effect at the time of initial matriculation in the Graduate College. However, the Graduate College and division reserve the right to make substantive changes in its programs after the student's matriculation. Students shall be informed in writing by the division 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.

(a) Course and Examination Policies
The examination policy is the responsibility of the individual course director who will inform students of examination requirements for that particular course. The course director will distribute a packet of information at the beginning of each class that:

1. sets forth the grading policy
2. includes the general objectives for the course
3. includes the course schedule
4. includes the learning objectives for each class
5. if applicable identifies the period at the end of the quarter provided for preparation for final examinations or for other end of quarter exercises.

(b) Pass/No Pass Grades
Each division identifies all courses required of its students. Required courses are usually taken for grade and not under the pass/no pass (P/N) option. (Required courses also generally have a minimum grade of B to remain in good academic standing in a division). Research hours are generally graded using the P/N option. However, a division may opt to provide a letter grade for research classes (under 600) for master's students. The grading policy for post-candidacy research hours (over 600) for doctoral students shall be P/N.

(c) Good Academic Standing
To remain in good academic standing, students must maintain a cumulative grade point average (GPA) of 3.0 and meet the requirements of his/her division. 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 Dean 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. Once a student has been placed on academic probation, the student’s division director, together with the student, will develop a written remediation plan that must be approved by the Dean. This may involve taking the class over again, if possible, or substituting additional courses (special topics of readings classes) to resolve the problem.
The Registrar’s Office will notify the Dean when a student’s GPA falls below 3.0. The Dean will automatically notify the student by certified letter of his/her change in academic standing and a copy will be sent to the division director. This letter will be included in the student’s permanent file. If a student fails to meet other requirements of a division, the division director will immediately notify the Dean who will then notify the student by certified letter of his/her change in academic standing.

(d) Academic Difficulty
Each division 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 divisions, The Graduate College Council monitors the progress and promotion of all students and gives final approval to award students' degrees.

(e) Dismissal
Each division establishes grounds for dismissal beyond the minimal criteria established by The Graduate College. Should a division recommend the dismissal of a student, the division director will forward such recommendation to the Dean for final action. Letters of dismissal come from the Dean. Appeal of a dismissal action begins within the appropriate division.

(f) 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 Division of Nursing. Full-time students must register for at least 12, but not more than 20, quarter hours per quarter. Students must obtain written permission from the division director for exceptions to this policy. Students receiving a master's degree from the Graduate College as a full-time student must be enrolled for a minimum of three quarters (12 hours per quarter). Part-time students earning a master's degree must be enrolled a minimum of two quarters per academic year. The minimum requirement for graduation from the college is 48 hours per year with a minimum of 24 completed as a student in the College. At the time of graduation, the student must be enrolled in the College. The maximum time allowed for enrollment for a full-time master's degree is four years starting the first quarter of official enrollment. No fewer than 45 quarter hours of post-baccalaureate study shall be spent in residence at Rush University for the PhD. No fewer than 33 quarter hours of post-master's study shall be spent in residence at Rush University for the PhD degree.

(g) Residency
(1) Full-time Doctor of Philosophy (PhD) candidates are expected to meet all requirements for graduation within five full-time enrolled academic years in the Graduate College (excluding leaves of absence (see below)). This period begins the quarter in which the student formally matriculates. A student exceeding that time limitation must submit to the Graduate College 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 division 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

91
advisor and division director, but only will be accepted 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 division.

(2) Residency requirements for the PhD in the Division of Nursing differ from those of the other
divisions since the Division of Nursing allows pursuit of the degree part-time. PhD (post-master's)
students must complete degree requirements within eight years.

(h) 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 admissions office.
An interview may be required. A re-entering student must meet the conditions for re-enrollment
stated in his/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 division.

(i) Academic Progression
The graduate division, in concert with the rules of the College and Rush University, develop specific
regulations governing the process that results in final awarding of the degree. While such
regulations differ slightly from one division to another, The Graduate College Council reviews each
division's program and regulations for approval. In all cases, graduate divisions are required to be
explicit and clear about regulations that will affect the candidate. This must be stringently observed
in divisional regulations concerning selection of principal advisors, advisory committees, and a plan
of study. Similarly, divisions will be explicit and clear concerning academic policies and procedures
surrounding qualifying, preliminary, and final examinations when they are required. The divisions
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/her chosen division. The student is responsible for
understanding the regulations, and monitoring changes that may occur during their tenure in the
program.

(j) 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/dissertation that results in his/her academic
probation or dismissal from the University. A student may also appeal an unreasonable delay in
his/her graduation from the University. No other issues may be appealed through this process.

(1) The process for filing an appeal within the division is maintained by each division. The student
may request a copy of the Division Appeal Process from the division director. This process will be
completed within one quarter. If a resolution cannot be achieved at the division level, the following
procedure must be followed. At any step in the process, the student may withdraw the appeal by
written notification to the division 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 division, within two weeks of receiving a decision from the division, the student will submit a written statement to the Dean requesting consideration of his/her case by an advisory panel. The student must provide the following in the written statement.

1. course number and grade being appealed or other cause for probation or dismissal, i.e., failure of preliminary/comprehensive examination or thesis/dissertation
2. action being requested
3. justification for the request
4. an outline of the efforts and actions already taken to obtain consideration of the request

(2) The student will send copies of this communication to the division director and the department/section chairperson or appropriate college dean. 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/dissertation committee. The Advisory Panel will be The Graduate College Council. Its chairperson will be appointed by the Dean from among the members. The division director of the student's division and any other member who is evaluating the student's academic status will not vote in any proceedings.

Step 2: Within two weeks after notification to the Dean, the appointed chairperson of the Graduate College Council will arrange a meeting of the Council. It will submit a written recommendation to the Dean.

Step 3: Within two weeks following receipt of the Council’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.

(3) The issues discussed and the outcomes of all meetings in this appeal process are to be 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 division director, the Dean and to the student's academic file.

(k) Ongoing Training in Ethics

Full time M.S. and Ph.D. candidates in the Graduate College must attend a minimum of four ethics seminars per year provided by the Office of Research Integrity following their first year of classes. Failure to attend the required number of lectures or equivalent will delay graduation. Alternative training equivalent to at least four contact hours per year may be substituted, but must be approved by the division director and the Graduate College Council.

(l) Rush University Academic Policies

University Policies (e.g. harassment, discrimination) not described above also apply to Graduate Students and are described in the Rush University Catalogue. It is the responsibility of the student to become familiar with these policies.
Section 3: **Student Government**

The Graduate Student Council is the sanctioned student governmental body in the Graduate College. The elected President and Vice President sit on the Graduate College Council along with one at large elected student. These students cannot be from the same division. All three students of the Graduate College Council have full voting rights in its meetings.
ARTICLE V

ADVANCED CANDIDACY AND MASTER’S DEGREE POLICIES

Section 1: Advanced Candidacy Procedures

(a) Qualification for Candidacy

(1) Students seeking the doctor of philosophy (PhD) degree must qualify for candidacy for this degree. The division must establish, in writing, its rules for qualification to candidacy including all coursework and other requirements and the form of the qualification exam/proposal. The division must set criteria for the number of times a student may undergo the qualification process and establish a time limit within which the qualification process must be completed. In order to qualify the student must:

1. be in good academic standing (grade point average [GPA] of 3.0 or greater) at the time of petitioning for qualification
2. have completed all divisional requirements for qualification
3. completed a course in ethics training and be participating in ongoing ethics training.

(2) The student must inform the division director that s/he is prepared for qualification. The qualification process may take several forms although some form a written/oral/research plan that can be documented must be established with clear pass/fail criteria. This documentation must be included in the student’s file. The student will be informed in writing that s/he has passed the qualification process. Failure to qualify will result in a terminal master’s degree (see below).

(b) Student Dissertation Committee

A student, in collaboration with his/her advisor, will form a dissertation committee for the purpose of overseeing and approving the student’s dissertation committee. The committee is charged with ensuring the quality and originality of the work.

(c) Dissertation Committee Composition

The committee will be comprised of the student’s advisor(s) and at least four other members. At least two members must be from the student’s division. At least one member of the committee must be from outside the division and/or university. The division director must approve the composition of the committee. Once formed, the committee will choose a dissertation committee chairperson. The chairperson cannot be the student’s advisor and must be a Member of the Graduate College. The chairperson is responsible for setting dissertation meetings, establishing the agenda for those meetings and distributing minutes from those meetings to all members of the committee, the student and the student’s division director. The division director may attend all committee meetings, but is considered ex officio unless officially chosen as a committee member.
(d) Dissertation Committee Responsibilities and Timeline

(1) The student’s advisor will ensure that the student is in good academic standing and has passed qualifying exams prior to the inaugural meeting of the committee. The student’s advisor will meet with the student to determine if the dissertation’s plan is sufficiently developed to hold a meeting. This plan will be in the form of an R-21 National Institutes of Medicine proposal or its equivalent. At the first meeting:

1. the student’s advisor will call for nominations for committee chairperson
2. once elected, the chairperson will run the remainder of, and all subsequent meetings
3. the student will present his/her dissertation proposal orally (this presentation should be accompanied by a written proposal that includes Specific Aims, Background and Significance, Preliminary Data, and a comprehensive Research Plan).
4. during the presentation, the committee will comment on the goals of the project and its feasibility. Particular attention should be placed on ensuring that the student’s work will qualify as a dissertation regardless of its outcome (provided all work is carried out as planned).
5. decide to accept or call for modifications to the proposal. Should the committee decide that substantial revisions are needed; the committee may opt to hold a second meeting.
6. the committee will vote unanimously to accept the proposal as presented. An affirmative vote creates, in a sense, a contract between the student and the committee that if carried out, will qualify the student for graduation. This assumes that the work will lead to the eventual submission of at least one first author manuscript (although a division may opt to require acceptance of a first author manuscript, which is strongly encouraged, acceptance of said manuscript is not a college requirement).

(2) The student must keep the committee apprised of the progress of the work and seek unanimous approval for all changes as the plan progresses. Prior to the student’s public defense of his/her proposal, the committee will again meet to verify that the student’s project has been completely carried out as planned. At that meeting, it is assumed that a complete working draft of the proposal has been distributed and read by all members of the committee. It is further assumed that this draft will follow a structure approved by the university’s head librarian. Approval to proceed to the public defense requires a four-fifths approval (only one dissenting vote is allowed).

(e) Changes in Dissertation Committee Composition

If for any reason, a committee member decides s/he can no longer serve, s/he must inform the committee chairperson and a new member must be added. The addition of the new member must meet the rules for committee composition (i.e., two members from the student’s division, graduate college membership, and outside division representation). The committee chairperson will inform the division director of the change.

(f) Public Defense of the Dissertation

(1) Following approval to proceed to public defense, the committee chairperson will inform the division director of the intent to defend. The student, dissertation committee, and division director will
identify the date for the defense. This date must be at least 15 days prior to the beginning of the subsequent quarter in order for the student to officially graduate within that quarter unless extenuating circumstances are presented to and approved by the Dean.

(2) The student’s division will publicly advertise the defense of the dissertation across the campus at least one week prior to the scheduled date. The Dean shall be notified. The defense will be open to the public and will be chaired by the committee chairperson. The student will present his/her dissertation orally. At the conclusion of the oral presentation, the student will be required to field questions from the audience.

(g) Dissertation Approval

Following public defense, the dissertation committee will meet in executive session. All members of the committee must be present at this meeting (physically or electronically). At this meeting, the committee may opt to ask additional questions pertaining to the student’s chosen field and/or ask for further clarifications on the student’s data. The committee may call for additional editing of the written dissertation at this time. The committee chairperson will then call for a vote to approve. Dissertation approval allows for only one dissenting vote, which cannot be the student’s primary advisor. Once the decision to approve has been made, the committee chairperson will inform the student’s division director who will then notify the Dean. If editing to the dissertation document is required, the student must make those changes within 30 days so that the document can be signed by all voting members within that time and approved by the University’s head librarian. Once approved by the librarian, s/he will inform the Dean’s office, division director, registrar, and student that the dissertation document is complete.

Section 2: Student Thesis Committee

(a) Students seeking a research Master of Science (MS) degree fall into one of two categories:

(1) enrollment in a research Master of Science (MS) program
(2) students who fail to qualify for PhD candidacy.

(b) Students enrolled in a research MS program will form a thesis committee and follow a process similar to that described for the dissertation with the following differences:

(1) the committee will consist of a minimum of three members
(2) only one member must be from the student’s division
(3) only one member must be a Member in good standing within the Graduate College
(4) a committee member from outside of the student’s division is not required
(5) although a formal pre-approved research plan is not required, it is strongly encouraged
(6) although a submitted first author manuscript is not required, it is strongly encouraged
(7) a student may write a scholarly work in lieu of a research project in which case a committee must still be formed to oversee the work and a public presentation of that work must be given.

(c) Upon a student’s failure to qualify for a PhD, the division director must inform the Dean of that failure. At that time, the division director may petition to form a three-member committee to oversee
the completion of an MS degree. The composition of the three-member committee will be the same as that described in section 2(b) above. The student could write up a thesis on the work completed to date. Alternatively, the committee may oversee the preparation of a scholarly work. In either case, the work must be presented publicly as described for the research thesis and must be signed by all members of the thesis committee.
Rush University
Petition for Withdrawal or Leave of Absence

NOT FOR USE BY NURSING STUDENTS

Pleased read instructions on second page

Student ID #
00 _____ _____ _____ _____

Address

City

State

Zip

Primary Phone:

Secondary Phone:

LAST Name

FIRST Name

Degree: [ ] BS [ ] MA [ ] MS [ ] MD [ ] AuD [ ] PhD [ ] Cert in _____

Personal E-mail

Choose #1 or #2.

Term Leave Starts:

WINT [ ] SPRG [ ] FALL [ ] SUM

Year: __________

RMC Use: _______________________

Term Returning:

WINT [ ] SPRG [ ] FALL [ ] SUM

Year: __________

RMC Use: _______________________

Reason for leave:

[ ] Financial

[ ] Health

[ ] Personal/Family

[ ] Academic: courses unavailable, etc.

[ ] Approved leave to complete additional degree within Rush University* (see page 2)

[ ] Other (Explain):

Grant a LOA before? [ ] NO [ ] YES

If YES, list term & yr that each LOA began:

#1 = Term: _____ Yr: _____

#2 = Term: _____ Yr: _____

#3 = Term: _____ Yr: _____

#4 = Term: _____ Yr: _____

Please read this statement and sign below:

“I understand that completion of this petition does not constitute approval for a Leave of Absence. ‘Clearance’ makes me eligible for a leave, which is granted by my department/college. It is my responsibility to communicate directly with my department/college regarding the disposition of my petition. I agree to return on the date indicated. If I cannot, I am required to contact my department/college prior to my return date to discuss the options open to me.”

____________________________________________________________________________

Student’s Signature

Date

#2 Withdrawal

(Complete all information on right and continue to "Authorizations")

I WISH TO WITHDRAW FROM THE UNIVERSITY.

Reason for withdrawal:

[ ] Academic

[ ] Financial

[ ] Health/Medical

[ ] Another school

[ ] Personal/Family

[ ] Other (Explain below):

____________________________________________________________________________

____________________________________________________________________________

Student’s Signature

Date

Authorizations

All signatures are MANDATORY for Leaves of Absence and Withdrawals whether or not these services were ever utilized.

After obtaining signature #1, signatures #2 through #7 can be obtained in any order with signature #8 being last.

List items required for clearance, if any:

Authorized Signature Date

1 Program Director

2 Library Obligations

3 Financial Aid

4 Bursar

5 Insurance

6 Housing

7 Parking Garage

8 Registrar

Note: If you have a locker through Student Life, please contact that office before leaving campus to avoid having your items discarded.

For Use by the Office of the Registrar

Official LOA/WD date

Course(s) Dropped? [ ] YES [ ] hrs [ ] NO, not registered

[ ] NO, after 5th week WP, WF, or WN grades to be assigned.

Copied to College

Copied to Student

Date of System Entry

Refund %

Processed by

Copied to

9/12
**Withdrawal**

**Definition:**
*Implies the permanent departure from the University without the immediate expectation to return.*

---

**Leave of Absence (LOA)**

**Definition:**
*A temporary suspension of studies granted to an eligible student for whom an approved time limit has been set and a specific date of return established. The time spent on a leave of absence status is included in calculating the time limits for completion of degrees.*

**Length:**
*Maximum length of time that will be approved for a single leave is FOUR consecutive terms. Students needing to be gone longer than four consecutive terms will be required to withdraw.*

**Limitations:**
*Consult your program or the Rush University Catalog for policy regarding the total number of terms a student may be on a leave of absence.*

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**Petition Procedure**

1. A student petitioning for a leave of absence must apply no later than the end of the first week of the term in which the leave will begin.
2. Complete the top half of the form with all required information.
3. After consultation with your Program Director, obtain his/her signature.
4. Obtain all other signatures (see exception below), ending with submission of the completed form to the Office of the Registrar. The Office of the Registrar is the designated office that a student must notify if he/she wishes to withdraw from the University.

* Students approved for a LOA to complete an additional degree within Rush University need to only obtain signatures #1 and #9, presuming that the student is immediately enrolling in the other program without taking time off from Rush University. If there will be one or more terms in which the student will not be enrolled in any college of Rush University, all signatures are required.

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**Returning from Leave of Absence**

The student is required to return by the approved date. If unable to return as agreed, the student is required to contact his/her program director, a minimum of two weeks prior to the beginning of the expected term of return, and discuss the options open to him/her. A request to extend a LOA is subject to the same review and approval process as the original. A new clearance form must be completed but only the signatures of the student’s program director and the Office of the Registrar are required.

The policy regarding mandatory continuous enrollment for students is strictly enforced. Students who do not return as specified in their LOA agreement, and who did not receive an approved extension, will be administratively withdrawn after one term of unapproved leave. This administrative withdrawal is posted to the student’s transcript.

Registration for the term of return is the responsibility of the student (except medical students). Like any other continuing student, a student on leave must register during the registration period or will incur a late registration fee. Students on a LOA can access RUConnected at http://www.rushu.rush.edu/ruconnected.

Re-admission after being administratively withdrawn requires a full re-application for admission including all fees and documents associated with application for admission.

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Please Note: A student who completes the LOA form after the fifth week of the term will receive grades in the courses for which he/she is registered. The student is subject to departmental/college academic progressions review based upon the assigned grades. Any decision of the department/college supersedes the submitted LOA form.

The date that this form is received by the Office of the Registrar will be the date used in processing the leave of absence or withdrawal from the University unless otherwise noted in writing by the program director.
**PART 1**

To be completed by student. Please print legibly!

- **LAST Name**
- **FIRST Name**
- **Student ID #**

<table>
<thead>
<tr>
<th>Indicate Degree and Major:</th>
<th>Bachelor of Science</th>
<th>Master of Arts</th>
<th>Master of Science</th>
<th>Doctor of Audiology</th>
<th>Doctor of Philosophy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Anatomy and Cell Biology</td>
<td>Biochemistry</td>
<td>Biomechanics</td>
<td>Biotechnology</td>
<td>Clinical Laboratory Management</td>
</tr>
<tr>
<td></td>
<td>Clinical Nutrition</td>
<td>Clinical Research</td>
<td>Health Care Ethics</td>
<td>Health Sciences</td>
<td>Health Systems Mgmt.</td>
</tr>
<tr>
<td></td>
<td>Imaging Sciences</td>
<td>Immunology/Microbiology</td>
<td>Medical Laboratory Science</td>
<td>Medical Physics</td>
<td>Neuroscience</td>
</tr>
<tr>
<td></td>
<td>Medical Imaging</td>
<td>Medical Research Administration</td>
<td>Respiratory Care</td>
<td>Speech-Language Pathology</td>
<td>Vascular Ultrasound &amp; Tech</td>
</tr>
</tbody>
</table>

**Dissertation Title:**

Ph.D. dissertation title is needed for your Rush transcript and the Commencement program. Submit the title with this form or e-mail title by May 1st to: Registrars_Office@Rush.edu

**PART 2**

After obtaining signatures #1 and #2, signatures #3 through #8 can be obtained in any order with signature #9 last.

1. **COMMITTEE CHAIR** (only PhD or master’s students writing a thesis)
   All requirements for the dissertation/thesis have been met.
   Signature __________________ Date __________

2. **PROGRAM DIRECTOR**
   All academic requirements for degree have been met or will be completed by the end of the quarter.
   Signature __________________ Date __________

3. **OFFICE OF THE REGISTRAR**
   (only PhD or master’s students writing a thesis)
   Letter for Library microfilming.
   Signature __________________ Date __________

4. **LIBRARY**
   Library obligations checked. (All students)
   Dissertation/thesis received (Some MS and all PhD students)
   Signature __________________ Date __________

5. **OFFICE OF FINANCIAL AID**
   Student has performed exit interview or been waived.
   Signature __________________ Date __________

6. **LOAN COLLECTION COORDINATOR**
   Student has performed exit interview or been waived.
   Signature __________________ Date __________

7. **BURSAR**
   Status of student’s account balance with University checked.
   Signature __________________ Date __________

8. **PARKING GARAGE**
   Student has made arrangements to return AVIT. If Rush parking is not being used, Office of the Registrar can sign.
   Signature __________________ Date __________

9. **OFFICE OF THE REGISTRAR**
   a) Post-graduation address checked for all students.
   PRAXIS on file for CDS students. Survey of Earned Doctorate (for PhD students only) completed.
   b) ID Card received? Yes ☐ ID Not Issued ☐
   Signature __________________ Date __________
### DEGREE APPROVAL INSTRUCTIONS

A. The Degree Approval form ("DA") is mandatory and must be circulated in person by the student in the event that the offices below have questions or require interviews.

B. Plan ahead! Anticipate and set aside the time required to circulate the "DA" form at the end of the quarter.

C. Each numbered item below corresponds to a signature required on "Part 2" on the other side of this sheet.

#### OTHER GUIDELINES

- PhD candidates who plan to "march" in commencement are advised to have defended their dissertation by MAY 15th.
- MS candidates requiring the use of a university room for their thesis defense must reserve a room three weeks in advance with the Coordinator of University Scheduling at (312) 942-5681.
- After obtaining signatures #1 and #2, signatures #3 through #8 can be obtained in any order with signature #9 being last.
- Read all instructions to avoid delays in the approval process.
- See type of degree you are earning in one of the columns below and follow the directions exactly as listed.
- After approval of dissertation, but before the defense, make an appointment with the Director of the Library (phone: (312) 942-2271) to obtain approval of dissertation format and other instructions.

#### BACHELOR OF SCIENCE or MASTER OF SCIENCE (writing a thesis)

- Complete all items 1 through 9

#### DOCTOR OF AUDIOLOGY

- Complete items 2-4-5-6-7-8-9 only

#### DOCTOR OF PHILOSOPHY

- Complete all items 1 through 9

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**MASTER of SCIENCE (writing a thesis)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Committee Chair signs upon completion of dissertation defense and approval of final draft.</td>
</tr>
<tr>
<td>2.</td>
<td>Program Director signs to verify that all academic requirements have been met or will be completed by the end of the quarter.</td>
</tr>
<tr>
<td>3.</td>
<td>Present the &quot;DA&quot; form and letter from step #3 to the Director of the Library. Submit with original copy of thesis and money order to Proquest Information and Learning Company. See the information sheet available from the Library about microfilming fees and services. There is a $5 shipping fee payable to the Library for submission of your manuscript to UMI. Director of Library will also determine if all fines have been paid and all library materials have been returned.</td>
</tr>
<tr>
<td>4.</td>
<td>Present the &quot;DA&quot; form to Financial Aid for an exit interview. If you have not received aid, Financial Aid will waive the interview and sign the form.</td>
</tr>
<tr>
<td>5.</td>
<td>Present the &quot;DA&quot; form to Loan Collection Coordinator. If you have not received loans, Loan Collection Coordinator will waive the interview and sign the form.</td>
</tr>
<tr>
<td>6.</td>
<td>Present the &quot;DA&quot; form to Loan Collection Coordinator. If you have not received loans, Loan Collection Coordinator will waive the interview and sign the form.</td>
</tr>
<tr>
<td>7.</td>
<td>Present the &quot;DA&quot; form to the Bursar for signature and clearance of financial obligations to the University or Medical Center.</td>
</tr>
<tr>
<td>8.</td>
<td>Students utilizing Rush parking must make arrangements to return the AVIT. This can be done up to two weeks before a student leaves the University.</td>
</tr>
<tr>
<td>9.</td>
<td>After obtaining all signatures, submit the Degree Approval form to the Office of the Registrar on or before the last day of the quarter of graduation. Inform Office of the Registrar of post-graduation address. Student ID card must be surrendered at the time this form is submitted. Diplomas are not released to students until this form is on file with the Office of the Registrar.</td>
</tr>
</tbody>
</table>

**OTHER GUIDELINES**

- MS candidates requiring the use of a university room for their thesis defense must reserve a room three weeks in advance with the Coordinator of University Scheduling at (312) 942-5681.
- After obtaining signatures #1 and #2, signatures #3 through #8 can be obtained in any order with signature #9 being last.
- Read all instructions to avoid delays in the approval process.
- See type of degree you are earning in one of the columns below and follow the directions exactly as listed.
- Questions about this process? Call or e-mail: (312) 942-5681 or Registrars_Office@Rush.edu

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**College of Health Sciences & The Graduate College**

- After obtaining signatures #1 and #2, signatures #3 through #8 can be obtained in any order with signature #9 being last.
- Read all instructions to avoid delays in the approval process.
- See type of degree you are earning in one of the columns below and follow the directions exactly as listed.
- Questions about this process? Call or e-mail: (312) 942-5681 or Registrars_Office@Rush.edu

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**OTHER GUIDELINES**

- PhD candidates who plan to "march" in commencement are advised to have defended their dissertation by MAY 15th.
- After approval of dissertation, but before the defense, make an appointment with the Director of the Library (phone: (312) 942-2271) to obtain approval of dissertation format and other instructions.

If you require the use of a university room for the dissertation defense, reserve a room three weeks in advance with the Coordinator of University Scheduling at (312) 942-5681.
RUSH UNIVERSITY INTERNAL DEGREE PROGRAM
REIMBURSEMENT FORM

DEADLINES: Please see the below deadlines list on page 3 of 4 and email this form to Internal_Tuition@rush.edu

FORMS WILL NOT BE ACCEPTED OR PROCESSED AFTER THE DEADLINE DATE. ANY FINANCIAL LIABILITY IS THE RESPONSIBILITY OF THE EMPLOYEE.

INSTRUCTIONS ON HOW TO FILL OUT THIS FORM ELECTRONICALLY USING ADOBE READER

- TO ADD TEXT: Click “Fill & Sign” in the upper right part of the tool bar; then select “Add Text,” position the cursor on the form and begin typing.

- TO INSERT A CHECKMARK: Click “Fill & Sign” in the upper right part of the tool bar; then select “Add Checkmark,” position the cursor on the form and click to place the checkmark.

- TO INSERT A SIGNATURE: Click “Fill & Sign” in the upper right part of the tool bar; then select “Place Signature.” If you have not used this feature before, a separate window will open asking you to enter your signature; do so, and click “accept.” Then position your cursor over the appropriate signature space on the form and click to insert the signature.

When complete, save the file (to your computer or shared drive) and then email it to your manager for approval. After approval, managers should email the approved forms directly to Internal_Tuition@rush.edu while copying the staff member who submitted the form.

I. PERSONAL INFORMATION

Name: _____________________________________ Employee ID#: _________ Student ID# _________

Department: _________________________________ Manager: ________________________________

Phone Extension: ________________ Home #: _____________________ CELL# ____________________

Email Address: __________________________________________   Date of Hire: __________________

Employment Status (Check One): ☐ Full Time ☐ Part Time ☐ Part Time / Weekender RN

Have you used the external degree benefit this year? (Check One): ☐ Yes ☐ No
### II. COURSE INFORMATION

Term (Check One): ☐ Winter  ☐ Spring  ☐ Summer  ☐ Fall  
Year: _________________________

Degree (Check One):  ☐ Student at Large  ☐ Graduate  ☐ College of Nursing  
☐ College of Health Sciences  
Major: ___________________________

Please Check a Box (Check One):  ☐ New Participant  ☐ Returning Participant

### III. ACKNOWLEDGEMENT

I understand that tuition paid on my behalf that exceeds $5,250 for the calendar year will be considered taxable income. Taxes on prepaid tuition payments more than $5,250 will be automatically deducted from my paycheck at the end of each school quarter without notice.

Taxes between $1 and $999 will be prorated and deducted over two consecutive payroll periods. Taxes of $1,000 or more will be prorated and deducted over four consecutive payroll periods.

I understand the information provided on this form to be true and complete to the best of my knowledge. I also understand that falsification in applying for LEAP funds is grounds for discharge of employment without liability on the part of the Medical Center for any tuition monies.

Employee Electronic Signature: _____________________________  Date: ____________________

### IV. APPROVAL (COMPLETED BY MANAGER)

Manager Electronic Signature: _____________________________  Date: ____________________

### V. TO BE COMPLETED BY HUMAN RESOURCES DEPARTMENT

HR Electronic Signature: _____________________________  Date: ____________________

Please Check a Box (Check One):  ☐ I am a RUMC Employee  ☐ I am a ROPH Employee

Please email completed forms to Internal_Tuition@rush.edu .
Full-time employees (72 or more hours per pay period) can receive prepaid tuition for up to nine credit hours per quarter or semester. Part-time employees (between 40-71 hours per pay period) can receive prepaid tuition for up to six credit hours per quarter or semester. These credit hour limits include 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.

Please note: Students enrolled in the MS in Clinical Research program are responsible for the first $2,500 and the LEAP will apply up to the annual limit.

ALL STUDENTS:

In order to receive LEAP benefits, you must complete this Internal Degree reimbursement form in its entirety each quarter or semester. To obtain reimbursement, email this form to Internal_Tuition@rush.edu by the deadlines listed below:

<table>
<thead>
<tr>
<th>Term</th>
<th>Start Date</th>
<th>End Date</th>
<th>Leap Forms Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Health and Sciences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Health and Sciences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summer 2017</td>
<td>6/19/2017</td>
<td>8/25/2017</td>
<td>4/28/2017</td>
</tr>
<tr>
<td>College of Health and Sciences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Nursing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summer 2017</td>
<td>5/1/2017</td>
<td>8/11/2017</td>
<td>3/10/2017</td>
</tr>
<tr>
<td>College of Nursing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summer 2017</td>
<td>5/15/2017</td>
<td>8/18/2017</td>
<td>3/10/2017</td>
</tr>
<tr>
<td>Graduate College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall 2017 (All Colleges)</td>
<td>9/5/2017</td>
<td>12/22/2017</td>
<td>8/8/2017</td>
</tr>
</tbody>
</table>
A passing grade (defined as a “C” or better per class for undergraduates and a “B” or better per class for graduate students) must be obtained to receive LEAP tuition prepayment benefits.

**Important Imputed Tax Rules**

**Governing Prepaid Tuition Benefits**

As of January 2002, federal tax law mandates that 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.
Rush University Guide
for
Preparation of Master’s Theses
and
Doctoral Dissertations

Also available on the Library of Rush University Medical Center’s website. (Dissertation and Thesis Formatting found under the “Services” tab)

Library home page: http://rushu.libguides.com
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A. Introduction

This manual is a general guide for graduate students preparing master’s theses and doctoral dissertations at Rush University.

Proquest publishes all theses and dissertations in the database *Dissertations & Theses @ Rush University*, which is accessible to all Rush employees, faculty, and students. Abstracts are published in *Proquest Dissertations & Theses* automatically. Theses and dissertations are available for purchase by individuals or institutions outside Rush University, unless otherwise specified by the author. All theses and dissertations will be microfilmed, bound, and cataloged and made available for lending.

The graduate degree is awarded only after the completed thesis or dissertation and other required documents have been submitted to the Library. Please schedule appointments in the required timeframes (Section D) with the Library Director, who serves as the Dissertation/Thesis Coordinator, or Library Office Manager by calling (312) 942-5950. During this meeting, the Director will review format and style requirements and inform you of necessary paper work to be completed for graduation. **A printed copy is required for this review, unless electronic submission is approved by the Library Director.**

B. Specific Format Requirements

The following requirements for theses and dissertations are to be followed regardless of the style guide used. Students should also consult the Proquest guide “Submitting Your Dissertation or Thesis to Proquest,” available at [http://www.proquest.com/products-services/dissertations/submitting-dissertation-proquest.html](http://www.proquest.com/products-services/dissertations/submitting-dissertation-proquest.html).

**Paper**
- Print on one side only
- At least 25% rag content (a.k.a. cotton or high quality bond) paper. You can find this with the resume paper at any office supply store.
- 8.5 x 11 inches
- 20 lb weight (recommended)

**Margins**
- Inner left edge: one and a half inches (1.5”)
- Remaining three edges: one inch (1”)

**Spacing**
- Manuscript, including abstract, dedication, acknowledgements, table of contents, and body: Double-spaced
- Long quotations (four or more lines), captions, tables/graphs/charts, lists,: Single-spaced
- References: single-spaced within the reference, with two spaces between references.
Running Heads
Do not use running heads.

Pagination
Page numbers are placed at the upper right corner. They should be no closer to the top of the page than 1 centimeter. The following plan of page numbering is required.

- Preliminary pages: Small Roman numerals (ii, iii, iv, etc.), beginning with ii. The title page counts as page i but the number does not appear.

- Remainder of the manuscript including references and appendices: Beginning with the first page of Chapter 1, use Arabic numerals (1, 2, 3, 4, etc.). Each page must be numbered. Numbering begins with 1 and runs consecutively to the end of the manuscript. Do not assign a page number to the Copyright Statement.

- If a table or figure is too long to be placed on a single page, it should be continued on the following numbered page.

- If there is more than one volume, each volume should contain a title page duplicating the title page of the first volume. If the volumes are separate entities it is important to identify them further as Volume I, II, etc. In any case, the numbering should follow consecutively from one volume to another.

Order of Assembly
Section C outlines the order in which you should arrange the parts of your thesis or dissertation.

Fonts
Any legible font except script, italic, or ornamental fonts equivalent in scale to 12 point Times New Roman.

Charts, Graphs, Tables
- Avoid using colors, as these are not decipherable when converted to black and white microfilm. Identify lines on a graph with labels or symbols, not color. For shaded areas on histograms, use cross-hatching, not color.
- Insert charts, graphs, and tables in the text, unless otherwise directed by your Advisor. If they take up a full page, locate them on the page as close to first mention of them in your text as you can.

Oversize Pages
- Avoid using oversize pages unless absolutely necessary for charts, graphs, maps and tables larger than the standard page size. Try a different layout for the chart or table to see if it can be placed on a standard page, or divided into two pages with a slight photographic reduction of the graphic material.
- Fold any oversize folders carefully into the manuscript, with as few folds as possible.
Photographs
- Photos may be scanned into the document.
- Use photographs with a full range of contrast (from true black to pure white).
- Avoid color photos if possible. If you need to use them please make sure your text includes enough information about the color variation of any photos for the benefit of anyone reading your manuscript in a black and white reproduction.

Title
- The title should be a meaningful description of the content of the manuscript.
- Use word substitutes for formulas, symbols, superscripts, subscripts, Greek letters, and so on.
- The format of the title page appears in Appendix A.
- Your title should be identical on all the pages on which it appears: title page, approval page, abstract and copyright statement.

Abstract
- There is no word limit on the abstract.
- Format of the abstract page is included in Appendix A.
- A research abstract contains:
  1. Statement of the problem
  2. Procedure or methods
  3. Results
  4. Conclusions
- Print symbols, foreign words and phrases clearly and accurately to avoid errors.
- Mathematical formulas, diagrams, and other illustrative materials are not recommended for the abstract.

List of References
- The reference list appears after the body of the thesis or dissertation and before any appendices.
- For specific style guidelines, select a style manual (see Section G), or follow the style recommended by your advisors or department. Prepare all references according to this style.
- Either abbreviate all journal titles or write them all in full. Each journal title must be formatted in the same way. If abbreviating, use standard abbreviations from indexes such as Medline or BIOSIS.

Signed Pages
Due to security concerns, signatures do not appear in published materials. In your manuscript, leave the various signature pages blank (approval page, abstract page, copyright statement). Signed pages DO need to be submitted, but separately, and on any type of paper (see the section immediately below).
C. Order of Assembly

<table>
<thead>
<tr>
<th>Page Type</th>
<th>Format Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank page</td>
<td>(unnumbered)</td>
</tr>
<tr>
<td>*Title Page</td>
<td>(unnumbered but counted as page i)</td>
</tr>
<tr>
<td>Preliminary Pages:</td>
<td>(Paginate all subsequent preliminary pages using roman numerals beginning with ii, iii, etc.)</td>
</tr>
<tr>
<td>*Approval Page</td>
<td>(unsigned)</td>
</tr>
<tr>
<td>*Abstract (lower case)</td>
<td>(unsigned)</td>
</tr>
<tr>
<td>Preface or Forward (if any)</td>
<td></td>
</tr>
<tr>
<td>Dedication (if any)</td>
<td></td>
</tr>
<tr>
<td>Acknowledgement (if any)</td>
<td></td>
</tr>
<tr>
<td>Table of Contents</td>
<td>(Preliminary pages, starting with the approval Page and including the Table of Contents page should appear on the Table of contents page.)</td>
</tr>
<tr>
<td>List of Tables (if any)</td>
<td></td>
</tr>
<tr>
<td>List of Figures (if any)</td>
<td></td>
</tr>
<tr>
<td>Lists of other types of materials: (photographs, etc.)</td>
<td></td>
</tr>
<tr>
<td>Body of Text</td>
<td>(Paginate body of text using Arabic numerals beginning with 1)</td>
</tr>
<tr>
<td>List of References</td>
<td></td>
</tr>
<tr>
<td>Appendices (if any)</td>
<td></td>
</tr>
<tr>
<td>*Copyright Statement</td>
<td>(unnumbered, unsigned)</td>
</tr>
<tr>
<td>Blank page</td>
<td></td>
</tr>
</tbody>
</table>

*You do need a signed copy of these forms as well. They will be kept separate from the official submission which has a specific order of assembly (spelled out above). Required format for these pages are provided in Appendix A.*
D. Check List and Schedule of Procedures for Submission

Steps

1. File an Intent to Graduate form with the Registrar’s office. The Registrar’s office will send anticipated graduation letters to the Library.

2. Obtain copyright permission for any materials you plan to adapt or reuse. This includes any of your own work which you have already published or submitted for publication elsewhere.

3. First appointment with the Dissertation/Thesis Coordinator (call 312-942-5950) to review your manuscript. A hard copy of your manuscript is required for this review. Electronic submissions must be approved in advance by the Library Director.

4. Contact the Library to schedule a final approval appointment. The appointment itself (see step 6) will take place after your defense.

5. After thesis/dissertation has been approved by your committee, obtain Committee Chair and Program Director signatures on the Degree Approval form.

6. After your defense, meet with the Dissertation/Thesis Coordinator at your scheduled time (see step 4) for final approval of dissertation/thesis. Bring the following to your appointment:
   a. Original copy of the approved thesis or dissertation on 25% rag bond paper ("resumé" paper), 20 lb. weight, in loose sheets (not stapled). Within the manuscript, leave signature fields on the approval, abstract, and copyright page blank.
   b. Signed approval page (for Registrar’s file) on any type of paper
   c. Signed abstract page (for Registrar’s file) on any type of paper
   d. Signed copyright statement (for Registrar’s file) on any type of paper

   At least ten days before end of term,* to avoid delay in graduation.

   *Students will not be seen after 11am on the final day of the term.
Rush University Guide for Preparation of Master’s Theses and Doctoral Dissertations

e. Extra title page (on any type of paper)

f. Extra abstract (on any type of paper)


h. Signed degree approval form.

i. Money order or cashier’s check, covering all Proquest fees, payable to Proquest Information and Learning Company.

j. Five dollars ($5) in cash or a personal check payable to The Library of Rush University Medical Center for mailing charges

k. Original copyright permission letters/emails, if applicable.

All paperwork must be submitted in its entirety at the final meeting. If you are not able to submit the final paperwork in person; you should appoint a delegate to submit the paperwork and walk the degree approval form to the registrar's office.

7. The Library will send the original thesis or dissertation to Proquest.

8. After Proquest digitizes it, the bound thesis or dissertation will be returned to the Library along with a microfiche copy. The Library will catalog it, add it to the collection and lend it on request.

9. The Library will bind additional copies at the current rate ($20.00) if requested. You must supply the copies (any kind of paper) for binding. Copies are bound as received. The Library does not check copies for accuracy and does not provide authorized signatures for signature pages. Please contact the Technical Services Manager (312-942-2276) for more information. You can also obtain bound copies from Proquest. There are other commercial binders who can provide this service.
E. Fees

Payment of any applicable fees must be made, in full, at your final approval meeting with the Dissertation/Thesis Coordinator.

Proquest Fees
Payment for any applicable fees below should be made in a single money order or cashier’s check, payable to “Proquest Information and Learning Company.” Do not provide separate money orders or checks for each fee.

Publishing (choose one).
Descriptions of the available types of publishing are provided on the ProQuest Publishing Agreement (Section D, Step 5g).

<table>
<thead>
<tr>
<th>Type of Publishing</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Publishing: Dissertation</td>
<td>$65</td>
</tr>
<tr>
<td>Open Access Publishing Plus: Dissertation</td>
<td>$160</td>
</tr>
<tr>
<td>Traditional Publishing: Thesis</td>
<td>$55</td>
</tr>
<tr>
<td>Open Access Publishing Plus: Thesis</td>
<td>$150</td>
</tr>
</tbody>
</table>

Copyright Registration (recommended)
ProQuest will apply for copyright with the U.S. Copyright Office, on your behalf, if desired.

| Copyright registration handling and filing fee | $55  |

Library Fees
Payment for any applicable fees below should be made in cash, credit/debit card, or personal check (payable to the Library of Rush University Medical Center).

Cost of Mailing

| Mailing fee (required) | $5   |

Bound Copies
Students who wish to have additional copies bound by the Library's binding vendor may do so at their own expense. Contact the Library's Technical Services Manager at (312) 942-2276 for information about this service. Other options for binding include commercial printers or Proquest. For each requested bound copy, you will need to provide a printed copy of your manuscript.

| Cost per additional bound copy | $20  |
| Cost to ship (domestic)*       |      |

*You can avoid shipping costs by picking bound copies up from the Library. Shipping fees vary, and will be determined at your final appointment.
F. Use of Copyrighted Material

Authors of master’s theses and dissertations assume full responsibility for use of any copyright material in their manuscripts.

Documentation
Include an unsigned copyright statement (see Appendix A) at the end of your thesis or dissertation. Keep the originals of any permission letters (discussed below), as questions regarding permission to use copyrighted material may arise at a later date. Copies of letters of permission must be submitted with the thesis or dissertation to ProQuest.

Reuse of Another Person’s Work
Obtain written permission to quote extensively or to reproduce tables, figures, graphs, or charts. The written permission should specifically authorize you to use and reproduce material. For unpublished, copyrighted material, obtain permission from the author(s). For published material, obtain permission from the publisher.

Further details regarding using copyrighted materials in a dissertation or thesis are available here: http://media2.proquest.com/documents/UMI_CopyrightGuide.pdf

Reuse of Your Own Work
If you have already published parts of your thesis or dissertation, or if your manuscripts have been accepted for publication, it is highly likely that you have turned over your copyright to the publisher. Read your signed author agreement to determine if you have permission to use the material in your dissertation or thesis. If not, you will need to obtain written permission from the publisher to use the text and figures from these journal articles in your dissertation or thesis.

Acknowledgement of Copyrighted Materials
Cite copyrighted material in the reference list according to your chosen style manual. Where the copyrighted material appears in your manuscript, provide a full citation, and include the statement “______ [used/adapted] with permission of the _______ [publisher/ author].”

Copyright of Theses and Dissertations
When you complete the Proquest Publishing Agreement (See Section D, step 5), you can request that Proquest file a copyright application for you with the Library of Congress. We strongly recommend that you take advantage of this service. There is a fee for the application. The Dissertation Coordinator will provide students with a current price list.
G. Guides for Format & Style Available in the Library
(Check the online catalog for call number and location)


Appendix A: Other Formatting Instructions

In the formatted pages below, notes (which should not be duplicated on your document) are indicated by italics and brackets. Sections which should be filled in are indicated by text within parentheses.

Title Page Format

```
TITLE OF (DISSERTATION OR THESIS)

by

Candidate's Full Name

B.S., (Name of University) _, (Year degree earned)
M.S., (Name of University)_, (Year degree earned)

[Please Note: The above is for previous degrees, not one to be conferred]

Submitted to Rush University in partial fulfillment of the requirements for the degree of ()

Master of Science
[or]
Doctor of Philosophy
[or]
Master of Arts
[for Health Care Ethics students only]

(c) Copyright by (candidate's full legal name), (year)
All Rights Reserved
```
## Approval Form Format

**[DISSERTATION OR THESIS] APPROVAL FORM**

The undersigned have examined the (dissertation or thesis) entitled:

presented by:

a candidate for the degree of

- Master of Science
- Doctor of Philosophy
- Master of Arts
  [for Health Care Ethics students only]

and hereby certify that, in their judgement, it is worthy of acceptance.

<table>
<thead>
<tr>
<th>(signature)</th>
<th>(signature)</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Name [of Chairperson] (date)</td>
<td>* Name (date)</td>
</tr>
<tr>
<td>Rank</td>
<td>Rank</td>
</tr>
<tr>
<td>Department</td>
<td>Department</td>
</tr>
<tr>
<td>University</td>
<td>University</td>
</tr>
</tbody>
</table>

* [Please make only as many spaces for signatures and advisor information as you have advisors]
Abstract Format

<table>
<thead>
<tr>
<th>ABSTRACT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title [of Thesis or Dissertation]:</strong></td>
</tr>
<tr>
<td>(Candidate’s full name), (degree), (year in which degree is to be conferred) [Please Note: This is current degree to be conferred]</td>
</tr>
<tr>
<td>(Thesis or Dissertation) Directed by: (Name of major research advisor, academic rank, name of department or program, university).</td>
</tr>
</tbody>
</table>

______________________________
Signature of (Thesis or Dissertation) Advisor

Please Note: Abstract should appear below the Thesis/Dissertation Advisor information. Abstract should be double spaced.
Copyright Statement Format

COPYRIGHT STATEMENT *

I hereby guarantee that no part of the (dissertation or thesis) entitled, (title, underlined), which I have submitted for publication, has been copied from a copyrighted work, except in cases of passages properly quoted from a copyrighted work, copied with permission of the author, or copied from a work in which I own the copyright; that I am the sole author and proprietor of the (dissertation or thesis); that the (dissertation or thesis) in all respects complies with the Copyright Revision Act of 1976; that the (dissertation or thesis) contains no matter which, if published, will be libelous or otherwise injurious to, or infringe in any way the copyright of any other party; and that I will defend, indemnify and hold harmless Rush University Medical Center against all suits and proceedings which may be brought and against all claims which may be made against Rush University Medical Center by reason of the publication of the (dissertation or thesis).

______________________________
Date Author's Signature

*Identify your manuscript as a thesis or dissertation or enter additional information where indicated by parentheses. This page follows your thesis or dissertation. It does not have a page number.
Blackboard Learn

Blackboard information and instructions can be found on the Rush RULearning website at: [http://rulearningsupport.rush.edu/](http://rulearningsupport.rush.edu/). Once you sign in, you will be able to learn basic skills about Blackboard and recorded course sessions using Panopto. For additional support or trouble signing in, please contact 312.563.2527. Live Chat is also available to help with immediate issues.
Proquest Electronic Filing

To better meet the needs of our students, the Library will offer electronic filing of theses and dissertations beginning in the Spring 2018 semester.

Benefits to electronic filing include:

- Students can file their papers with Proquest at their convenience, 24 hours a day, 7 days a week, as opposed to waiting for a scheduled appointment with a librarian.
- There will be less paperwork for the students and a streamlined submission process.
- The cost for electronic filing is less than paper filing. For both theses and dissertations, there will be no charge for traditional publishing, and a reduced fee of $95 for open access. (Currently, traditional publishing costs $55 for theses and $65 for dissertations, and open access costs $150 for theses and $160 for dissertations.)
- Communication between students and Library staff who review their work is more efficient and tailored to the needs of the student. Students and librarians also can collaborate via email, but in-person appointments will still be offered on an as-needed basis.

Librarians will be scheduling informational meetings with affected faculty in the Fall, and the Library website will be updated to reflect these student-centered changes. Please direct any questions or suggestions to Sandra Wenner (Sandra_Wenner@rush.edu).

Please do not hesitate to contact me if you have any questions.

Sandra Wenner
Assistant Director for Content Management, Library
Thesis/Dissertation Checklist
Includes new submission process launching in 2018

Manuscript
Please refer to the formatting and copyright information listed below as you prepare your manuscript for submission.

Formatting

- 12 pt. type
- Margins
  - Left 1.5”; 1” other 3 sides
- Pagination
  - Preliminary pages: small roman numerals; begin with ii; title page gets no printed number (it’s i, but do not have that show up on the page)
  - Arabic numbers for remainder. Begin with 1, run consecutively to end of manuscript.
- Avoid using color in text and graphics
- Ensure your entire manuscript and references are formatted accordingly

Copyright

- Must request copyright permission to reuse another person’s material (images, large sections of text, etc.) in your manuscript
- If all or part of manuscript has already been published as journal article, you may need copyright permission from that publisher to include material in your manuscript
- Original of letters/emails of permission must be submitted with manuscript to ProQuest

Electronic Dissertation/Thesis (ETD) Submission (Coming in 2018!)
The electronic dissertation/thesis submission process is outlined below.

- Create your student ETD account
- Complete your ETD profile
Follow the step by step instructions
Upload your manuscript
Complete the ProQuest Dissertation/Thesis Agreement
Select publishing options

Required Materials to be scanned and emailed to Sandra Wenner, Dissertation/Thesis Coordinator, at Sandra_Wenner@rush.edu
In addition to submitting your manuscript via the ETD you will need to email the scanned copies of the documents listed below.

- Signed approval page
- Signed abstract page
- Signed copyright statement

Once you have scanned and emailed all required documents. Submit your manuscript via your ETD account and prepare to pay applicable fees via credit card.

Binding Options
Additional print copies of your Dissertation/Thesis are available from the Library and ProQuest via your ETD account.

Library Binding

- $5 to Library of RUMC for mailing costs (cash, check or credit card)
- $20 per additional bound copy if desired for personal use (cash, check or credit card).

There will be additional charges if these copies are to be shipped to the author.

ProQuest Binding

- Fees vary on the selected size for binding along with the number of copies. Fees are available in your ETD account (payable by credit card)
- Free shipping
Quick Tips for Formatting Dissertations in Microsoft Word

EDITING MARGINS
1. Go to the Page Layout tab.
2. Select the down arrow under Margins in the Page Setup group.
3. Select Custom Margins at the bottom of the menu.
4. Adjust the left margin to 1.5" and make sure Apply to: Whole Document is selected.

FORMATTING PAGE NUMBERS
1. Turn on show paragraph marks by selecting the ¶ on the home ribbon.
2. Put your cursor before the first letter of “Dissertation or Thesis Approval Form”.
3. On the Page Layout tab, in the Page Setup Group, click on the down arrow next to Breaks and select Next Page under the Section Breaks section.
4. This creates a new section. By default, Word treats the headers and footers of sections as the same. To change between Roman and Arabic numbering, you will need to unlink the sections.
5. On the first page that needs a Roman numeral, go to the Insert tab, click on the down arrow under Header in the Header & Footer group, and select Edit Header. This will bring you to the Header and Footer Tools Design tab.
6. In the Header and Footer Tools Design tab, in the Navigation group, you will want to unlink the header and the footer from the previous section.
7. You can either insert page numbers within Header and Footer Tools Design tab or you can do it from the Insert tab. Select the down arrow under Page Number, select Top of Page, and select Plain Number 3.
8. To change the page number and style, select Format Page Numbers.

SECTION BREAKS VERSUS PAGE BREAKS
1. To make sure your chapters start on new pages, you may insert a page break. Go to the Insert Tab and select Page Break from the Pages group.
2. To change formatting between sections (landscape vs portrait, Arabic vs roman numerals), you will need to insert a section break. Go to the Page Layout tab, in the Page Setup group, select the down arrow next to Breaks, and select Next Page under the Section Breaks section.

LANDSCAPE PAGES
Some charts and figures will require more space than allowed on a portrait page setup. To insert a landscape page:

1. Go to the Page Layout tab, in the Page Setup group, select the down arrow next to Breaks, and select Next Page under the Section Breaks section. If the landscape page will be in the middle of the document, insert an additional Section Break Next Page.
2. Go to the Insert tab, click on the down arrow under Header in the Header & Footer group, and select Edit Header. This will bring you to the Header and Footer Tools Design tab.
3. In the Header and Footer Tools Design tab, in the Navigation group, you will want to unlink the header and the footer from the previous section. You will need to do this for the section that will be landscape and the section after it.
4. Once the sections are unlinked, go to the middle section you want to make landscape. Click the Page Layout tab, in the Page Setup group click on the down arrow under Orientation and select Landscape.
FORMATTING PAGE NUMBERS ON LANDSCAPE PAGES

1. On the first page that needs a Roman numeral, go to the Insert tab, click on the down arrow under Header in the Header & Footer group, and select Edit Header. This will bring you to the Header and Footer Tools Design tab.
2. In the header, delete the page number by highlighting the page number and pressing the backspace key.
3. In the Header & Footer group, click on the arrow next to Page Number, choose Page Margin, then in the Plain Number section, choose Large, right. A large number will now appear in the right margin, centered.
4. Highlight the number and make changes to the font to match your other page numbers.
5. With the text box selected, a Text Box Tools tab will appear and you will want to rotate the text 90 degrees clockwise. Select Text Direction to do this.
6. To match the location of your other page numbers, click on the Position drop down in the Arrange group. Select More Layout Options.
7. In the dialog box under Horizontal select: Alignment Centered relative to Right Margin. Under Vertical select: Alignment Bottom relative to Margin. Select OK. Now your page number is in the right location and direction.

APPLYING A STYLE

1. Select the text to which you want to apply a style.
2. In the Style Group on the Home Ribbon, click on the style to apply. If you don’t see the style you want to use, click on the Expand icon in the lower right corner to see a more Styles.

EDITING A STYLE

1. Right click on the style you want to edit and select Modify…
2. Change Fonts, Font Size, and Font Style on the main window.
3. Click the down arrow on Format and select Paragraphs…
4. In the Paragraph arrow, you can edit alignment, indentation, line and paragraph spacing.
5. Click OK to exit and save your changes.

INSERTING CAPTIONS

Word can automatically number your captions of tables, figures and equations.

1. Right-click the object and select Insert Caption. For tables, right-click the crosshair icon at the top-left corner of the table.
2. In the Caption dialog box, select the appropriate (“Figure” or “Table”) and select the appropriate positioning of the caption (below for Figures, above for Tables).
3. Type your text in the Caption: box.
4. Click OK to exit.

INSERTING TABLES OF CONTENTS

Word can automatically generate a table of contents.

1. Click on the References tab, and select Table of Contents and select Insert Table of Contents.
2. In the Table of Contents dialog box, you may select Modify to format the font and style.
3. Click OK to insert.
ADDITIONAL RESOURCES
The University of Michigan Library has an extensive guide to help you with formatting your dissertations in Microsoft Word.

Working with Styles (The University of Michigan Library)
http://guides.lib.umich.edu/c.php?q=283073&p=1886003

Adding Page Numbers (The University of Michigan Library)
http://guides.lib.umich.edu/c.php?q=283073&p=1886008

Landscape Pages (The University of Michigan Library)
http://guides.lib.umich.edu/c.php?q=283073&p=1886009
Copyright Resources

General Copyright Information

General Copyright Information
https://www.copyright.gov/help/faq/faq-general.html

Copyright Term and the Public Domain in the United States
https://copyright.cornell.edu/publicdomain

Author Rights Resources
http://guides.library.cornell.edu/authorrights/publishermethods

Fair Use

Can I use it? – Find and use online media legally
http://www.barbarawaxer.com/

Fair Use Evaluator
http://librarycopyright.net/resources/fairuse/index.php

Fair Use, Columbia University Libraries
https://copyright.columbia.edu/basics/fair-use.html