

**Masters of Science in
Clinical Research
Rush University Graduate College**

**Program Manual
2018-2019**

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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

*CRE 557	Clinical Trials I	2
*CRE 558	Clinical Trials II	2
*GCC 551	Ethics in Biomedical Research and the IRB	2
*PHR 556	Tools for Research	1
*GCC 546	Principles of Biostatistics I	2
GCC 548	Bioinformatics	1

Spring Semester I

*GCC 552	Introduction to the Regulatory Process: Drug Discovery and Development	2
*GCC 547	Principles of Biostatistics II	2
PVM 553	Observational Epidemiology	1
GCC 549	Bioinformatics II	1

Summer Semester I

*CRE 597	Thesis Research	1-9
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Year II

Fall Semester II

GCC 593	Grantsmanship	1
CRE 559	Readings in Special Populations	1
*CRE 597	Thesis Research	1-9

Spring Semester II

*CRE 597	Thesis Research	1-9
CRE 523	Readings in Clinical Research	

*required course

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.

GCC-552 Drug & Device Discovery: the U.S. Regulatory Process.

- 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

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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 Biostatistics 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, pre-clinical 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 2018

(Sept. 4 to Dec. 20, 2018)

Clinical Trials I – CRE – 557 J. Somberg

Clinical Trials II – CRE – 558 J. Somberg

BioSTAT I – GCC – 546 S. Basu

Tools for Research – PHP – 556 A. Roy

Bioinformatics – GCC – 548 J. Somberg

Ethics & IRB GCC - 551 J. Young

Day	Date	Time	Topic	Instructor	Room
Tues	09/04	3:30 - 4:00 p.m.	Intro to MCR	J. Somberg	976 AAC
		4:00 - 7:30 p.m.	Historic Perspective	J. Somberg	976 AAC
Thur	09/06	3:30 - 4:30 p.m.	Intro to Clinical Research Ethics	J. Young	713 AAC
		4:30 - 5:30 p.m.	Bioethics	J. Young	713 AAC
		5:30 - 6:30 p.m.	Early History and the Nazis	J. Young	713 AAC
Tues	09/11	3:30 - 4:30 p.m.	Scientific Integrity	S. Guzik	976 AAC
		4:30 - 7:30 p.m.	Formulating the Research Question	J. Somberg	976 AAC
Thur	09/13	3:30 - 7:30 p.m.	Intro & Descriptive Methods for Categorical Data	S. Basu	903 METC
Tues	09/18	3:30 - 4:30 p.m.	Rush Research Portal	A. DeMarco	713 AAC
		4:30 - 5:30 p.m.	Measurement of Outcomes	J. Somberg	976 AAC
		5:30 - 7:30 p.m.	Study Population	J. Somberg	976 AAC
Thur	09/20	3:30 - 7:30 p.m.	Descriptive Methods for Continuous Data	S. Basu	903 METC
Tues	09/25	3:30 - 4:30 p.m.	Regulatory IRB Mandate	S. Guzik/D. Morris	713 AAC
		4:30 - 5:30 p.m.	Sample Size	J. Somberg	976 AAC
		5:30 - 6:30 p.m.	Randomization & Blinding	J. Somberg	976 AAC
		6:30 - 7:30 p.m.	Subject Recruitment	J. Somberg	976 AAC
Fri-Sun 9/29 - 9/31			Clinical Trials Exam	J. Somberg	
Thur	09/27	3:30 - 4:30 p.m.	Power Calculation Workshop	S. Basu	903 METC
		4:30 - 7:30 p.m.	Probability	S. Basu	903 METC
Tues	10/02	3:30 - 4:30 p.m.	Tuskegee Syphilis Study	A. Perry	713 AAC
		4:30 - 5:30 p.m.	Basic Study Design	J. Somberg	976 AAC
		5:30 - 7:30 p.m.	Observational Studies	J. Somberg	976 AAC
Thur	10/04	3:30 - 7:30 p.m.	Estimation	S. Basu	903 METC
Tues	10/9	3:30 - 4:30 p.m.	Henrietta Lacks & Clinical Research	J. Young	713 AAC
		4:30 - 6:00 p.m.	Small Randomized Trials	J. Somberg	976 AAC
		6:00 - 7:30 p.m.	Large Simple Trials/Multi Center Trials	J. Somberg	976 AAC
Thur	10/11	3:30 - 7:00 p.m.	Stat Midterm	S. Basu	903 METC
Tues	10/16	3:30 - 4:30 p.m.	Policy Development & Ethics	J. Young	976 AAC
		4:30 - 7:30 p.m.	Bayesian Trials	J. Somberg	976 AAC

Masters of Science in Clinical Research – First Year Schedule Fall Semester 2018

Day	Date	Time	Topic	Instructor	Room
Tues	10/23	3:30 - 4:30 p.m.	NIH Guidelines & Ethical Research	E. Blazek	713 AAC
		4:30 - 5:30 p.m.	Non-Inferiority Trials	J. Somberg	976 AAC
		5:30 - 7:30 p.m.	Review Lecture	J. Somberg	976 AAC
Thur	10/25	3:30 - 7:00 p.m.	Advanced Analysis	S. Basu	903 METC
Fri-Sun 10/27 - 10/29			Clinical Trials Exam	J. Somberg	
Tues	10/30	3:30 - 5:00 p.m.	Adverse Event Reporting	J. Somberg	976 AAC
		5:00 - 6:00 p.m.	Assessment of Quality of Life	J. Somberg	976 AAC
		6:00 - 7:30 p.m.	Trials in Special Populations	J. Somberg	976 AAC
Thur	11/01	3:30 - 7:00 p.m.	Stat Exam Review	S. Basu	903 METC
Tues	11/06	3:30 - 4:30 p.m.	Study Closeout	J. Somberg	976 AAC
		4:30 - 5:30 p.m.	Patient Adherence	J. Somberg	976 AAC
		5:30 - 7:30 p.m.	Data Collection & Management	J. Somberg	976 AAC
Thur	11/08	3:30 - 7:00 p.m.	STAT Exam	S. Basu	903 METC
Tues	11/13	3:30 - 4:30 p.m.	Informed Consent, an ethical approach	J. Cobb	713 AAC
				D. Morris	
		4:30 - 5:30 p.m.	Reporting & Interpreting Clinical Trials	J. Somberg	976 AAC
		5:30 - 7:30 p.m.	Survival Analysis	J. Somberg	976 AAC
Thurs	11/15	3:30 - 4:30 p.m.	Tools for Research Intro	A. Roy	903 METC
		4:30 - 7:30 p.m.	Bibliography Research Work	A. Roy	
Tues	11/20	3:30 - 4:30 p.m.	Issues in Data Analysis	J. Somberg	976 AAC
		4:30 - 5:30 p.m.	Data Safety Monitoring Board	J. Somberg	976 AAC
		5:30 - 7:30 p.m.	Clinical Research & Media	J. Somberg	976 AAC
Thurs	11/22	THANKSGIVING HOLIDAY			
Tues	11/27	3:30 - 5:30 p.m.	Genetic Data & Personalized Medicine	J. Somberg	976 AAC
		5:30 - 7:30 p.m.	Innovation & Research	J. Somberg	976 AAC
Thurs	11/29	3:30 - 4:30 p.m.	Standard Curves	A. Roy	903 METC
		4:30 - 5:30 p.m.	Photo Shop	A. Roy	903 METC
		5:30 - 7:30 p.m.	Importation of Word	A. Roy	903 METC
Tues	12/04	3:30 - 4:30 p.m.	Comparative Effectiveness	J. Somberg	976 AAC
		4:30 - 5:30 p.m.	Pharmacoeconomics	J. Somberg	976 AAC
		5:30 - 7:30 p.m.	Review Lecture	J. Somberg	976 AAC

Masters of Science in Clinical Research – First Year Schedule Fall Semester 2018

Day	Date	Time	Topic	Instructor	Room
Thurs	12/06	3:30 – 5:30 p.m.	Grants & Gov	A. Roy	903 METC
		5:30 – 7:30 p.m.	Intro to Bioinformatics/Meta-Analysis	A. Roy	903 METC
12/7 – 12/10			Clinical Trials II Exam	J. Somberg	
Tues	12/11	3:30 – 4:30 p.m.	Intro to Meta-Analysis	J. Somberg	976 AAC
		4:30 – 5:30 p.m.	Basic Facts of Meta-Analysis	J. Somberg	976 AAC
		5:30 – 6:30 p.m.	Why Perform a Meta-Analysis &	J. Somberg	976 AAC
		6:30 – 7:30 p.m.	Basic Approaches	J. Somberg	976 AAC
Thurs	12/13	3:30 – 4:30 p.m.	Key Points on Performing a Meta-Analysis	J. Somberg	976 AAC
		4:30 – 7:30 p.m.	Measuring Heterogeneity, Subgroups & Meta-Regression	J. Somberg	976 AAC
Tues	12/18	3:30 – 4:30 p.m.	Additional Topic on Meta-Analysis	J. Somberg	976 AAC
		4:30 – 7:30 p.m.	The “Step-by-Step Program Review	J. Somberg	976 AAC
Thurs	12/20	3:30 – 4:30 p.m.	Meta-Analysis Topic Presentation	J. Somberg	976 AAC
			Workshop		
		4:30 – 7:30 p.m.	Meta-Analysis Methods Presentations	J. Somberg	976 AAC

Master of Science in Clinical Research – Second Year

Fall Semester 2018

Courses:

GCC-593 (Carvey 1 credit)

CRE-559 (Lapidos/Dugan 2 credits)

CRE-523 (Somberg with permission 2 credits)

Day	Date	Time	Topic	Instructor	Room
Tues	09/04	5:15 - 6:30 p.m.	Course Overview	S. Lapidos and S. Dugan	1098 AAC
Thur	09/06	5:00 - 6:30 p.m.	Geography of NIH	P. Carvey	1098 AAC
Tues	09/11	5:15 - 6:30 p.m.	Health status indicators	Richardson	1098 AAC
Thur	09/13	5:00 - 6:30 p.m.	Grants formats	P. Carvey	1098 AAC
Tues	09/18	5:15 - 6:30 p.m.	Low birth weight and racial disparities	R. David	1098 AAC
Thur	09/20	5:00 - 6:30 p.m.	Specific Aims	P. Carvey	1098 AAC
Tues	09/25	5:15 - 6:30 p.m.	Interdisciplinary research	S. Lapidos and S. Dugan	1098 AAC
Thur	09/27	5:00 - 6:30 p.m.	Specific Aims (workshop)	P. Carvey	1098 AAC
Tues	10/02	5:15 - 6:30 p.m.	Estimated deaths due to social factors	S. Lapidos and S. Dugan	1098 AAC
Thur	10/04	5:00 - 6:30 p.m.	Innovation and Significance	P. Carvey	1098 AAC
Tues	10/09	5:15 - 6:30 p.m.	Health equity and political economy	Crane	1098 AAC
Thur	10/11	5:00 - 6:30 p.m.	I & S (Workshop)	P. Carvey	1098 AAC
Tues	10/16	5:15 - 6:30 p.m.	Racial disparities and voice Preservation in head and neck cancers	Lapidos and Dugan	1098 AAC
Thur	10/18	5:00 - 6:30 p.m.	Providing Background and Data	P. Carvey	1098 AAC
Tues	10/23	5:15 - 6:30 p.m.	Alzheimer's disease in African-Americans	James	1098 AAC
Thur	10/25	5:00 - 6:30 p.m.	Design and methods	Carvey	1098 AAC

Masters of Science in Clinical Research – Second Year Schedule Fall Semester 2018

Day	Date	Time	Topic	Instructor	Room
Tues	10/30	5:15 - 6:30 p.m.	Addressing socio-economic and racial disparities in health care	S. Lapidos and S. Dugan	1098 AAC
Thur	11/01	5:00 - 6:30 p.m.	Abstract	P. Carvey	1098 AAC
Tues	11/06	5:15 – 6:30 p.m. S. Dugan	1098 AAC	Interpersonal violence, PTSD and inflammation	S. Lapidos and
Thurs	11/08	5:15 – 6:30 p.m.	_____	P. Carvey	1098 AAC
Tues	11/13	5:15 - 6:30 p.m.	Community based participatory research	S. Lapidos and S. Dugan	1098 AAC
Thurs	11/15	5:00 - 6:30 p.m.	Editing with a purpose	P. Carvey	1098 AAC
Tues	11/20	5:15 - 6:30 p.m.	TBD	S. Dugan	1098 AAC
Thurs	11/22	THANKSGIVING – NO CLASS			
Tues	11/27	3:30 - 6:30 p.m.	TBD	S. Lapidos and S. Dugan	1098 AAC
Thurs	11/29	5:00 - 6:30 p.m.	Summary Sheets and Intro	P. Carvey	1098 AAC
Tues	12/04	4:00 – 6:00 p.m.	Thesis Presentation	J. Somberg	1098 AAC
Thurs	12/06	5:00 - 6:30 p.m.	Small Grants	P. Carvey	1098 AAC
Tues	12/11	4:00 - 6:00 p.m.	Course Wrap Up	S. Lapidos and S. Dugan	1098 AAC
Thurs	12/13	5:00 - 6:30 p.m.	Training Grants	P. Carvey	1098 AAC
Tues	12/18	4:00 – 6:00 p.m.	Thesis Presentation	J. Somberg	1098 AAC
Thurs	12/20	5:00 – 6:30 p.m.	Grants Review	P. Carvey	1098 AAC

Masters in Clinical Research Schedule Spring 2019 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. C. Santos

Day	Date	Time (P.M.)	Topic	Instructor	Room
Thurs	1/3	3:30-4:30	Intro to Epi	I. Janssen	712
		4:30-5:30	Screening & Surveillance	I. Janssen	712
		5:30-6:30	Epidemiology Techniques	I. Janssen	712
Tues	1/7	3:30-4:30	Epidemiology Techniques	I. Janssen	712
		4:30-5:30	Disease Occurrence, Mortality & Prognosis	I. Janssen	712
		5:30-6:30	Measures of Association & Risk	I. Janssen	712
Thurs	1/10	3:30-7:00	Analysis of Variance -1	S. Basu	903
Tues	1/15	3:30-4:30	Association & Causation	I. Janssen	712
		4:30-6:30	Bias & Confounding	I. Janssen	712
Thurs	1/17	3:30-7:00	Analysis of Variance -2	S. Basu	903
Tues	1/22	3:30-4:30	Diagnostic Accuracy	I. Janssen	712
		4:30-6:30	Study Design	I. Janssen	712
Thurs	1/24	3:30-7:00	Correlation and Linear Regression	S. Basu	903
Tues	1/29	3:30-4:30	Behavior Trials	L. Powell	712
		4:30 – 6:30	Study Design II	I. Janssen	712
Fri	1/25-28		Epi Exam	I. Janssen	712
Thurs	1/31	3:30-7:00	Multivariable Linear Regression	S. Basu	903
Tues	2/5	3:30-4:30	Intro to Drug & Device	J. Somberg	976
		4:30-7:00	U.S. Regulatory Process	J. Somberg	976
Thurs	2/7	3:30-6:30	Biostatistics Exam-1	S. Basu	903
Tues	2/12	3:30-7:00	ICH Guidelines Drug & Devices	J. O'Donnell J. Somberg	976

Day	Date	Time (P.M.)	Topic	Instructor	Room
Thurs	2/14	3:30-6:30	Binary outcome data analysis	S. Basu	903
Tues	2/19	3:30-4:30	Pre-Clinical Pharm	J. Somberg	976
		4:30-5:30	IND Preparation	J. Somberg	976
		5:30-7:00	Clinical Trials I-IV	J. Somberg	976
Thurs	2/21	3:30-6:30	Binary outcome data analysis-2 & ROC curve	S. Basu	903
Tues	2/26	3:30-4:30	NDA & Biologic Lic	J. Somberg	976
		4:30-5:30	IRB in Clinical Research	J. Somberg	976
		5:30-7:00	Evaluating Special Populations	J. Somberg	976
Thurs	2/28	3:30-6:30	Time-to-event data analysis-1	S. Basu	903
Tues	3/5	3:30-7:00	Orphan Drug Adverse Drug Reaction	J. Somberg J. Somberg	976 976
Thurs	3/7	3:30-6:30	Time-to-event data analysis-2	S. Basu	903
Tues	3/12	3:30-4:30	Device Development	J. Somberg	903
		4:30-7:00	Biologic Markers	J. Somberg	903
Thurs	3/14	3:30-4:30	Sensitivity Analysis	S. Basu	903
		4:30-6:30	Censoring Data & Propensity Scoring	S. Basu	903
Tues	3/19	3:30-4:30	PK/PD Modeling	J. Somberg	976
		4:30-7:00	Genetics in Drug Development	J. Somberg	976
Thurs	3/21	3:30-7:00	Biostatistics Review	S. Basu	903
Tues	3/26	3:30-4:30	Drug Metabolism	J. Somberg	976
		4:30-7:00	Masters Thesis	J. Somberg	976
Thurs	3/28	5:00-7:00	Biostatistics II Final Exam	S. Basu	903
Tues	4/2	3:30-4:30	Innovation in Research	J. Somberg	976
		4:30-7:00	Comparative Effectiveness Research	J. Somberg	976
Thurs	4/4	3:30-4:30	Bioinformatics II Intro	C. Santos	540
		4:30-7:00	Precision Med & Population Health Research	R. Shah	540

Day	Date	Time	Topic	Instructor	Room
Tues	4/9	3:30-5:00	Advanced Trial Designs	J. Somberg	976
		5:00-6:00	Non-Inferiority & Superiority Trials	J. Somberg	976
		6:00-7:00	Intellectual Property Protection	J. Somberg	976
Thurs	4/11	3:30-5:30	Population Health from Benchmarking to common data models	B. Hota	540
		5:30-7:30	Bioinformatics II	J. Bonello	540
Tues	4/16	3:30-4:30	Pharmaceutical Research & CRO's	J. Somberg	976
		4:30-7:00	HIPAA, IRB in Clinical Research	J. Somberg	976
Thurs	4/18	3:30-7:30	2 nd Year Presentations (Graduation requirement)	J. Somberg	540
Fri-Sun	4/19-4/21		EXAM: Drug & Device Development	J. Somberg	
Tues	4/23	3:30-4:30	Bioinformatics II	C. Santos	540
		4:30-5:30		B. Patty	
		5:30-7:30		J. Bonello	
Thurs	4/25	3:30-7:30	Bioinformatics II Laboratory	C. Santos J. Somberg	903 METC
Fri	4/27		Commencement		UIC
<u>Summer Semester 2019</u>					
Tues	5/7	3:30-7:00	Thesis Research CRE-597 1 st year presentations	J. Somberg	976
Tues	5/13	3:30-7:00	First Year Presentations	J. Somberg	976
Tues	5/14	3:30-7:00	Thesis Research 1 st year presentations	J. Somberg	976
Tues	5/21	4:30-6:00	Thesis Research 1 st year presentations	J. Somberg	976
Thurs	5/23	4:30-7:00	Thesis Presentations	J. Somberg	976
Tues	5/28	4:30-6:00	Thesis Seminar	J. Somberg	976

Day	Date	Time	Topic	Instructor	Room
Thurs	5/30	4:30-6:00	Thesis Seminar	J. Somberg	976
Tues	6/4	4:30-6:00	Thesis Seminar	J. Somberg	976
Tues	6/11	4:30-6:00	Thesis Seminar	J. Somberg	976

Readings Course 2019 Schedule Spring 2019:

Jan 8 - Somberg

15 - Mulshine

22 - Somberg

29 - Doukky

Feb 5 - Fleisher

12 - Hall

19 - Williams

26 - O'Toole

Mar 5 - LoSavio

12 - O'Keefe

19 - Doukky

26 - Goetz/Fraint

Apr 2 - Pal

9 - Reiser

16 - Torquati

23 - Shear

UNIVERSITY MISSION STATEMENT

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

Rush University Graduate College Course Syllabus

Course Number	CRE-557
Course Title	Clinical Trials I (Intro to Clinical Research)
Course Code	WE
Credit Hours	2 semester hours
Clinical Practicum/Clerkship Hours	N/A
Term and Year	FA 2018
Location (in-class sessions)	TBD
Course Coordinator/Course Director(s) Name and Contact Information	John Somberg, MD jsomberg@rush.edu 312-942-6590 Cohn Research Building, Room 418 Office hours: Tuesdays, 12-3:30 PM
Additional Course Faculty Information	N/A

Course Description	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. Credit Hours: 2
Course Objectives	At the completion of GCC-557 & GCC-558 Clinical Trials I & II, the student will be able to: <ol style="list-style-type: none"> 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.
Prerequisites	Admission to MCR Program
Co-requisites	N/A
Required Textbooks	Fundamentals of Clinical Trials

	Friedman, Furberg, DeMets 5th Edition/Springer
Recommended Textbooks	Principles & Practice of Clinical Research 3rd Edition Gallin & Ognibene Academic Press
Recommended Websites	N/a
EReserves Information	N/a
Required Equipment/ Uniform	N/A
Required Software/Online Tools	<p>My Apps: https://myapps.rush.edu/</p> <p>Students are recommended to use My Apps, which is a virtual desktop where Office software, Rush Email, and secure storage is provided. Visit https://rushuportal.learning.rush.edu/fag for more information about the My Apps virtual environment. Students are also able to log into RULearning from MyApps.</p> <p>RULearning Login Page: https://rulearning.rush.edu/</p> <p>Students are also able to access RULearning via the listed login page.</p> <p>Microsoft Office Suite: Word, Excel, and PowerPoint If you do not already have the Microsoft Office software you can access the Suite through My Apps or download a copy of the Microsoft Office suite at a reduced cost for Windows or Mac users: https://rush.onthehub.com/</p> <p>Internet Browsers Students should have access to more than one browser, such as Internet Explorer, Chrome, Firefox or Safari. All browsers should be the most up-to-date version available.</p> <p>Adobe Acrobat Reader Students should have access to the most up-to-date Adobe Acrobat Reader.</p>
Internet Requirements	Students must have access to a high-speed internet connection when working off campus.

COURSE CONTENT				
DATES	Content	Learning Activities*	Assignments/ Assessments	% of Course Grade*
Week 1	Tues 09/04 3:30 - 4:00 p.m. Intro to MCR 4:00 - 7:30 p.m. Historic Perspective	*(list materials here or provide location of materials)		*This could also be expresse d as POINTS
Week 2	Tues 09/11 4:30 - 7:30 p.m. Formulating the Research Question			
Week 3	Tues 09/18 4:30 - 5:30 p.m. Measurement of Outcomes 5:30 - 7:30 p.m. Study Population			
Week 4	Tues 09/25 4:30 – 5:30 p.m. Sample Size 5:30 – 6:30 p.m. Randomization & Blinding 6:30 – 7:30 p.m. Subject Recruitment Fri-Sun 09/28 – 09/30 Clinical Trials Exam			
Week 5	Tues 10/02 4:30 – 5:30 p.m. Basic Study Design 5:30 – 7:30 p.m. Observational Studies			

Week 6	Tues 10/9 4:30 – 6:00 p.m. Small Randomized Trials 6:00 – 7:30 p.m. Large Simple Trials/Multi Center Trials			
Week 7	Tues 10/16 4:30 – 7:30 p.m. Bayesian Trials			
Week 8	Tues 10/23 4:30 – 5:30 p.m. Non-Inferiority Trials 5:30 – 7:30 p.m. Review Lecture			
Week 9	Fri-Sun 10/26 – 10/28 Clinical Trials Exam			

Summary of Evaluation Methods of Student Performance

The student's final grade will be determined as follows:

Midterm	40%
Final examination	60%
Total:	100%

Grading Policies

Course Grading Scale	Final course grades are determined using the allocation of credit for each assignment and exam listed within Course Content. The grading scale for the course is as follows: A= 90%–100% B= 80%–89% C= 70%–79% Below 70% = F
Timeframe for Reporting Grades	One week following exam
Assignment Submission	N/a
Late Assignments	N/a
Late Exams	At discretion of instructor
Attendance Expectations	Recorded
Participation Expectations	Recorded

COURSE COMMUNICATION

Course Communication	By email
Timeframe for faculty response to students	Within 72 hours
Expectations for professional behavior/ Netiquette	<p>All students are expected to:</p> <ol style="list-style-type: none"> 1. Show respect for other students and the instructors in the class. 2. Be sensitive to the fact that there will be cultural and linguistic backgrounds, as well as different political and religious beliefs. 3. Express differences of opinion in a polite and rational way. 4. Maintain an environment of constructive criticism when commenting on the work of other students or the course. 5. Respect the privacy of other students. 6. Use good grammar and spelling. 7. Use salutations and titles in your messages. Formal titles (Dear Dr. Smith, Dear Professor, Dear Classmates) are always acceptable. It is also appropriate to end you note with a closing, (Thank you, Sincerely, Respectfully) when emailing students or faculty. 8. Be sure to say please and thank you. 9. Send only one message about a topic and wait for an answer.

	10. Write your messages in formal language using sentences, capitalization, punctuation, and appropriate grammar.
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STRATEGIES FOR SUCCESS

REQUIRED List course success strategies.

RESOURCES and SUPPORT

Resources for Technology Problems	<p>If you need help with RULearning, call the RULearning Help line at (312) 563-CLAS, option 2. The RULearning help line is available 24/7/365.</p> <p>If you need help with access to your Rush computer account or software, call the Rush University Help desk at (312) 563-CLAS, option 4.</p>
Counseling Center	<p>The Rush University Counseling Center offers free, confidential services to all currently enrolled Rush University students. The Center is staffed by clinical psychologists who can help you address a wide range of issues. For more information regarding the Center and its services call (312) 942-3687.</p> <p>All students, including distance learners, have access to the Student Assistance Program at 1-800-292-2780.</p>

UNIVERSITY POLICIES

Academic Policies STANDARD	Students are responsible for following all Rush University policies and the policies that are specific to their college of admittance. Please refer to the Rush University Student Handbook and the relevant College Student Handbooks for more information. Selected policies are described below.
Disability Accommodations STANDARD	<p>Rush University is committed to attracting and educating students who will help to make the health care profession representative of the national population, including individuals with disabilities. Part of Rush University's mission is to promote diversity among its student population and to provide equal access to its facilities, programs, services and learning opportunities. In keeping with this mission, the University encourages students with disabilities to engage the Office of Student Disability Services as soon as they begin their program.</p> <p>Students should contact Marie Ferro-Lusk, Manager, Office of Student Disability Services at Rush University, to engage in a confidential conversation about the process for requesting reasonable accommodations in the classroom and clinical settings. Accommodations are not provided retroactively at the University. Additional information can be found online at the Office of Student Disability website or by contacting the Office of Student Disability Services. In order to respect students' privacy and ensure a thoughtful interactive discussion, students should not make accommodation requests to individual faculty members, lecturers, or course directors; instead, please contact:</p> <p>Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services Phone: (312) 942-5237 Fax: (312) 942-2778 Email: Marie_S_Ferro-Lusk@rush.edu Website: https://www.rushu.rush.edu/students-disabilities</p>
Honor Code and Academic Honesty	Students are expected to abide by the Rush Honor Code relating to academic integrity throughout all aspects of this course, including all assignments and exams. As trusted health care professionals, we take the issue of academic integrity very seriously and expect that you will adhere to the highest standards

	<p>of integrity at all times.</p> <p>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 action includes:</p> <ul style="list-style-type: none"> • <i>Cheating</i>: Using unauthorized material or unauthorized help from another person in any work submitted for academic credit. • <i>Fabrication</i>: Inventing information or citations in an academic or clinical exercise. • <i>Facilitating Academic Dishonesty</i>: Providing unauthorized material or information to another person. • <i>Plagiarism</i>: Submitting the work of another person or persons, as one's own without acknowledging the correct source. • <i>Unauthorized Examination Behavior</i>: Conversing with another person, passing or receiving material to/from another person or temporarily leaving an examination site to visit an unauthorized site.
Intellectual Properties Protection	<p>All materials contained within this syllabus, course and course materials, whether in written form or presented through video or audio transmission, 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.</p>
Prohibition against Harassment, Discrimination, and Sexual Misconduct Policy	<p>Click on link below to access the RUMC policy "Prohibition against Harassment, Discrimination, and Sexual Misconduct." The procedure for reporting harassment, discrimination, and/or sexual misconduct is found on p. 3.</p> <p>https://www.rushu.rush.edu/sites/default/files/Rush%20PDFs%20and%20Files/sexual-harassment-policy-2014.pdf</p>

COLLEGE SPECIFIC POLICIES--OPTIONAL

UNIVERSITY MISSION STATEMENT

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

Rush University Graduate College Course Syllabus

Course Number	CRE 558
Course Title	Clinical Trials II (Intro to Clinical Research)
Course Code	WE
Credit Hours	2 semester hours
Clinical Practicum/Clerkship Hours	N/a
Term and Year	FA 2018
Location (in-class sessions)	TBD
Course Coordinator/Course Director(s) Name and Contact Information	John Somberg, MD jsomberg@rush.edu 312-942-6590 Cohn Research Building, Room 418 Office hours: Tuesdays, 12-3:30 PM
Additional Course Faculty Information	N/a

Course Description	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 functions 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.
Course Objectives	At the completion of this course, the student will be able to: <ol style="list-style-type: none"> 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
Prerequisites	GCC 557
Co-requisites	N/a
Required Textbooks	Fundamentals of Clinical Trials

	Friedman, Furberg, DeMets 5t Edition/Springer
Recommended Textbooks	Principles & Practice of Clinical Research 3rd Edition Gallin & Ognibene Academic Press
Recommended Websites	N/a
EReserves Information	N/a
Required Equipment/ Uniform	N/a
Required Software/Online Tools	<p>My Apps: https://myapps.rush.edu/</p> <p>Students are recommended to use My Apps, which is a virtual desktop where Office software, Rush Email, and secure storage is provided. Visit https://rushportal.learning.rush.edu/fag for more information about the My Apps virtual environment. Students are also able to log into RULearning from MyApps.</p> <p>RULearning Login Page: https://rulearning.rush.edu/</p> <p>Students are also able to access RULearning via the listed login page.</p> <p>Microsoft Office Suite: Word, Excel, and PowerPoint If you do not already have the Microsoft Office software you can access the Suite through My Apps or download a copy of the Microsoft Office suite at a reduced cost for Windows or Mac users: https://rush.onthehub.com/</p> <p>Internet Browsers Students should have access to more than one browser, such as Internet Explorer, Chrome, Firefox or Safari. All browsers should be the most up-to-date version available.</p> <p>Adobe Acrobat Reader Students should have access to the most up-to-date Adobe Acrobat Reader.</p>
Internet Requirements	Students must have access to a high-speed internet connection when working off campus.

COURSE CONTENT				
DATES	Content	Learning Activities*	Assignments/ Assessments	% of Course Grade*
Week 1 Tues 10/30	3:30 – 5:00 p.m. Adverse Event Reporting 5:00 – 6:00 p.m. Assessment of Quality of Life 6:00 - 7:30 p.m. Trials in Special Populations	*(list materials here or provide location of materials)		*This could also be expresse d as POINTS
Week 2 Tues 11/06	3:30 – 4:30 p.m. Study Closeout 4:30 – 5:30 p.m. Patient Adherence 5:30 – 7:30 p.m. Data Collection & Management			
Week 3 Tues 11/13	3:30 - 4:30 p.m. Informed Consent, an ethical approach 4:30 – 5:30 p.m. Reporting & Interpreting Clinical Trials 5:30 – 7:30 p.m. Survival Analysis			
Week 4 Tues 11/20	3:30 – 4:30 p.m. Issues in Data Analysis 4:30 – 5:30 p.m. Data Safety Monitoring Board 5:30 – 7:30 p.m. Clinical Research & Media			
Week 5 Tues 11/27	3:30 - 5:30 p.m. Genetic Data & Personalized Medicine 5:30 – 7:30 p.m. Innovation & Research			

Week 6 Tues 12/04	3:30 - 4:30 p.m. Comparative Effectiveness 4:30 – 5:30 p.m. Pharmacoeconomics 5:30 – 7:30 p.m. Review Lecture			
Week 7 12/7 – 12/10	Clinical Trials II Exam			

Summary of Evaluation Methods of Student Performance

The student's final grade will be determined as follows:

Midterm	40%
Final examination	60%
Total:	100%

Grading Policies

Course Grading Scale	Final course grades are determined using the allocation of credit for each assignment and exam listed within Course Content. The grading scale for the course is as follows: A= 90%–100% B= 80%–89% C= 70%–79% Below 70% = F
Timeframe for Reporting Grades	REQUIRED
Assignment Submission	REQUIRED
Late Assignments	Expected to submit all assignments on time as specified by the Course Director.
Late Exams	N/a
Attendance Expectations	Attendance is highly recommended.
Participation Expectations	REQUIRED

COURSE COMMUNICATION

Course Communication	REQUIRED
Timeframe for faculty response to students	REQUIRED
Expectations for professional behavior/ Netiquette	<p><i>You can edit this section as needed. Sample text is listed below.</i></p> <p>All students are expected to:</p> <ol style="list-style-type: none"> 1. Show respect for other students and the instructors in the class. 2. Be sensitive to the fact that there will be cultural and linguistic backgrounds, as well as different political and religious beliefs. 3. Express differences of opinion in a polite and rational way. 4. Maintain an environment of constructive criticism when commenting on the work of other students or the course. 5. Respect the privacy of other students. 6. Use good grammar and spelling. 7. Use salutations and titles in your messages. Formal titles (Dear Dr. Smith, Dear Professor, Dear Classmates) are always acceptable. It is also appropriate to end you note with a closing, (Thank you, Sincerely, Respectfully) when emailing students or faculty.

	<p>8. Be sure to say please and thank you.</p> <p>9. Send only one message about a topic and wait for an answer.</p> <p>10. Write your messages in formal language using sentences, capitalization, punctuation, and appropriate grammar.</p>
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STRATEGIES FOR SUCCESS

REQUIRED List course success strategies.

RESOURCES and SUPPORT

Resources for Technology Problems	<p>If you need help with RULearning, call the RULearning Help line at (312) 563-CLAS, option 2. The RULearning help line is available 24/7/365.</p> <p>If you need help with access to your Rush computer account or software, call the Rush University Help desk at (312) 563-CLAS, option 4.</p>
Counseling Center	<p>The Rush University Counseling Center offers free, confidential services to all currently enrolled Rush University students. The Center is staffed by clinical psychologists who can help you address a wide range of issues. For more information regarding the Center and its services call (312) 942-3687.</p> <p>All students, including distance learners, have access to the Student Assistance Program at 1-800-292-2780.</p>

UNIVERSITY POLICIES

Academic Policies STANDARD	<p>Students are responsible for following all Rush University policies and the policies that are specific to their college of admittance. Please refer to the Rush University Student Handbook and the relevant College Student Handbooks for more information. Selected policies are described below.</p>
Disability Accommodations STANDARD	<p>Rush University is committed to attracting and educating students who will help to make the health care profession representative of the national population, including individuals with disabilities. Part of Rush University's mission is to promote diversity among its student population and to provide equal access to its facilities, programs, services and learning opportunities. In keeping with this mission, the University encourages students with disabilities to engage the Office of Student Disability Services as soon as they begin their program.</p> <p>Students should contact Marie Ferro-Lusk, Manager, Office of Student Disability Services at Rush University, to engage in a confidential conversation about the process for requesting reasonable accommodations in the classroom and clinical settings. Accommodations are not provided retroactively at the University. Additional information can be found online at the Office of Student Disability website or by contacting the Office of Student Disability Services. In order to respect students' privacy and ensure a thoughtful interactive discussion, students should not make accommodation requests to individual faculty members, lecturers, or course directors; instead, please contact:</p> <p>Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services Phone: (312) 942-5237 Fax: (312) 942-2778 Email: Marie_S_Ferro-Lusk@rush.edu Website: https://www.rushu.rush.edu/students-disabilities</p>
Honor Code and Academic Honesty	<p>Students are expected to abide by the Rush Honor Code relating to academic integrity throughout all aspects of this course, including all assignments and</p>

	<p>exams. As trusted health care professionals, we take the issue of academic integrity very seriously and expect that you will adhere to the highest standards of integrity at all times.</p> <p>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 action includes:</p> <ul style="list-style-type: none"> • <i>Cheating</i>: Using unauthorized material or unauthorized help from another person in any work submitted for academic credit. • <i>Fabrication</i>: Inventing information or citations in an academic or clinical exercise. • <i>Facilitating Academic Dishonesty</i>: Providing unauthorized material or information to another person. • <i>Plagiarism</i>: Submitting the work of another person or persons, as one's own without acknowledging the correct source. • <i>Unauthorized Examination Behavior</i>: Conversing with another person, passing or receiving material to/from another person or temporarily leaving an examination site to visit an unauthorized site.
Intellectual Properties Protection	<p>All materials contained within this syllabus, course and course materials, whether in written form or presented through video or audio transmission, 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.</p>
Prohibition against Harassment, Discrimination, and Sexual Misconduct Policy	<p>Click on link below to access the RUMC policy "Prohibition against Harassment, Discrimination, and Sexual Misconduct." The procedure for reporting harassment, discrimination, and/or sexual misconduct is found on p. 3.</p> <p>https://www.rushu.rush.edu/sites/default/files/Rush%20PDFs%20and%20Files/sexual-harassment-policy-2014.pdf</p>

COLLEGE SPECIFIC POLICIES--OPTIONAL

UNIVERSITY MISSION STATEMENT

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Rush University Graduate College Course Syllabus

Course Number	CRE 559
Course Title	Readings in Special Populations
Course Code	WE
Credit Hours	1 semester hour
Clinical Practicum/Clerkship Hours	N/a
Term and Year	FA 2018
Location (in-class sessions)	TBD
Course Coordinator/Course Director(s) Name and Contact Information	Sheila Dugan, MD, sheila_dugan@rush.edu / 312-563-6644 Stan Lapidos, MS stan_lapidos@rush.edu / 312-942-2753 office location, office hours
Additional Course Faculty Information	N/a

Course Description	This course consists of seminars evaluating clinical research studies in the literature. Each seminar will evaluate a clinical study, its attributes and the methodological problems. Many of the studies discussed will have been undertaken by Rush Clinical Investigators and one of the investigators will lead the discussion and especially how special populations pose special requirements for research. The course also emphasizes disparities in health care and how these disparities may affect clinical research methodologies and results.
Course Objectives	The learning objectives for the HD Readings in Masters in Clinical Research course are as follows: <ol style="list-style-type: none"> 1. Understand the impact economic, social, geographical, cultural, racial, ethnic and other factors have on health status and their effect on clinical and research studies and outcomes. 2. Learn the basics of designing research studies investigating disparities in different populations and communities. 3. Acquire insights, understanding and skills in aligning the goals and values of disparity research with the communities or populations participating in research studies. 4. Learn the importance of interprofessional teams in designing and implementing clinical research projects and what each member contributes to

	<p>the interdisciplinary research team.</p> <p>5. Develop skills in interdisciplinary team collaboration and performance including setting research and project goals, determining role accountability, improving communication skills, and conflict management.</p>
Prerequisites	N/a
Co-requisites	N/a
Required Textbooks	REQUIRED
Recommended Textbooks	REQUIRED
Recommended Websites	http://www.suhichicago.org/ http://www.nlm.nih.gov/medlineplus/healthdisparities.html https://www.cdc.gov/minorityhealth/strategies2016/index.html http://www.healthcare.gov/news/blog/Disparities06102011.html
EReserves Information	N/a
Required Equipment/Uniform	N/a
Required Software/Online Tools	<p>My Apps: https://myapps.rush.edu/</p> <p>Students are recommended to use My Apps, which is a virtual desktop where Office software, Rush Email, and secure storage is provided. Visit https://rushuportal.learning.rush.edu/fag for more information about the My Apps virtual environment. Students are also able to log into RULearning from MyApps.</p> <p>RULearning Login Page: https://rulearning.rush.edu/</p> <p>Students are also able to access RULearning via the listed login page.</p> <p>Microsoft Office Suite: Word, Excel, and PowerPoint If you do not already have the Microsoft Office software you can access the Suite through My Apps or download a copy of the Microsoft Office suite at a reduced cost for Windows or Mac users: https://rush.onthehub.com/</p> <p>Internet Browsers Students should have access to more than one browser, such as Internet Explorer, Chrome, Firefox or Safari. All browsers should be the most up-to-date version available.</p> <p>Adobe Acrobat Reader Students should have access to the most up-to-date Adobe Acrobat Reader.</p>
Internet Requirements	Students must have access to a high-speed internet connection when working off campus.

COURSE CONTENT				
DATES	Content	Learning Activities*	Assignments/ Assessments	% of Course Grade*
Week 1 9/4/18	Class introduction/discussion Course overview, readings, and assignments	*(list materials here or provide location of materials)		*This could also be expressed as POINTS
Week 2 9/10/18	Film and Discussion Topic: Low birth weight infants and race	Online		
Week 3 9/17/18	Assignment 1 - Due	Post response to discussion question 1 – 1 to 2 pages.	Reflecting on patients you see in clinical practice or if you are a non-clinician, any other interaction you have with a particular patient population or community, describe how disparities with regard to race, ethnicity, language, economic barriers, family and social support, housing/environmental considerations, and other factors impact their health status with regard to adherence to treatment, access to medications or other resources, adverse health behaviors or other factors?	25 points
Week 4 9/24/18	Margelos, H., Silva, A. & Whitman. S. (2004). Comparison of health status indicators in Chicago: Are black-white disparities worsening? AJPH, 95, 116-121.			

Week 5 10/1/18	Nair, KM., Dolovich, L., Brazil, K & Raina, Parminder. (2008). its' all about relationships: A qualitative study of health researchers' perspectives of conducting Interdisciplinary health research. BMC Health Ser Res 10:110-19	Online		
Week 6 10/8/18	Galea, S., Tracy, M., Hoggatt, KJ. DiMaggio, C., & Karpati, A. (2011). Estimated deaths attributable to social factors in the US. AJPH 101(8):1456-65.			
Week 7 10/15/18	Mullan F. Health, Equity, And Political Economy: A Conversation With Paul Farmer. Health Aff July 2007 vol. 26 no. 4 1062-1068	Online		
Week 8 10/22/18	Assignment 2 - Due	Post response to discussion question 2 – 1 - 2 pages.	Focusing on your specialty or clinical interest, write an hypothesis for a research question you would propose to investigate addressing a specific disparity you see in your practice or otherwise have a strong research interest in exploring further.	25 points
Week 9 10/29/18	Benjamins, M.R. (2012). Race/Ethnic discrimination and preventive service utilization in a sample of Whites, Blacks, Mexicans, and Puerto Ricans, Medical Care, 50 (10) 870-6.			
Week 10 11/5/18	Barnes L, Bennett D (2014) Alzheimer's Disease In African Americans: Risk Factors And Challenges For The Future. Health Aff (Millwood). 2014 Apr; 33(4): 580–586.	Online		

Week 11 11/12/18	Wei-Hsien H et al. Racial Disparities in the Use of Voice Preservation Therapy for Locally Advanced Laryngeal Arch Otolaryngol Head Neck Surg 138(7) 2012 644-649	Online		
Week 12 11/19/18	Heath N, Chesney SA, Gerhart JI, et al. (2013) Interpersonal Violence, PTSD, and Inflammation: Potential Psychogenic Pathways to Higher C - reactive Protein. Cytokine 63(2): 172–178.	Online		
Week 13 11/26/18	Wallerstein N, Duran B. (2010) Community-Based Participatory Research Contributions to Intervention Research: The Intersection of Science and Practice to Improve Health Equity AJPH 100 (Supp 1);S40-S46. Mason M, Rucker B, Reed M, Morhardt D, Healy W, Curry G, et al. (2013) "I Know What CBPR Is, Now What Do I Do?" Community Perspectives on CBPR Capacity Building. Progress in Community Health Partnerships: Research, Education, and Action, 7(3);235-241			
Week 14 12/3/18	Final discussion and summation of course readings and key learning experiences.			
Week 15 TBD	Final Assignment Due	Select an article related to health disparities not included in the course readings.	Write a one to two page synopsis of the article addressing the following points: Article Summary: What is the focus of the article? Briefly describe the article or research	50 points

			<p>study's purpose including any hypothesis. Summarize the results if a research study.</p> <p>Relevance to course readings: How does the article relate to the challenges in addressing health disparities as discussed or presented in class?</p> <p>Disparity Intervention: Did the article make a persuasive and evidence based case for a particular intervention addressing inequality in health care as determined by race, ethnicity, socio-economic status, and other factors?</p> <p>Your perspective on needed disparity interventions: If you were the lead investigator for a proposed study, what health disparity would you investigate and design an intervention for?</p> <p>Other comments.</p>	
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Summary of Evaluation Methods of Student Performance

Assignment 1 Grading Criteria:

1. Statement reflects insights into impact of disparities on health status of a patient or patient population with specific examples observed in clinical practice or other encounters.
2. Attentiveness to clear, descriptive statements and absence of grammatical, spelling or other writing deficits.

Assignment 2 Grading criteria:

1. Uniqueness, strength of proposed research hypothesis reflecting an important issue or challenge in disparities research.
2. Clarity and conciseness of proposed hypothesis.

Grading Policies

Course Grading Scale	Final course grades are determined using the allocation of credit for each assignment and exam listed within Course Content. The grading scale for the course is as follows: <div style="margin-left: 40px;"> XX - XXX% = X XX - XX% = X XX - XX% = X XX - XX% = X Below XX% = X (<i>not passing</i>) </div>
Timeframe for Reporting Grades	REQUIRED
Assignment Submission	REQUIRED
Late Assignments	REQUIRED
Late Exams	REQUIRED
Attendance Expectations	REQUIRED
Participation Expectations	REQUIRED

COURSE COMMUNICATION

Course Communication	REQUIRED
Timeframe for faculty response to students	REQUIRED
Expectations for professional behavior/ Netiquette	<p><i>You can edit this section as needed. Sample text is listed below.</i></p> <p>All students are expected to:</p> <ol style="list-style-type: none"> 1. Show respect for other students and the instructors in the class. 2. Be sensitive to the fact that there will be cultural and linguistic backgrounds, as well as different political and religious beliefs. 3. Express differences of opinion in a polite and rational way. 4. Maintain an environment of constructive criticism when commenting on the work of other students or the course.

	<ol style="list-style-type: none"> 5. Respect the privacy of other students. 6. Use good grammar and spelling. 7. Use salutations and titles in your messages. Formal titles (Dear Dr. Smith, Dear Professor, Dear Classmates) are always acceptable. It is also appropriate to end you note with a closing, (Thank you, Sincerely, Respectfully) when emailing students or faculty. 8. Be sure to say please and thank you. 9. Send only one message about a topic and wait for an answer. 10. Write your messages in formal language using sentences, capitalization, punctuation, and appropriate grammar.
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STRATEGIES FOR SUCCESS

REQUIRED List course success strategies.

RESOURCES and SUPPORT

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UNIVERSITY POLICIES

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	Phone: (312) 942-5237 Fax: (312) 942-2778 Email: Marie_S_Ferro-Lusk@rush.edu Website: https://www.rushu.rush.edu/students-disabilities
Honor Code and Academic Honesty	<p>Students are expected to abide by the Rush Honor Code relating to academic integrity throughout all aspects of this course, including all assignments and exams. As trusted health care professionals, we take the issue of academic integrity very seriously and expect that you will adhere to the highest standards of integrity at all times.</p> <p>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 action includes:</p> <ul style="list-style-type: none"> • <i>Cheating</i>: Using unauthorized material or unauthorized help from another person in any work submitted for academic credit. • <i>Fabrication</i>: Inventing information or citations in an academic or clinical exercise. • <i>Facilitating Academic Dishonesty</i>: Providing unauthorized material or information to another person. • <i>Plagiarism</i>: Submitting the work of another person or persons, as one's own without acknowledging the correct source. • <i>Unauthorized Examination Behavior</i>: Conversing with another person, passing or receiving material to/from another person or temporarily leaving an examination site to visit an unauthorized site.
Intellectual Properties Protection	<p>All materials contained within this syllabus, course and course materials, whether in written form or presented through video or audio transmission, 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.</p>
Prohibition against Harassment, Discrimination, and Sexual Misconduct Policy	<p>Click on link below to access the RUMC policy "Prohibition against Harassment, Discrimination, and Sexual Misconduct." The procedure for reporting harassment, discrimination, and/or sexual misconduct is found on p. 3.</p> <p>https://www.rushu.rush.edu/sites/default/files/Rush%20PDFs%20and%20Files/sexual-harassment-policy-2014.pdf</p>

COLLEGE SPECIFIC POLICIES--OPTIONAL

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Rush University Graduate College Course Syllabus

Course Number	CRE 597
Course Title	Thesis Research
Course Code	WE
Credit Hours	Variable
Clinical Practicum/Clerkship Hours	N/a
Term and Year	FA 2018
Location (in-class sessions)	N/a
Course Coordinator/Course Director(s) Name and Contact Information	John Somberg, MD jsomberg@rush.edu 312-942-6590 Cohn Research Building, Room 418 Office hours: Tuesdays, 12-3:30 PM
Additional Course Faculty Information	N/a

Course Description	For students in the Master of Science in Clinical Research program to undertake thesis research. Participation requires a research mentor.
Course Objectives	At the completion of this course, the student will be able to: <ol style="list-style-type: none"> 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.
Prerequisites	N/a
Co-requisites	N/a
Required Textbooks	N/a
Recommended Textbooks	N/a
Recommended Websites	N/a
EReserves Information	N/a

Required Equipment/Uniform	N/a
Required Software/Online Tools	<p>My Apps: https://myapps.rush.edu/</p> <p>Students are recommended to use My Apps, which is a virtual desktop where Office software, Rush Email, and secure storage is provided. Visit https://rushuportal.learning.rush.edu/fag for more information about the My Apps virtual environment. Students are also able to log into RULearning from MyApps.</p> <p>RULearning Login Page: https://rulearning.rush.edu/</p> <p>Students are also able to access RULearning via the listed login page.</p> <p>Microsoft Office Suite: Word, Excel, and PowerPoint If you do not already have the Microsoft Office software you can access the Suite through My Apps or download a copy of the Microsoft Office suite at a reduced cost for Windows or Mac users: https://rush.onthehub.com/</p> <p>Internet Browsers Students should have access to more than one browser, such as Internet Explorer, Chrome, Firefox or Safari. All browsers should be the most up-to-date version available.</p> <p>Adobe Acrobat Reader Students should have access to the most up-to-date Adobe Acrobat Reader.</p>
Internet Requirements	Students must have access to a high-speed internet connection when working off campus.

COURSE CONTENT				
DATES	Content	Learning Activities*	Assignments/ Assessments	% of Course Grade*
Week 1 <i>Begins</i>		*(list materials here or provide location of materials)		*This could also be expresse d as POINTS
Week 2 <i>Begins</i>				
Week 3 <i>Begins</i>				
Week 4 <i>Begins</i>				

Week 5 <i>Begins</i>				
Week 6 <i>Begins</i>				
Week 7 <i>Begins</i>				
Week 8 <i>Begins</i>				
Week 9 <i>Begins</i>				
Week 10 <i>Begins</i>				

Week 11 <i>Begins</i>				
Week 12 <i>Begins</i>				
Week 13 <i>Begins</i>				
Week 14 <i>Begins</i>				
Week 15 <i>Begins</i>				

Summary of Evaluation Methods of Student Performance

50% - Mentor Evaluation
 50% - Program Director Evaluation
 Total Points: 100%

Grading Policies

Course Grading Scale	Final course grades are determined using the allocation of credit for each assignment and exam listed within Course Content. The grading scale for the course is as follows: Grading is based on thesis advisor assessment of progress based on metrics agreed to by student and mentor.
Timeframe for Reporting Grades	One week
Assignment Submission	N/a
Late Assignments	N/a
Late Exams	N/a
Attendance Expectations	N/a
Participation Expectations	Participation is required.

COURSE COMMUNICATION

Course Communication	Email
Timeframe for faculty response to students	48 hours
Expectations for professional behavior/ Netiquette	<p>All students are expected to:</p> <ol style="list-style-type: none"> 1. Show respect for other students and the instructors in the class. 2. Be sensitive to the fact that there will be cultural and linguistic backgrounds, as well as different political and religious beliefs. 3. Express differences of opinion in a polite and rational way. 4. Maintain an environment of constructive criticism when commenting on the work of other students or the course. 5. Respect the privacy of other students. 6. Use good grammar and spelling. 7. Use salutations and titles in your messages. Formal titles (Dear Dr. Smith, Dear Professor, Dear Classmates) are always acceptable. It is also appropriate to end you note with a closing, (Thank you, Sincerely, Respectfully) when emailing students or faculty. 8. Be sure to say please and thank you. 9. Send only one message about a topic and wait for an answer. 10. Write your messages in formal language using sentences, capitalization, punctuation, and appropriate grammar.

STRATEGIES FOR SUCCESS	
REQUIRED List course success strategies.	
RESOURCES and SUPPORT	
Resources for Technology Problems	<p>If you need help with RULearning, call the RULearning Help line at (312) 563-CLAS, option 2. The RULearning help line is available 24/7/365.</p> <p>If you need help with access to your Rush computer account or software, call the Rush University Help desk at (312) 563-CLAS, option 4.</p>
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Honor Code and Academic Honesty	<p>Students are expected to abide by the Rush Honor Code relating to academic integrity throughout all aspects of this course, including all assignments and exams. As trusted health care professionals, we take the issue of academic integrity very seriously and expect that you will adhere to the highest standards of integrity at all times.</p> <p>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</p>

	<p>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 action includes:</p> <ul style="list-style-type: none"> • <i>Cheating</i>: Using unauthorized material or unauthorized help from another person in any work submitted for academic credit. • <i>Fabrication</i>: Inventing information or citations in an academic or clinical exercise. • <i>Facilitating Academic Dishonesty</i>: Providing unauthorized material or information to another person. • <i>Plagiarism</i>: Submitting the work of another person or persons, as one's own without acknowledging the correct source. • <i>Unauthorized Examination Behavior</i>: Conversing with another person, passing or receiving material to/from another person or temporarily leaving an examination site to visit an unauthorized site.
Intellectual Properties Protection	<p>All materials contained within this syllabus, course and course materials, whether in written form or presented through video or audio transmission, 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.</p>
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UNIVERSITY MISSION STATEMENT

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Rush University Graduate College Course Syllabus

Course Number	GCC 546
Course Title	Biostatistics I
Course Code	WE
Credit Hours	2 semester hours
Clinical Practicum/Clerkship Hours	N/a
Term and Year	FA 2018
Location (in-class sessions)	TBD
Course Coordinator/Course Director(s) Name and Contact Information	Dr. Sanjib Basu Sanjib_Basu@rush.edu 630-803-2561 office location, office hours
Additional Course Faculty Information	N/a

Course Description	This course covers statistical issues in clinical trial design. This includes blinding, randomization, bias and intent to treat. In addition, the course reviews the use of descriptive statistics and graphical techniques to explore patterns in data. Also it reviews 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.
Course Objectives	Course Learning Objectives <ol style="list-style-type: none"> 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.
Prerequisites	N/a
Co-requisites	N/a
Required Textbooks	Introductory Biostatistics. Chap T. Le. John Wiley-Interscience, 2003
Recommended	N/a

Textbooks	
Recommended Websites	N/a
EReserves Information	N/a
Required Equipment/Uniform	N/a
Required Software/Online Tools	<p>My Apps: https://myapps.rush.edu/</p> <p>Students are recommended to use My Apps, which is a virtual desktop where Office software, Rush Email, and secure storage is provided. Visit https://rushuportal.learning.rush.edu/fag for more information about the My Apps virtual environment. Students are also able to log into RULearning from MyApps.</p> <p>RULearning Login Page: https://rulearning.rush.edu/</p> <p>Students are also able to access RULearning via the listed login page.</p> <p>Microsoft Office Suite: Word, Excel, and PowerPoint</p> <p>If you do not already have the Microsoft Office software you can access the Suite through My Apps or download a copy of the Microsoft Office suite at a reduced cost for Windows or Mac users: https://rush.onthehub.com/</p> <p>Internet Browsers</p> <p>Students should have access to more than one browser, such as Internet Explorer, Chrome, Firefox or Safari. All browsers should be the most up-to-date version available.</p> <p>Adobe Acrobat Reader</p> <p>Students should have access to the most up-to-date Adobe Acrobat Reader.</p>
Internet Requirements	Students must have access to a high-speed internet connection when working off campus.

COURSE CONTENT				
DATES	Content	Learning Activities*	Assignments/ Assessments	% of Course Grade*
Week 1 Thur 09/13/18 3:30-7:30	Intro & Descriptive Methods for Categorical Data	*(list materials here or provide location of materials)		*This could also be expresse d as POINTS
Week 2 Thur 09/20/18 3:30-7:30	Descriptive Methods for Continues Data			
Week 3 Thur 09/27/18	3:30 - 4:30 p.m. Power Calculation Workshop 4:30 - 7:30 p.m. Probability			
Week 4 Thur 10/04/18 3:30-7:30	Estimation			
Week 5 Thur 10/11/18 3:30-7:00	Stat Midterm			
Week 6 Thur 10/18/18 3:30-6:30	Comparison of Means			

Week 7 <i>Thur</i> 10/25/19 3:30-7:00	Advanced Analysis			
Week 8 <i>Thur</i> 11/01/18 3:30-7:00	Stat Exam Review			
Week 9 <i>Thur</i> 11/08/19 3:30-7:00	STAT Exam			

Summary of Evaluation Methods of Student Performance

List evaluation methods information here.

Proctored Assessment(s)

Midterm-Thursdays, Oct 11th 3:30-7:00

Final Exam-Thursdays, Nov 8th 3:30-7:00

Grading Policies

Course Grading Scale	Final course grades are determined using the allocation of credit for each assignment and exam listed within Course Content. The grading scale for the course is as follows: <div style="margin-left: 40px;"> 90-100% A 80-90% B 69-79% C Under 55% F </div>
Timeframe for Reporting Grades	REQUIRED
Assignment Submission	REQUIRED
Late Assignments	Discuss with Program Director
Late Exams	Discuss with Program Director
Attendance Expectations	Required
Participation Expectations	REQUIRED

COURSE COMMUNICATION

Course Communication	REQUIRED
Timeframe for faculty response to students	REQUIRED
Expectations for professional behavior/ Netiquette	<p><i>You can edit this section as needed. Sample text is listed below.</i></p> <p>All students are expected to:</p> <ol style="list-style-type: none"> 1. Show respect for other students and the instructors in the class. 2. Be sensitive to the fact that there will be cultural and linguistic backgrounds, as well as different political and religious beliefs. 3. Express differences of opinion in a polite and rational way. 4. Maintain an environment of constructive criticism when commenting on the work of other students or the course. 5. Respect the privacy of other students. 6. Use good grammar and spelling. 7. Use salutations and titles in your messages. Formal titles (Dear Dr. Smith, Dear Professor, Dear Classmates) are always acceptable. It is also appropriate to end your note with a closing, (Thank you, Sincerely,

	<p>Respectfully) when emailing students or faculty.</p> <ol style="list-style-type: none"> 8. Be sure to say please and thank you. 9. Send only one message about a topic and wait for an answer. 10. Write your messages in formal language using sentences, capitalization, punctuation, and appropriate grammar.
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STRATEGIES FOR SUCCESS

REQUIRED List course success strategies.

RESOURCES and SUPPORT

Resources for Technology Problems	<p>If you need help with RULearning, call the RULearning Help line at (312) 563-CLAS, option 2. The RULearning help line is available 24/7/365.</p> <p>If you need help with access to your Rush computer account or software, call the Rush University Help desk at (312) 563-CLAS, option 4.</p>
Counseling Center	<p>The Rush University Counseling Center offers free, confidential services to all currently enrolled Rush University students. The Center is staffed by clinical psychologists who can help you address a wide range of issues. For more information regarding the Center and its services call (312) 942-3687.</p> <p>All students, including distance learners, have access to the Student Assistance Program at 1-800-292-2780.</p>

UNIVERSITY POLICIES

Academic Policies STANDARD	<p>Students are responsible for following all Rush University policies and the policies that are specific to their college of admittance. Please refer to the Rush University Student Handbook and the relevant College Student Handbooks for more information. Selected policies are described below.</p>
Disability Accommodations STANDARD	<p>Rush University is committed to attracting and educating students who will help to make the health care profession representative of the national population, including individuals with disabilities. Part of Rush University's mission is to promote diversity among its student population and to provide equal access to its facilities, programs, services and learning opportunities. In keeping with this mission, the University encourages students with disabilities to engage the Office of Student Disability Services as soon as they begin their program.</p> <p>Students should contact Marie Ferro-Lusk, Manager, Office of Student Disability Services at Rush University, to engage in a confidential conversation about the process for requesting reasonable accommodations in the classroom and clinical settings. Accommodations are not provided retroactively at the University. Additional information can be found online at the Office of Student Disability website or by contacting the Office of Student Disability Services. In order to respect students' privacy and ensure a thoughtful interactive discussion, students should not make accommodation requests to individual faculty members, lecturers, or course directors; instead, please contact:</p> <p>Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services Phone: (312) 942-5237 Fax: (312) 942-2778 Email: Marie S Ferro-Lusk@rush.edu Website: https://www.rushu.rush.edu/students-disabilities</p>
Honor Code and	<p>Students are expected to abide by the Rush Honor Code relating to academic</p>

Academic Honesty	<p>integrity throughout all aspects of this course, including all assignments and exams. As trusted health care professionals, we take the issue of academic integrity very seriously and expect that you will adhere to the highest standards of integrity at all times.</p> <p>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 action includes:</p> <ul style="list-style-type: none"> • <i>Cheating</i>: Using unauthorized material or unauthorized help from another person in any work submitted for academic credit. • <i>Fabrication</i>: Inventing information or citations in an academic or clinical exercise. • <i>Facilitating Academic Dishonesty</i>: Providing unauthorized material or information to another person. • <i>Plagiarism</i>: Submitting the work of another person or persons, as one's own without acknowledging the correct source. • <i>Unauthorized Examination Behavior</i>: Conversing with another person, passing or receiving material to/from another person or temporarily leaving an examination site to visit an unauthorized site.
Intellectual Properties Protection	<p>All materials contained within this syllabus, course and course materials, whether in written form or presented through video or audio transmission, 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.</p>
Prohibition against Harassment, Discrimination, and Sexual Misconduct Policy	<p>Click on link below to access the RUMC policy "Prohibition against Harassment, Discrimination, and Sexual Misconduct." The procedure for reporting harassment, discrimination, and/or sexual misconduct is found on p. 3.</p> <p>https://www.rushu.rush.edu/sites/default/files/Rush%20PDFs%20and%20Files/sexual-harassment-policy-2014.pdf</p>

COLLEGE SPECIFIC POLICIES--OPTIONAL

UNIVERSITY MISSION STATEMENT

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

Rush University Graduate College Course Syllabus

Course Number	GCC 548
Course Title	Bioinformatics
Course Code	WE
Credit Hours	1 semester hour
Clinical Practicum/Clerkship Hours	N/a
Term and Year	FA 2018
Location (in-class sessions)	TBD
Course Coordinator/Course Director(s) Name and Contact Information	John Somberg, MD jsomberg@rush.edu 312-942-6590 Cohn Research Building, Room 418 Office hours: Tuesdays, 12-3:30 PM
Additional Course Faculty Information	N/a

Course Description	This course presents introductory material on methods and procedures involved in establishing a need for a systematic review and then how to go about understanding such a review. The course provides an understanding of how to go about undertaking a Meta-Analysis, what procedures to use and how to evaluate the validity of the meta-analysis.
Course Objectives	At the completion of this course, the student will be able to: <ol style="list-style-type: none"> 1. Understand the need for systemic reviews. 2. Be able to understand and interpret a Meta-Analysis. 3. Be able to understand the significance of a systematic review and how it can aid clinical investigation.
Prerequisites	GCC 557 & GCC 558
Co-requisites	N/a
Required Textbooks	N/a
Recommended Textbooks	Introduction to Meta-Analysis Borenstein
Recommended Websites	N/a
EReserves	N/a

Information	
Required Equipment/Uniform	N/a
Required Software/Online Tools	<p>My Apps: https://myapps.rush.edu/</p> <p>Students are recommended to use My Apps, which is a virtual desktop where Office software, Rush Email, and secure storage is provided. Visit https://rushuportal.learning.rush.edu/faq for more information about the My Apps virtual environment. Students are also able to log into RULearning from MyApps.</p> <p>RULearning Login Page: https://rulearning.rush.edu/</p> <p>Students are also able to access RULearning via the listed login page.</p> <p>Microsoft Office Suite: Word, Excel, and PowerPoint If you do not already have the Microsoft Office software you can access the Suite through My Apps or download a copy of the Microsoft Office suite at a reduced cost for Windows or Mac users: https://rush.onthehub.com/</p> <p>Internet Browsers Students should have access to more than one browser, such as Internet Explorer, Chrome, Firefox or Safari. All browsers should be the most up-to-date version available.</p> <p>Adobe Acrobat Reader Students should have access to the most up-to-date Adobe Acrobat Reader.</p>
Internet Requirements	Students must have access to a high-speed internet connection when working off campus.

COURSE CONTENT				
DATES	Content	Learning Activities*	Assignments/ Assessments	% of Course Grade*
Week 1 Tues 12/11	3:30 – 4:30 p.m. Intro to Meta-Analysis 4:30 – 5:30 p.m. Basic Facts of Meta-Analysis 5:30 – 6:30 p.m. Why Perform a Meta-Analysis 6:30 – 7:30 p.m. Basic Approaches	*(list materials here or provide location of materials)		*This could also be expresse d as POINTS
Week 2 Thurs 12/13	3:30 – 4:30 p.m. Key Points on Performing a Meta-Analysis 4:30 – 7:30 p.m. Measuring Heterogeneity, Subgroups & Meta-Regression			
Week 3 Tues 12/18	3:30 – 4:30 p.m. Additional Topic on Meta- Analysis 4:30 – 7:30 p.m. The “Step-by-Step Program Review			
Week 4 Thurs 12/20	3:30 – 4:30 p.m. Meta-Analysis Topic Presentation Workshop 4:30 – 7:30 p.m. Meta-Analysis Methods Presentations			

Summary of Evaluation Methods of Student Performance

The student's final grade will be determined as follows:

Midterm	40%
Final examination	60%
Total:	100%

Grading Policies

Course Grading Scale	Final course grades are determined using the allocation of credit for each assignment and exam listed within Course Content. The grading scale for the course is as follows: A= 90%–100% B= 80%–89% C= 70%–79% Below 70% = F
Timeframe for Reporting Grades	One week following exam
Assignment Submission	REQUIRED
Late Assignments	Expected to submit all assignments on time.
Late Exams	N/a
Attendance Expectations	Attendance is recommended.
Participation Expectations	REQUIRED

COURSE COMMUNICATION

Course Communication	REQUIRED
Timeframe for faculty response to students	REQUIRED
Expectations for professional behavior/ Netiquette	<p><i>You can edit this section as needed. Sample text is listed below.</i></p> <p>All students are expected to:</p> <ol style="list-style-type: none"> 1. Show respect for other students and the instructors in the class. 2. Be sensitive to the fact that there will be cultural and linguistic backgrounds, as well as different political and religious beliefs. 3. Express differences of opinion in a polite and rational way. 4. Maintain an environment of constructive criticism when commenting on the work of other students or the course. 5. Respect the privacy of other students. 6. Use good grammar and spelling. 7. Use salutations and titles in your messages. Formal titles (Dear Dr. Smith, Dear Professor, Dear Classmates) are always acceptable. It is also appropriate to end you note with a closing, (Thank you, Sincerely, Respectfully) when emailing students or faculty.

	<p>8. Be sure to say please and thank you.</p> <p>9. Send only one message about a topic and wait for an answer.</p> <p>10. Write your messages in formal language using sentences, capitalization, punctuation, and appropriate grammar.</p>
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RESOURCES and SUPPORT

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Counseling Center	<p>The Rush University Counseling Center offers free, confidential services to all currently enrolled Rush University students. The Center is staffed by clinical psychologists who can help you address a wide range of issues. For more information regarding the Center and its services call (312) 942-3687.</p> <p>All students, including distance learners, have access to the Student Assistance Program at 1-800-292-2780.</p>

UNIVERSITY POLICIES

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Honor Code and Academic Honesty	<p>Students are expected to abide by the Rush Honor Code relating to academic integrity throughout all aspects of this course, including all assignments and</p>

	<p>exams. As trusted health care professionals, we take the issue of academic integrity very seriously and expect that you will adhere to the highest standards of integrity at all times.</p> <p>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 action includes:</p> <ul style="list-style-type: none"> • <i>Cheating</i>: Using unauthorized material or unauthorized help from another person in any work submitted for academic credit. • <i>Fabrication</i>: Inventing information or citations in an academic or clinical exercise. • <i>Facilitating Academic Dishonesty</i>: Providing unauthorized material or information to another person. • <i>Plagiarism</i>: Submitting the work of another person or persons, as one's own without acknowledging the correct source. • <i>Unauthorized Examination Behavior</i>: Conversing with another person, passing or receiving material to/from another person or temporarily leaving an examination site to visit an unauthorized site.
Intellectual Properties Protection	<p>All materials contained within this syllabus, course and course materials, whether in written form or presented through video or audio transmission, 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.</p>
Prohibition against Harassment, Discrimination, and Sexual Misconduct Policy	<p>Click on link below to access the RUMC policy "Prohibition against Harassment, Discrimination, and Sexual Misconduct." The procedure for reporting harassment, discrimination, and/or sexual misconduct is found on p. 3.</p> <p>https://www.rushu.rush.edu/sites/default/files/Rush%20PDFs%20and%20Files/sexual-harassment-policy-2014.pdf</p>

COLLEGE SPECIFIC POLICIES--OPTIONAL

UNIVERSITY MISSION STATEMENT

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Rush University Graduate College Course Syllabus

Course Number	GCC 551
Course Title	Ethics in Biomedical Research and the IRB
Course Code	WE
Credit Hours	2 semester hours
Clinical Practicum/Clerkship Hours	N/a
Term and Year	FA 2018
Location (in-class sessions)	TBD
Course Coordinator/Course Director(s) Name and Contact Information	Johnathan Young, PhD Jonathan_Young@rush.edu 312-942-3571 Jelke Building, Suite 601 Office Hours by appointment
Additional Course Faculty Information	N/a

Course Description	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.
Course Objectives	<p>Course Learning Objectives</p> <ul style="list-style-type: none"> • 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.
Prerequisites	N/a
Co-requisites	N/a
Required Textbooks	National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. The Belmont report: ethical principles and guidelines for the protection of human subjects of research, http://www.hhs.gov/ohrp/regulations-and-

	policy/belmont-report/index/html - provided
Recommended Textbooks	N/a
Recommended Websites	N/a
EReserves Information	N/a
Required Equipment/Uniform	N/a
Required Software/Online Tools	<p>My Apps: https://myapps.rush.edu/</p> <p>Students are recommended to use My Apps, which is a virtual desktop where Office software, Rush Email, and secure storage is provided. Visit https://rushuportal.learning.rush.edu/faq for more information about the My Apps virtual environment. Students are also able to log into RULearning from MyApps.</p> <p>RULearning Login Page: https://rulearning.rush.edu/</p> <p>Students are also able to access RULearning via the listed login page.</p> <p>Microsoft Office Suite: Word, Excel, and PowerPoint</p> <p>If you do not already have the Microsoft Office software you can access the Suite through My Apps or download a copy of the Microsoft Office suite at a reduced cost for Windows or Mac users: https://rush.onthehub.com/</p> <p>Internet Browsers</p> <p>Students should have access to more than one browser, such as Internet Explorer, Chrome, Firefox or Safari. All browsers should be the most up-to-date version available.</p> <p>Adobe Acrobat Reader</p> <p>Students should have access to the most up-to-date Adobe Acrobat Reader.</p>
Internet Requirements	Students must have access to a high-speed internet connection when working off campus.

COURSE CONTENT				
DATES	Content	Learning Activities*	Assignments/ Assessments	% of Course Grade*
Week 1 9/6/18 3:30 p.m. – 6:30 p.m.	9/6/18 – 3:30 - 4:30 p.m. Intro to Clinical Research Ethics 4:30 - 5:30 p.m. Bioethics 5:30 - 6:30 p.m. Early History and the Nazis	*(list materials here or provide location of materials)		*This could also be expressed as POINTS
Week 2 9/11/18 3:30 p.m. – 4:30 p.m.	9/11/18 – 3:30 - 4:30 p.m. Scientific Integrity			
Week 3 9/18/18 3:30 p.m. – 4:30 p.m.	9/18/18 – 3:30 – 4:30 p.m. Rush Research Portal			
Week 4 9/25/18 3:30 p.m. – 4:30 p.m.	9/25/18 – 3:30 - 4:30 p.m. Regulatory IRB Mandate			
Week 5 10/2/18 3:30 p.m. – 4:30 p.m.	10/2/18 – 3:30 - 4:30 p.m. Tuskegee Syphilis Study			

Week 6 10/9/18 3:30 p.m. – 4:30 p.m.	10/9/18 – 3:30 - 4:30 p.m. Henrietta Lacks & Clinical Research			
Week 7 10/16/18 3:30 p.m. – 4:30 p.m.	10/16/18 – 3:30 - 4:30 p.m. Policy Development & Ethics			
Week 8 10/23/18 3:30 p.m. – 4:30 p.m.	10/23/18 – 3:30 - 4:30 p.m. NIH Guidelines & Ethical Research			

Summary of Evaluation Methods of Student Performance

The student's final grade will be determined as follows:

- a. A brief written assessment of the Belmont Report and how it should affect 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 (2x). - **25 points (2x)**
- c. Submit one brief opinion paper, discussing your overall experience and your thoughts about the IRB process. - **25 points**

Total Points: **100 pts**

Grading Policies

Course Grading Scale	Final course grades are determined using the allocation of credit for each assignment and exam listed within Course Content. The grading scale for the course is as follows: A= 90%–100% B= 80%–89% C= 70%–79% Below 70% = F (<i>not passing</i>)
Timeframe for Reporting Grades	REQUIRED
Assignment Submission	REQUIRED
Late Assignments	Expected to submit all assignments by the end of the semester.
Late Exams	N/a
Attendance Expectations	100% attendance is required for IRB Observation, and 2 self-scheduled IRB meetings.
Participation Expectations	<p>During the fall session, there will be didactic classes and you will participate in two actual IRB meetings.</p> <ol style="list-style-type: none"> 1. Attend the “IRB Observation” class prior to scheduling your two IRB participation sessions. <ol style="list-style-type: none"> a. The IRB Observation class is scheduled for 9/25/18. 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 Jonathan.Young@rush.edu. 2. Attend two sessions of IRB meetings as non-voting participants. These meetings are to be completed between 09/25/2018 and 12/20/2018 (sign up as instructed below #6). <ol style="list-style-type: none"> a. For each meeting you attend, <u>you</u> are to choose a new study to review prior to the meeting and be prepared to discuss your review during the meeting.

	<ul style="list-style-type: none"> 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. <p>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.</p> <p>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 10/17/2018. 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.</p> <p>Contact Elanda Shannon via phone (312-563-2721) or email (Elanda.T.Shannon@rush.edu) for questions and to schedule your IRB meeting dates.</p> <p>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.</p>
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COURSE COMMUNICATION	
Course Communication	REQUIRED
Timeframe for faculty response to students	REQUIRED
Expectations for professional behavior/ Netiquette	<p><i>You can edit this section as needed. Sample text is listed below.</i></p> <p>All students are expected to:</p> <ol style="list-style-type: none"> 1. Show respect for other students and the instructors in the class. 2. Be sensitive to the fact that there will be cultural and linguistic backgrounds, as well as different political and religious beliefs. 3. Express differences of opinion in a polite and rational way. 4. Maintain an environment of constructive criticism when commenting on the work of other students or the course. 5. Respect the privacy of other students. 6. Use good grammar and spelling. 7. Use salutations and titles in your messages. Formal titles (Dear Dr. Smith, Dear Professor, Dear Classmates) are always acceptable. It is also

	<p>appropriate to end your note with a closing, (Thank you, Sincerely, Respectfully) when emailing students or faculty.</p> <p>8. Be sure to say please and thank you.</p> <p>9. Send only one message about a topic and wait for an answer.</p> <p>10. Write your messages in formal language using sentences, capitalization, punctuation, and appropriate grammar.</p>
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STRATEGIES FOR SUCCESS

REQUIRED List course success strategies.

RESOURCES and SUPPORT

Resources for Technology Problems	<p>If you need help with RULearning, call the RULearning Help line at (312) 563-CLAS, option 2. The RULearning help line is available 24/7/365.</p> <p>If you need help with access to your Rush computer account or software, call the Rush University Help desk at (312) 563-CLAS, option 4.</p>
Counseling Center	<p>The Rush University Counseling Center offers free, confidential services to all currently enrolled Rush University students. The Center is staffed by clinical psychologists who can help you address a wide range of issues. For more information regarding the Center and its services call (312) 942-3687.</p> <p>All students, including distance learners, have access to the Student Assistance Program at 1-800-292-2780.</p>

UNIVERSITY POLICIES

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Honor Code and Academic Honesty	<p>Students are expected to abide by the Rush Honor Code relating to academic integrity throughout all aspects of this course, including all assignments and exams. As trusted health care professionals, we take the issue of academic integrity very seriously and expect that you will adhere to the highest standards of integrity at all times.</p> <p>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 action includes:</p> <ul style="list-style-type: none"> • <i>Cheating</i>: Using unauthorized material or unauthorized help from another person in any work submitted for academic credit. • <i>Fabrication</i>: Inventing information or citations in an academic or clinical exercise. • <i>Facilitating Academic Dishonesty</i>: Providing unauthorized material or information to another person. • <i>Plagiarism</i>: Submitting the work of another person or persons, as one's own without acknowledging the correct source. • <i>Unauthorized Examination Behavior</i>: Conversing with another person, passing or receiving material to/from another person or temporarily leaving an examination site to visit an unauthorized site.
Intellectual Properties Protection	<p>All materials contained within this syllabus, course and course materials, whether in written form or presented through video or audio transmission, 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.</p>
Prohibition against Harassment, Discrimination, and Sexual Misconduct Policy	<p>Click on link below to access the RUMC policy "Prohibition against Harassment, Discrimination, and Sexual Misconduct." The procedure for reporting harassment, discrimination, and/or sexual misconduct is found on p. 3. https://www.rushu.rush.edu/sites/default/files/Rush%20PDFs%20and%20Files/sexual-harassment-policy-2014.pdf</p>

COLLEGE SPECIFIC POLICIES--OPTIONAL

UNIVERSITY MISSION STATEMENT

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

Rush University Graduate College Course Syllabus

Course Number	PHR 556
Course Title	Tools for Research
Course Code	WE
Credit Hours	1 semester hours
Clinical Practicum/Clerkship Hours	N/a
Term and Year	FA 2018
Location (in-class sessions)	TBD
Course Coordinator/Course Director(s) Name and Contact Information	Avik Roy, PhD Avik_Roy@rush.edu 312-942-8274 Cohn Research Building, Suite # 344 Available from 10 AM to 6 PM Monday through Friday
Additional Course Faculty Information	N/a

Course Description	This course focuses on the practical computer skills required to work as a scientist in the information age. It includes didactic lecture and computer practice on PubMed, reference programs, Excel, Adobe Photoshop, Sigma Plot and importing into Word or Excel spreadsheets as well as the use of descriptive analytics. Finally students are introduced to the research section of the NIH website with the emphasis on finding grant information and the mechanisms of online grant applications.
Course Objectives	Upon completion of the course, the student will be able to: <ol style="list-style-type: none"> 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.

Prerequisites	N/a
Co-requisites	N/a
Required Textbooks	N/a
Recommended Textbooks	N/a
Recommended Websites	N/a
EReserves Information	N/a
Required Equipment/Uniform	N/a
Required Software/Online Tools	<p>My Apps: https://myapps.rush.edu/</p> <p>Students are recommended to use My Apps, which is a virtual desktop where Office software, Rush Email, and secure storage is provided. Visit https://rushuportal.learning.rush.edu/fag for more information about the My Apps virtual environment. Students are also able to log into RULearning from MyApps.</p> <p>RULearning Login Page: https://rulearning.rush.edu/</p> <p>Students are also able to access RULearning via the listed login page.</p> <p>Microsoft Office Suite: Word, Excel, and PowerPoint</p> <p>If you do not already have the Microsoft Office software you can access the Suite through My Apps or download a copy of the Microsoft Office suite at a reduced cost for Windows or Mac users: https://rush.onthehub.com/</p> <p>Internet Browsers</p> <p>Students should have access to more than one browser, such as Internet Explorer, Chrome, Firefox or Safari. All browsers should be the most up-to-date version available.</p> <p>Adobe Acrobat Reader</p> <p>Students should have access to the most up-to-date Adobe Acrobat Reader.</p>
Internet Requirements	Students must have access to a high-speed internet connection when working off campus.

COURSE CONTENT				
DATES	Content	Learning Activities*	Assignments/ Assessments	% of Course Grade*
Week 1 <i>Thurs</i> 11/15/18	3:30 - 4:30 p.m. [REDACTED] Tools for Research Intro 4:30 – 7:30 p.m. [REDACTED] Bibliography Research Work	*(list materials here or provide location of materials)		*This could also be expresse d as POINTS
Week 2 <i>Thurs</i> 11/29/18	3:30 – 4:30 p.m. [REDACTED] Standard Curves 4:30 - 5:30 p.m. [REDACTED] Photo Shop 5:30 – 7:30 p.m. [REDACTED] Importation of Word			
Week 3 <i>Thurs</i> 12/06/18	3:30 – 5:30 p.m. [REDACTED] Grants & Gov			

Summary of Evaluation Methods of Student Performance

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.

Grading Policies

Course Grading Scale	Final course grades are determined using the allocation of credit for each assignment and exam listed within Course Content. The grading scale for the course is as follows: A= 85%–100% B = 75%–84% C= 60%–74% F= < 59%
Timeframe for Reporting Grades	REQUIRED
Assignment Submission	REQUIRED
Late Assignments	REQUIRED
Late Exams	REQUIRED
Attendance Expectations	Attendance at the lectures is the best way to assure that you have access to the software and know how to do the work.
Participation Expectations	This is a “hands on” course. Students are expected to follow the instructor's demonstration. Lectures are tailored to allow for questions and have natural break points built in for individual help. 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 performing the assignment and distracting others will be asked to leave.

COURSE COMMUNICATION

Course Communication	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).
Timeframe for faculty response to students	REQUIRED
Expectations for professional behavior/ Netiquette	All students are expected to: <ol style="list-style-type: none"> 1. Show respect for other students and the instructors in the class. 2. Be sensitive to the fact that there will be cultural and linguistic backgrounds, as well as different political and religious beliefs. 3. Express differences of opinion in a polite and rational way.

	<ol style="list-style-type: none"> 4. Maintain an environment of constructive criticism when commenting on the work of other students or the course. 5. Respect the privacy of other students. 6. Use good grammar and spelling. 7. Use salutations and titles in your messages. Formal titles (Dear Dr. Smith, Dear Professor, Dear Classmates) are always acceptable. It is also appropriate to end you note with a closing, (Thank you, Sincerely, Respectfully) when emailing students or faculty. 8. Be sure to say please and thank you. 9. Send only one message about a topic and wait for an answer. 10. Write your messages in formal language using sentences, capitalization, punctuation, and appropriate grammar.
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STRATEGIES FOR SUCCESS

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.

RESOURCES and SUPPORT

Resources for Technology Problems	<p>If you need help with RULearning, call the RULearning Help line at (312) 563-CLAS, option 2. The RULearning help line is available 24/7/365.</p> <p>If you need help with access to your Rush computer account or software, call the Rush University Help desk at (312) 563-CLAS, option 4.</p>
Counseling Center	<p>The Rush University Counseling Center offers free, confidential services to all currently enrolled Rush University students. The Center is staffed by clinical psychologists who can help you address a wide range of issues. For more information regarding the Center and its services call (312) 942-3687.</p> <p>All students, including distance learners, have access to the Student Assistance Program at 1-800-292-2780.</p>

UNIVERSITY POLICIES

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	<p>students should not make accommodation requests to individual faculty members, lecturers, or course directors; instead, please contact: Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services Phone: (312) 942-5237 Fax: (312) 942-2778 Email: Marie_S_Ferro-Lusk@rush.edu Website: https://www.rushu.rush.edu/students-disabilities</p>
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Intellectual Properties Protection	<p>All materials contained within this syllabus, course and course materials, whether in written form or presented through video or audio transmission, 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.</p>
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COLLEGE SPECIFIC POLICIES--OPTIONAL

UNIVERSITY MISSION STATEMENT

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Rush University Graduate College Course Syllabus

Course Number	CRE 523
Course Title	Readings in Clinical Research
Course Code	WE
Credit Hours	1 semester hours
Clinical Practicum/Clerkship Hours	N/a
Term and Year	SP 2019
Location (in-class sessions)	TBD
Course Coordinator/Course Director(s) Name and Contact Information	John Somberg, MD jsomberg@rush.edu 312-942-6590 Cohn Research Building, Room 418 Office hours: Tuesdays, 12-3:30 PM
Additional Course Faculty Information	N/a

Course Description	This course consists of seminars evaluating clinical research studies in the literature. Each seminar will evaluate a clinical study, its attributes and the methodological problems. Many of the studies discussed will have been undertaken by Rush Clinical Investigators and one of the investigators will lead the discussion.
Course Objectives	At the completion of this course, the student will be able to: <ol style="list-style-type: none"> 1. Understand the problems clinical researchers can encounter. 2. Be able to evaluate possible solutions to methodologic problems that experienced clinical researchers at Rush University Medical Center have encountered.
Prerequisites	GCC 557 & GCC 558
Co-requisites	N/a
Required Textbooks	N/a
Recommended Textbooks	N/a
Recommended Websites	N/a
EReserves Information	N/a
Required	N/a

Equipment/ Uniform	
Required Software/Online Tools	<p>My Apps: https://myapps.rush.edu/</p> <p>Students are recommended to use My Apps, which is a virtual desktop where Office software, Rush Email, and secure storage is provided. Visit https://rushuportal.learning.rush.edu/fag for more information about the My Apps virtual environment. Students are also able to log into RULearning from MyApps.</p> <p>RULearning Login Page: https://rulearning.rush.edu/</p> <p>Students are also able to access RULearning via the listed login page.</p> <p>Microsoft Office Suite: Word, Excel, and PowerPoint If you do not already have the Microsoft Office software you can access the Suite through My Apps or download a copy of the Microsoft Office suite at a reduced cost for Windows or Mac users: https://rush.onthehub.com/</p> <p>Internet Browsers Students should have access to more than one browser, such as Internet Explorer, Chrome, Firefox or Safari. All browsers should be the most up-to-date version available.</p> <p>Adobe Acrobat Reader Students should have access to the most up-to-date Adobe Acrobat Reader.</p>
Internet Requirements	Students must have access to a high-speed internet connection when working off campus.

COURSE CONTENT				
DATES [For face-to-face sessions suggest to include location/days /times here]	Content	Learning Activities*	Assignments/ Assessments	% of Course Grade*
Week 1 <i>Begins</i>		*(list materials here or provide location of materials)		*This could also be expressed as POINTS
Week 2 <i>Begins</i>				
Week 3 <i>Begins</i>				

Week 4 <i>Begins</i>				
Week 5 <i>Begins</i>				
Week 6 <i>Begins</i>				
Week 7 <i>Begins</i>				
Week 8 <i>Begins</i>				
Week 9 <i>Begins</i>				

Week 10 <i>Begins</i>				
Week 11 <i>Begins</i>				
Week 12 <i>Begins</i>				
Week 13 <i>Begins</i>				
Week 14 <i>Begins</i>				
Week 15 <i>Begins</i>				

Summary of Evaluation Methods of Student Performance

The student's final grade will be determined as follows:

Midterm	40%
Final examination	60%
Total:	100%

Grading Policies

Course Grading Scale	Final course grades are determined using the allocation of credit for each assignment and exam listed within Course Content. The grading scale for the course is as follows: A= 90%–100% B= 80%–89% C= 70%–79% Below 70% = F
Timeframe for Reporting Grades	REQUIRED
Assignment Submission	REQUIRED
Late Assignments	N/a
Late Exams	N/a
Attendance Expectations	Attendance is recommended.
Participation Expectations	REQUIRED

COURSE COMMUNICATION

Course Communication	REQUIRED
Timeframe for faculty response to students	REQUIRED
Expectations for professional behavior/ Netiquette	<p><i>You can edit this section as needed. Sample text is listed below.</i></p> <p>All students are expected to:</p> <ol style="list-style-type: none"> 1. Show respect for other students and the instructors in the class. 2. Be sensitive to the fact that there will be cultural and linguistic backgrounds, as well as different political and religious beliefs. 3. Express differences of opinion in a polite and rational way. 4. Maintain an environment of constructive criticism when commenting on the work of other students or the course. 5. Respect the privacy of other students. 6. Use good grammar and spelling. 7. Use salutations and titles in your messages. Formal titles (Dear Dr. Smith, Dear Professor, Dear Classmates) are always acceptable. It is also appropriate to end you note with a closing, (Thank you, Sincerely, Respectfully) when emailing students or faculty.

	<p>8. Be sure to say please and thank you.</p> <p>9. Send only one message about a topic and wait for an answer.</p> <p>10. Write your messages in formal language using sentences, capitalization, punctuation, and appropriate grammar.</p>
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STRATEGIES FOR SUCCESS

REQUIRED List course success strategies.

RESOURCES and SUPPORT

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Honor Code and Academic Honesty	<p>Students are expected to abide by the Rush Honor Code relating to academic integrity throughout all aspects of this course, including all assignments and</p>

	<p>exams. As trusted health care professionals, we take the issue of academic integrity very seriously and expect that you will adhere to the highest standards of integrity at all times.</p> <p>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 action includes:</p> <ul style="list-style-type: none"> • <i>Cheating</i>: Using unauthorized material or unauthorized help from another person in any work submitted for academic credit. • <i>Fabrication</i>: Inventing information or citations in an academic or clinical exercise. • <i>Facilitating Academic Dishonesty</i>: Providing unauthorized material or information to another person. • <i>Plagiarism</i>: Submitting the work of another person or persons, as one's own without acknowledging the correct source. • <i>Unauthorized Examination Behavior</i>: Conversing with another person, passing or receiving material to/from another person or temporarily leaving an examination site to visit an unauthorized site.
Intellectual Properties Protection	<p>All materials contained within this syllabus, course and course materials, whether in written form or presented through video or audio transmission, 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.</p>
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COLLEGE SPECIFIC POLICIES--OPTIONAL

UNIVERSITY MISSION STATEMENT

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Rush University Graduate College Course Syllabus

Course Number	GCC 547
Course Title	Biostatistics II
Course Code	WE
Credit Hours	2 semester hours
Clinical Practicum/Clerkship Hours	N/a
Term and Year	SP 2019
Location (in-class sessions)	TBD
Course Coordinator/Course Director(s) Name and Contact Information	Dr. Sanjib Basu Sanjib_Basu@rush.edu 630-803-2561 office location, office hours
Additional Course Faculty Information	N/a

Course Description	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 as well as Bayesian approaches to trial design are presented.
Course Objectives	Course Learning Objectives <ol style="list-style-type: none"> 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.
Prerequisites	N/a
Co-requisites	N/a
Required Textbooks	Information given by instructor
Recommended Textbooks	N/a
Recommended Websites	N/a
EReserves	N/a

Information	
Required Equipment/Uniform	N/a
Required Software/Online Tools	<p>My Apps: https://myapps.rush.edu/</p> <p>Students are recommended to use My Apps, which is a virtual desktop where Office software, Rush Email, and secure storage is provided. Visit https://rushuportal.learning.rush.edu/faq for more information about the My Apps virtual environment. Students are also able to log into RULearning from MyApps.</p> <p>RULearning Login Page: https://rulearning.rush.edu/</p> <p>Students are also able to access RULearning via the listed login page.</p> <p>Microsoft Office Suite: Word, Excel, and PowerPoint</p> <p>If you do not already have the Microsoft Office software you can access the Suite through My Apps or download a copy of the Microsoft Office suite at a reduced cost for Windows or Mac users: https://rush.onthehub.com/</p> <p>Internet Browsers</p> <p>Students should have access to more than one browser, such as Internet Explorer, Chrome, Firefox or Safari. All browsers should be the most up-to-date version available.</p> <p>Adobe Acrobat Reader</p> <p>Students should have access to the most up-to-date Adobe Acrobat Reader.</p>
Internet Requirements	Students must have access to a high-speed internet connection when working off campus.

COURSE CONTENT				
DATES	Content	Learning Activities*	Assignments/ Assessments	% of Course Grade*
Week 1 <i>Thurs</i> 1/10/9 3:30-7:00	Analysis of Variance -1	*(list materials here or provide location of materials)		*This could also be expresse d as POINTS
Week 2 <i>Thurs</i> 1/17/19 3:30-7:00	Analysis of Variance -2			
Week 3 <i>Thurs</i> 1/24/19 3:30-7:00	Correlation and Linear Regression			
Week 4 <i>Thurs</i> 1/31/19 3:30-7:00	Multivariable Linear Regression			
Week 5 <i>Thurs</i> 2/7/19 3:30-6:30	Biostatistics Exam-1			
Week 6 <i>Thurs</i> 2/14/19 3:30-6:30	Binary outcome data analysis			

Week 7 <i>Thurs</i> 2/21/19 3:30-6:30	Binary outcome data analysis-2 & ROC curve			
Week 8 <i>Thurs</i> 2/28/19 3:30-6:30	Time-to-event data analysis-1			
Week 9 <i>Thurs</i> 3/7/19 3:30-6:30	Time-to-event data analysis-2			
Week 10 <i>Thurs</i> 3/14/19	3:30-4:30 Sensitivity Analysis 4:30-6:30 Censoring Data & Propensity Scoring			
Week 11 <i>Thurs</i> 3/21/19 3:30-7:00	Biostatistics Review			
Week 12 <i>Thurs</i> 3/28/19 5:00-7:00	Biostatistics II Final Exam			

Summary of Evaluation Methods of Student Performance

List evaluation methods information here.

Proctored Assessment(s)

Final Exam-Thursdays, March 28th 5:00-6:30

Grading Policies

Course Grading Scale	Final course grades are determined using the allocation of credit for each assignment and exam listed within Course Content. The grading scale for the course is as follows: <div style="margin-left: 40px;"> 90-100% A 80-90% B 69-79% C Under 55% F </div>
Timeframe for Reporting Grades	REQUIRED
Assignment Submission	REQUIRED
Late Assignments	Discuss with Program Director
Late Exams	Discuss with Program Director
Attendance Expectations	Required
Participation Expectations	REQUIRED

COURSE COMMUNICATION

Course Communication	REQUIRED
Timeframe for faculty response to students	REQUIRED
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STRATEGIES FOR SUCCESS

REQUIRED List course success strategies.

RESOURCES and SUPPORT

Resources for Technology Problems	<p>If you need help with RULearning, call the RULearning Help line at (312) 563-CLAS, option 2. The RULearning help line is available 24/7/365.</p> <p>If you need help with access to your Rush computer account or software, call the Rush University Help desk at (312) 563-CLAS, option 4.</p>
Counseling Center	<p>The Rush University Counseling Center offers free, confidential services to all currently enrolled Rush University students. The Center is staffed by clinical psychologists who can help you address a wide range of issues. For more information regarding the Center and its services call (312) 942-3687.</p> <p>All students, including distance learners, have access to the Student Assistance Program at 1-800-292-2780.</p>

UNIVERSITY POLICIES

Academic Policies STANDARD	<p>Students are responsible for following all Rush University policies and the policies that are specific to their college of admittance. Please refer to the Rush University Student Handbook and the relevant College Student Handbooks for more information. Selected policies are described below.</p>
Disability Accommodations STANDARD	<p>Rush University is committed to attracting and educating students who will help to make the health care profession representative of the national population, including individuals with disabilities. Part of Rush University's mission is to promote diversity among its student population and to provide equal access to its facilities, programs, services and learning opportunities. In keeping with this mission, the University encourages students with disabilities to engage the Office of Student Disability Services as soon as they begin their program.</p> <p>Students should contact Marie Ferro-Lusk, Manager, Office of Student Disability Services at Rush University, to engage in a confidential conversation about the process for requesting reasonable accommodations in the classroom and clinical settings. Accommodations are not provided retroactively at the University. Additional information can be found online at the Office of Student Disability website or by contacting the Office of Student Disability Services. In order to respect students' privacy and ensure a thoughtful interactive discussion, students should not make accommodation requests to individual faculty members, lecturers, or course directors; instead, please contact:</p> <p>Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services Phone: (312) 942-5237 Fax: (312) 942-2778 Email: Marie_S_Ferro-Lusk@rush.edu Website: https://www.rushu.rush.edu/students-disabilities</p>
Honor Code and Academic Honesty	<p>Students are expected to abide by the Rush Honor Code relating to academic integrity throughout all aspects of this course, including all assignments and</p>

	<p>exams. As trusted health care professionals, we take the issue of academic integrity very seriously and expect that you will adhere to the highest standards of integrity at all times.</p> <p>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 action includes:</p> <ul style="list-style-type: none"> • <i>Cheating</i>: Using unauthorized material or unauthorized help from another person in any work submitted for academic credit. • <i>Fabrication</i>: Inventing information or citations in an academic or clinical exercise. • <i>Facilitating Academic Dishonesty</i>: Providing unauthorized material or information to another person. • <i>Plagiarism</i>: Submitting the work of another person or persons, as one's own without acknowledging the correct source. • <i>Unauthorized Examination Behavior</i>: Conversing with another person, passing or receiving material to/from another person or temporarily leaving an examination site to visit an unauthorized site.
Intellectual Properties Protection	<p>All materials contained within this syllabus, course and course materials, whether in written form or presented through video or audio transmission, 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.</p>
Prohibition against Harassment, Discrimination, and Sexual Misconduct Policy	<p>Click on link below to access the RUMC policy "Prohibition against Harassment, Discrimination, and Sexual Misconduct." The procedure for reporting harassment, discrimination, and/or sexual misconduct is found on p. 3.</p> <p>https://www.rushu.rush.edu/sites/default/files/Rush%20PDFs%20and%20Files/sexual-harassment-policy-2014.pdf</p>

COLLEGE SPECIFIC POLICIES--OPTIONAL

UNIVERSITY MISSION STATEMENT

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

Rush University Graduate College Course Syllabus

Course Number	GCC 549
Course Title	Bioinformatics II
Course Code	WE
Credit Hours	1 semester hour
Clinical Practicum/Clerkship Hours	N/a
Term and Year	SP 2019
Location (in-class sessions)	TBD
Course Coordinator/Course Director(s) Name and Contact Information	Carlos Santos, M.D. Carlos_A_Santos@rush.edu 312 563-6372 office location, office hours
Additional Course Faculty Information	N/a

Course Description	This course is an introduction to techniques and methodologies for assembling large data bases, their curation and analysis to answer research questions. The use of electronic medical record data for research is discussed along with confidentiality requirements and regulations.
Course Objectives	At the completion of this course, the student will be able to: <ol style="list-style-type: none"> 1. Understand the regulatory and safety requirements that surround clinical data. 2. Understand the local and regional informatics systems and how to utilize these resources for research purposes 3. Understand what questions to ask data sets to address specific clinical research questions. 4. To understand the limitations of large data sets and what may confound these data sets when using them for clinical research. 5. Utilize common tools to perform a basic descriptive analysis of a data set.
Prerequisites	Completion of GCC-548 Bioinformatics I
Co-requisites	N/a
Required Textbooks	N/a
Recommended Textbooks	Alyass, A., Turcotte, M., & Meyre, D. (2015). From big data analysis to personalized medicine for all: Challenges and opportunities. BMC Medical Genomics, 8, 33-015-

	<p>0108-y.</p> <p>Baer, T. M., Mulshine, J. L., & Jacobs, J. J. (2007). Biomedical imaging archive network. <i>Skeletal Radiology</i>, 36(9), 799-801.</p> <p>Christakis, N. A., & Fowler, J. H. (2008). The collective dynamics of smoking in a large social network. <i>The New England Journal of Medicine</i>, 358(21), 2249-2258.</p> <p>Embi, P. J., Hebert, C., Gordillo, G., Kelleher, K., & Payne, P. R. (2013). Knowledge management and informatics considerations for comparative effectiveness research: A case-driven exploration. <i>Medical Care</i>, 51(8 Suppl 3), S38-44.</p> <p>Hersh, W. R., Weiner, M. G., Embi, P. J., Logan, J. R., Payne, P. R., Bernstam, E. V., et al. (2013). Caveats for the use of operational electronic health record data in comparative effectiveness research. <i>Medical Care</i>, 51(8 Suppl 3), S30-7.</p> <p>Huang, S. S., Septimus, E., Kleinman, K., Moody, J., Hickok, J., Avery, T. R., et al. (2013). Targeted versus universal decolonization to prevent ICU infection. <i>The New England Journal of Medicine</i>, 368(24), 2255-2265.</p> <p>Miriovsky, B. J., Shulman, L. N., & Abernethy, A. P. (2012). Importance of health information technology, electronic health records, and continuously aggregating data to comparative effectiveness research and learning health care. <i>Journal of Clinical Oncology : Official Journal of the American Society of Clinical Oncology</i>, 30(34), 4243-4248.</p>
Recommended Websites	N/a
EReserves Information	N/a
Required Equipment/Uniform	N/a
Required Software/Online Tools	<p>My Apps: https://myapps.rush.edu/</p> <p>Students are recommended to use My Apps, which is a virtual desktop where Office software, Rush Email, and secure storage is provided. Visit https://rushuportal.learning.rush.edu/fag for more information about the My Apps virtual environment. Students are also able to log into RULearning from MyApps.</p> <p>RULearning Login Page: https://rulearning.rush.edu/</p> <p>Students are also able to access RULearning via the listed login page.</p> <p>Microsoft Office Suite: Word, Excel, and PowerPoint</p> <p>If you do not already have the Microsoft Office software you can access the Suite through My Apps or download a copy of the Microsoft Office suite at a reduced cost for Windows or Mac users: https://rush.onthehub.com/</p> <p>Internet Browsers</p> <p>Students should have access to more than one browser, such as Internet Explorer, Chrome, Firefox or Safari. All browsers should be the most up-to-date version available.</p>

	Adobe Acrobat Reader Students should have access to the most up-to-date Adobe Acrobat Reader.
Internet Requirements	Students must have access to a high-speed internet connection when working off campus.

COURSE CONTENT				
DATES	Content	Learning Activities*	Assignments/ Assessments	% of Course Grade*
Week 1 Thurs 4/4	3:30-4:30 Bioinformatics II Intro 4:30-7:00 Precision Med & Population Health Research	*(list materials here or provide location of materials)		*This could also be expresse d as POINTS
Week 2 Thurs 4/11	3:30-5:30 Population Health from Benchmarking to common data models 5:30-7:30 Bioinformatics II			
Week 3 Thurs 4/18	3:30-7:30 2 nd Year Presentations (Graduation requirement)			
Week 4 Tues 4/23	3:30-4:30 Bioinformatics II 4:30-5:30 5:30-7:30			
Week 5 Thurs 4/25	3:30-7:30 Bioinformatics II Laboratory			

Summary of Evaluation Methods of Student Performance

The student's final grade will be determined as follows:
 Completion of laboratory exercise in descriptive analytics - 100 points
 Total Points: 100 pts

Grading Policies

Course Grading Scale	Final course grades are determined using the allocation of credit for each assignment and exam listed within Course Content. The grading scale for the course is as follows: A= 90%–100% B= 80%–89% C= 70%–79%
Timeframe for Reporting Grades	REQUIRED
Assignment Submission	REQUIRED
Late Assignments	Expected to submit all assignments on time as specified by the Course Director or by special arrangement on an individual basis.
Late Exams	N/a
Attendance Expectations	Attendance at the computer lab session is mandatory.
Participation Expectations	REQUIRED

COURSE COMMUNICATION

Course Communication	All lectures have been posted online with audio recordings along with the relevant reference materials. Each lecture is following by a question and answer session where students may interact with the presenter. The course director is available for individual data research questions via e-mail and by appointment.
Timeframe for faculty response to students	REQUIRED
Expectations for professional behavior/ Netiquette	<p><i>You can edit this section as needed. Sample text is listed below.</i></p> <p>All students are expected to:</p> <ol style="list-style-type: none"> 1. Show respect for other students and the instructors in the class. 2. Be sensitive to the fact that there will be cultural and linguistic backgrounds, as well as different political and religious beliefs. 3. Express differences of opinion in a polite and rational way. 4. Maintain an environment of constructive criticism when commenting on the work of other students or the course. 5. Respect the privacy of other students. 6. Use good grammar and spelling. 7. Use salutations and titles in your messages. Formal titles (Dear Dr. Smith, Dear Professor, Dear Classmates) are always acceptable. It is also appropriate to end you note with a closing, (Thank you, Sincerely, Respectfully) when emailing students or faculty.

	<p>8. Be sure to say please and thank you.</p> <p>9. Send only one message about a topic and wait for an answer.</p> <p>10. Write your messages in formal language using sentences, capitalization, punctuation, and appropriate grammar.</p>
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STRATEGIES FOR SUCCESS

REQUIRED	List course success strategies.
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RESOURCES and SUPPORT

Resources for Technology Problems	<p>If you need help with RULearning, call the RULearning Help line at (312) 563-CLAS, option 2. The RULearning help line is available 24/7/365.</p> <p>If you need help with access to your Rush computer account or software, call the Rush University Help desk at (312) 563-CLAS, option 4.</p>
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Honor Code and Academic Honesty	Students are expected to abide by the Rush Honor Code relating to academic integrity throughout all aspects of this course, including all assignments and

	<p>exams. As trusted health care professionals, we take the issue of academic integrity very seriously and expect that you will adhere to the highest standards of integrity at all times.</p> <p>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 action includes:</p> <ul style="list-style-type: none"> • <i>Cheating</i>: Using unauthorized material or unauthorized help from another person in any work submitted for academic credit. • <i>Fabrication</i>: Inventing information or citations in an academic or clinical exercise. • <i>Facilitating Academic Dishonesty</i>: Providing unauthorized material or information to another person. • <i>Plagiarism</i>: Submitting the work of another person or persons, as one's own without acknowledging the correct source. • <i>Unauthorized Examination Behavior</i>: Conversing with another person, passing or receiving material to/from another person or temporarily leaving an examination site to visit an unauthorized site.
Intellectual Properties Protection	<p>All materials contained within this syllabus, course and course materials, whether in written form or presented through video or audio transmission, 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.</p>
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COLLEGE SPECIFIC POLICIES--OPTIONAL

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Rush University Graduate College Course Syllabus

Course Number	GCC 552
Course Title	Introduction to the Regulatory Process: Drug Discovery and Development
Course Code	WE
Credit Hours	2 semester hour
Clinical Practicum/Clerkship Hours	N/a
Term and Year	SP 2019
Location (in-class sessions)	TBD
Course Coordinator/Course Director(s) Name and Contact Information	John Somberg, MD jsomberg@rush.edu 312-942-6590 Cohn Research Building, Room 418 Office hours: Tuesdays, 12-3:30 PM
Additional Course Faculty Information	N/a

Course Description	Lecture covers the process of Drug and Device Discovery, the IND or IDE process, preclinical research, clinical research process for Drug and Device studies, New Drug application, international drug development guidelines, IRB in drug research, device development, reporting adverse drug reactions, the use of biologic markers in trials, drug metabolism, Genetics in Drug Development and orphan drug development, as well as PK/PD modeling in Drug Development. Studies on comparative effectiveness research are also introduced.
Course Objectives	At the completion of this course, the student will be able to: <ol style="list-style-type: none"> 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 undertake clinical trials involving medications and devices.
Prerequisites	GCC 557 & GCC 558
Co-requisites	N/a
Required Textbooks	New Drug Approval Process, Fifth Edition Richard A. Guarino, Richard Guarino

	by CRC Press SBN 9781420088496 - CAT# H8849
Recommended Textbooks	New Drug Development: A Regulatory Overview Book by Mark P. Mathieu 8th Revised Edition ISBN-13: 978-1882615858 ISBN-10: 1882615859 Parexal
Recommended Websites	N/a
EReserves Information	N/a
Required Equipment/Uniform	N/a
Required Software/Online Tools	<p>My Apps: https://myapps.rush.edu/</p> <p>Students are recommended to use My Apps, which is a virtual desktop where Office software, Rush Email, and secure storage is provided. Visit https://rushuportal.learning.rush.edu/faq for more information about the My Apps virtual environment. Students are also able to log into RULearning from MyApps.</p> <p>RULearning Login Page: https://rulearning.rush.edu/</p> <p>Students are also able to access RULearning via the listed login page.</p> <p>Microsoft Office Suite: Word, Excel, and PowerPoint If you do not already have the Microsoft Office software you can access the Suite through My Apps or download a copy of the Microsoft Office suite at a reduced cost for Windows or Mac users: https://rush.onthehub.com/</p> <p>Internet Browsers Students should have access to more than one browser, such as Internet Explorer, Chrome, Firefox or Safari. All browsers should be the most up-to-date version available.</p> <p>Adobe Acrobat Reader Students should have access to the most up-to-date Adobe Acrobat Reader.</p>
Internet Requirements	Students must have access to a high-speed internet connection when working off campus.

COURSE CONTENT				
DATES	Content	Learning Activities*	Assignments/ Assessments	% of Course Grade*
Week 1 Tues 2/5	3:30-4:30 Intro to Drug & Device 4:30-7:00 U.S. Regulatory Process	*(list materials here or provide location of materials)		*This could also be expresse d as POINTS
Week 2 Tues 2/12	3:30-7:00 ICH Guidelines Drug & Devices			
Week 3 Tues 2/19	3:30-4:30 Pre-Clinical Pharm 4:30-5:30 IND Preparation 5:30-7:00 Clinical Trials I-IV			
Week 4 Tues 2/26	3:30-4:30 NDA & Biologic Lic 4:30-5:30 IRB in Clinical Research 5:30-7:00 Clinical Trials I-IV			
Week 5 Tues 3/5	3:30-7:00 Orphan Drug Adverse Drug Reaction			
Week 6 Tues 3/12	3:30-4:30 Device Development 4:30-7:00 Biologic Markers			
Week 7 Tues 3/19	3:30-4:30 PK/PD Modeling 4:30-7:00 Genetics in Drug Development			
Week 8 Tues 3/26	3:30-4:30 Drug Metabolism 4:30-7:00 Master's Thesis			

Week 9 Tues 4/2	3:30-4:30 Innovation in Research 4:30-7:00 Comparative Effectiveness Research			
Week 10 Tues 4/9	3:30-5:00 Advanced Trial Designs 5:00-6:00 Non-Inferiority & Superiority Trials 6:00-7:00 Intellectual Property Protection			
Week 11 Tues 4/16	3:30-4:30 Pharmaceutical Research & CRO's 4:30-7:00 HIPPA, IRB in Clinical Research			
Week 12 Fri-Sun 4/19-4/21	EXAM: Drug & Device Development			

Summary of Evaluation Methods of Student Performance

The student's final grade will be determined as follows:

Midterm	40%
Final examination	60%
Total:	100%

Grading Policies

Course Grading Scale	Final course grades are determined using the allocation of credit for each assignment and exam listed within Course Content. The grading scale for the course is as follows: A= 90%–100% B= 80%–89% C= 70%–79% Below 70% = F
Timeframe for Reporting Grades	REQUIRED
Assignment Submission	REQUIRED
Late Assignments	Expected to submit all assignments on time as specified by the Course Director.
Late Exams	N/a
Attendance Expectations	Attendance is highly recommended.
Participation Expectations	REQUIRED

COURSE COMMUNICATION

Course Communication	REQUIRED
Timeframe for faculty response to students	REQUIRED
Expectations for professional behavior/ Netiquette	<p><i>You can edit this section as needed. Sample text is listed below.</i></p> <p>All students are expected to:</p> <ol style="list-style-type: none"> 1. Show respect for other students and the instructors in the class. 2. Be sensitive to the fact that there will be cultural and linguistic backgrounds, as well as different political and religious beliefs. 3. Express differences of opinion in a polite and rational way. 4. Maintain an environment of constructive criticism when commenting on the work of other students or the course. 5. Respect the privacy of other students. 6. Use good grammar and spelling. 7. Use salutations and titles in your messages. Formal titles (Dear Dr. Smith, Dear Professor, Dear Classmates) are always acceptable. It is also appropriate to end you note with a closing, (Thank you, Sincerely, Respectfully) when emailing students or faculty. 8. Be sure to say please and thank you.

	<p>9. Send only one message about a topic and wait for an answer.</p> <p>10. Write your messages in formal language using sentences, capitalization, punctuation, and appropriate grammar.</p>
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STRATEGIES FOR SUCCESS

REQUIRED List course success strategies.

RESOURCES and SUPPORT

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	<p>integrity very seriously and expect that you will adhere to the highest standards of integrity at all times.</p> <p>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 action includes:</p> <ul style="list-style-type: none"> • <i>Cheating</i>: Using unauthorized material or unauthorized help from another person in any work submitted for academic credit. • <i>Fabrication</i>: Inventing information or citations in an academic or clinical exercise. • <i>Facilitating Academic Dishonesty</i>: Providing unauthorized material or information to another person. • <i>Plagiarism</i>: Submitting the work of another person or persons, as one's own without acknowledging the correct source. • <i>Unauthorized Examination Behavior</i>: Conversing with another person, passing or receiving material to/from another person or temporarily leaving an examination site to visit an unauthorized site.
Intellectual Properties Protection	<p>All materials contained within this syllabus, course and course materials, whether in written form or presented through video or audio transmission, 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.</p>
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COLLEGE SPECIFIC POLICIES--OPTIONAL

UNIVERSITY MISSION STATEMENT

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Rush University Graduate College Course Syllabus

Course Number	PVM 553
Course Title	Observational Epidemiology
Course Code	WE
Credit Hours	1 semester hour
Clinical Practicum/Clerkship Hours	N/a
Term and Year	SP 2019
Location (in-class sessions)	TBD
Course Coordinator/Course Director(s) Name and Contact Information	Dr. Imke Janssen Imke_Janssen@rush.edu 312-942-5000 x22337 Office Location Office hours upon request Preferred Method of Contact: Email
Additional Course Faculty Information	N/a

Course Description	Course will provide an in-depth description of case control and cohort studies. This includes the different types (eg, 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 nonparticipation 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.
Course Objectives	The goals of this course are to: <ul style="list-style-type: none"> To know the different types of observational studies that can be used in

	<p>Clinical Research.</p> <ul style="list-style-type: none"> To be able to use epidemiologic techniques to address clinical problems in support of randomized controlled trials, or as an alternative.
Prerequisites	N/a
Co-requisites	N/a
Required Textbooks	(Information given by instructor)
Recommended Textbooks	Intro to Epidemiology by Leon Gordis, 2nd Edition
Recommended Websites	N/a
EReserves Information	N/a
Required Equipment/Uniform	N/a
Required Software/Online Tools	<p>My Apps: https://myapps.rush.edu/</p> <p>Students are recommended to use My Apps, which is a virtual desktop where Office software, Rush Email, and secure storage is provided. Visit https://rushuportal.learning.rush.edu/fag for more information about the My Apps virtual environment. Students are also able to log into RULearning from MyApps.</p> <p>RULearning Login Page: https://rulearning.rush.edu/</p> <p>Students are also able to access RULearning via the listed login page.</p> <p>Microsoft Office Suite: Word, Excel, and PowerPoint</p> <p>If you do not already have the Microsoft Office software you can access the Suite through My Apps or download a copy of the Microsoft Office suite at a reduced cost for Windows or Mac users: https://rush.onthehub.com/</p> <p>Internet Browsers</p> <p>Students should have access to more than one browser, such as Internet Explorer, Chrome, Firefox or Safari. All browsers should be the most up-to-date version available.</p> <p>Adobe Acrobat Reader</p> <p>Students should have access to the most up-to-date Adobe Acrobat Reader.</p>
Internet Requirements	Students must have access to a high-speed internet connection when working off campus.

COURSE CONTENT				
DATES	Content	Learning Activities*	Assignments/ Assessments	% of Course Grade*
Week 1 Thurs 1/3	3:30-4:30 Intro to Epi 4:30-5:30 Screening & Surveillance 5:30-6:30 Epidemiology Techniques	*(list materials here or provide location of materials)		*This could also be expresse d as POINTS
Week 2 Tues 1/7	3:30-4:30 Epidemiology Techniques 4:30-5:30 Disease Occurrence, Mortality & Prognosis 5:30-6:30 Measures of Association & Risk			
Week 3 Tues 1/15	3:30-4:30 Association & Causation 4:30-6:30 Bias & Confounding			
Week 4 Tues 1/22	3:30-4:30 Diagnostic Accuracy 4:30-6:30 Study Design			
Week 5 Tues 1/29	3:30-4:30 Behavior Trials 4:30-6:30 Study Design			
Week 6 Fri 1/25-28	Epi Exam			

Summary of Evaluation Methods of Student Performance

REQUIRED

List evaluation methods information here.

Information regarding assessments/assignments along with rubrics can be placed here.

Grading Policies

Course Grading Scale	Final course grades are determined using the allocation of credit for each assignment and exam listed within Course Content. The grading scale for the course is as follows: <div style="margin-left: 40px;"> 90-100% A 80-90% B 69-79% C Under 55% F </div>
Timeframe for Reporting Grades	REQUIRED
Assignment Submission	REQUIRED
Late Assignments	Discuss with Program Director
Late Exams	N/a
Attendance Expectations	Required
Participation Expectations	REQUIRED

COURSE COMMUNICATION

Course Communication	Preferred Method of Contact: Email
Timeframe for faculty response to students	REQUIRED
Expectations for professional behavior/ Netiquette	<p><i>You can edit this section as needed. Sample text is listed below.</i></p> <p>All students are expected to:</p> <ol style="list-style-type: none"> 1. Show respect for other students and the instructors in the class. 2. Be sensitive to the fact that there will be cultural and linguistic backgrounds, as well as different political and religious beliefs. 3. Express differences of opinion in a polite and rational way. 4. Maintain an environment of constructive criticism when commenting on the work of other students or the course. 5. Respect the privacy of other students. 6. Use good grammar and spelling. 7. Use salutations and titles in your messages. Formal titles (Dear Dr. Smith, Dear Professor, Dear Classmates) are always acceptable. It is also

	<p>appropriate to end your note with a closing, (Thank you, Sincerely, Respectfully) when emailing students or faculty.</p> <p>8. Be sure to say please and thank you.</p> <p>9. Send only one message about a topic and wait for an answer.</p> <p>10. Write your messages in formal language using sentences, capitalization, punctuation, and appropriate grammar.</p>
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STRATEGIES FOR SUCCESS

REQUIRED List course success strategies.

RESOURCES and SUPPORT

Resources for Technology Problems	<p>If you need help with RULearning, call the RULearning Help line at (312) 563-CLAS, option 2. The RULearning help line is available 24/7/365.</p> <p>If you need help with access to your Rush computer account or software, call the Rush University Help desk at (312) 563-CLAS, option 4.</p>
Counseling Center	<p>The Rush University Counseling Center offers free, confidential services to all currently enrolled Rush University students. The Center is staffed by clinical psychologists who can help you address a wide range of issues. For more information regarding the Center and its services call (312) 942-3687.</p> <p>All students, including distance learners, have access to the Student Assistance Program at 1-800-292-2780.</p>

UNIVERSITY POLICIES

Academic Policies STANDARD	<p>Students are responsible for following all Rush University policies and the policies that are specific to their college of admittance. Please refer to the Rush University Student Handbook and the relevant College Student Handbooks for more information. Selected policies are described below.</p>
Disability Accommodations STANDARD	<p>Rush University is committed to attracting and educating students who will help to make the health care profession representative of the national population, including individuals with disabilities. Part of Rush University's mission is to promote diversity among its student population and to provide equal access to its facilities, programs, services and learning opportunities. In keeping with this mission, the University encourages students with disabilities to engage the Office of Student Disability Services as soon as they begin their program.</p> <p>Students should contact Marie Ferro-Lusk, Manager, Office of Student Disability Services at Rush University, to engage in a confidential conversation about the process for requesting reasonable accommodations in the classroom and clinical settings. Accommodations are not provided retroactively at the University. Additional information can be found online at the Office of Student Disability website or by contacting the Office of Student Disability Services. In order to respect students' privacy and ensure a thoughtful interactive discussion, students should not make accommodation requests to individual faculty members, lecturers, or course directors; instead, please contact:</p> <p>Marie Ferro-Lusk, MBA, MSW, LSW Manager, Office of Student Disability Services Phone: (312) 942-5237 Fax: (312) 942-2778 Email: Marie_S_Ferro-Lusk@rush.edu Website: https://www.rushu.rush.edu/students-disabilities</p>

Honor Code and Academic Honesty	<p>Students are expected to abide by the Rush Honor Code relating to academic integrity throughout all aspects of this course, including all assignments and exams. As trusted health care professionals, we take the issue of academic integrity very seriously and expect that you will adhere to the highest standards of integrity at all times.</p> <p>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 action includes:</p> <ul style="list-style-type: none"> • <i>Cheating</i>: Using unauthorized material or unauthorized help from another person in any work submitted for academic credit. • <i>Fabrication</i>: Inventing information or citations in an academic or clinical exercise. • <i>Facilitating Academic Dishonesty</i>: Providing unauthorized material or information to another person. • <i>Plagiarism</i>: Submitting the work of another person or persons, as one's own without acknowledging the correct source. • <i>Unauthorized Examination Behavior</i>: Conversing with another person, passing or receiving material to/from another person or temporarily leaving an examination site to visit an unauthorized site.
Intellectual Properties Protection	<p>All materials contained within this syllabus, course and course materials, whether in written form or presented through video or audio transmission, 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.</p>
Prohibition against Harassment, Discrimination, and Sexual Misconduct Policy	<p>Click on link below to access the RUMC policy "Prohibition against Harassment, Discrimination, and Sexual Misconduct." The procedure for reporting harassment, discrimination, and/or sexual misconduct is found on p. 3. https://www.rushu.rush.edu/sites/default/files/Rush%20PDFs%20and%20Files/sexual-harassment-policy-2014.pdf</p>

COLLEGE SPECIFIC POLICIES--OPTIONAL

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 non-binding 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) oversee 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

- (14) time line for degree completion
- (15) other materials relevant to the division not covered by the Graduate College student policies

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 or readings classes) to resolve the problem.

(1) 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 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

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

PLEASE READ INSTRUCTIONS ON SECOND PAGE

Student ID #

00 _____

Address _____

City _____ State _____

LAST Name _____

Primary Phone: _____

Zip _____

FIRST Name _____

Secondary Phone: _____

Phone: _____

Degree: ☐ BS ☐ MA ☐ MS ☐ MD ☐ AuD ☐ PhD ☐ Cert in _____

Personal E-mail _____

Choose #1 or #2.

#1 ☐

Leave of Absence

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

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): _____

Granted 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 Checked (All students)

3 Financial Aid

4 Bursar (Financial Affairs Office)

5 Insurance (Financial Affairs Office)

If taking LOA, continue insurance?
Yes ☐ No ☐ Doesn't have Rush insurance ☐

6 Housing

No = Office of the Registrar can sign.
Yes = Office of Student Life (984) must sign.

7 Parking Garage (Withdrawals only)

No = Office of the Registrar can sign.
Yes = Parking Garage must sign.

8 Registrar

If student is withdrawing, was ID received?
Yes ☐ No ☐ ID Not Issued ☐

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 _____

Date of System Entry _____

Refund % _____

Processed by _____

Copied to Student _____

9/12

Petition for Withdrawal or Leave of Absence

NOT FOR USE BY NURSING STUDENTS!

Withdrawal

Definition:

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

Procedure

1. After informing your program director, complete the form and obtain the program director's signature. After obtaining signature #1, signatures #2 through #7 can be obtained in any order with signature #8 being last.
2. Complete the process by submitting the form to the Office of the Registrar. The Office of the Registrar is the designated office that a student must notify if a student wishes to withdraw from the University.

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.

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. Information regarding returning from a Leave of Absence is mailed to the student.

* 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.

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.

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.

8/12

DEGREE APPROVAL

College of Health Sciences and The Graduate College



PART 1 To be completed by student. Please print legibly!

LAST Name _____

FIRST Name _____

Student ID # 00 _____

Indicate Degree and Major:	<input type="checkbox"/> Bachelor of Science	<input type="checkbox"/> Anatomy and Cell Biology	<input type="checkbox"/> Health Sciences	<input type="checkbox"/> Perfusion Technology
	<input type="checkbox"/> Master of Arts	<input type="checkbox"/> Biochemistry	<input type="checkbox"/> Health Systems Mgmt.	<input type="checkbox"/> Pharmacology
<input type="checkbox"/> Master of Science	<input type="checkbox"/> Biomechanics	<input type="checkbox"/> Imaging Sciences	<input type="checkbox"/> Physiology	<input type="checkbox"/> Research Administration
<input type="checkbox"/> Doctor of Audiology	<input type="checkbox"/> Biotechnology	<input type="checkbox"/> Immunology/Microbiology	<input type="checkbox"/> Medical Laboratory Science	<input type="checkbox"/> Respiratory Care
<input type="checkbox"/> Doctor of Philosophy	<input type="checkbox"/> Clinical Laboratory Management	<input type="checkbox"/> Medical Physics	<input type="checkbox"/> Neuroscience	<input type="checkbox"/> Speech-Language Pathology
	<input type="checkbox"/> Clinical Nutrition	<input type="checkbox"/> Occupational Therapy	<input type="checkbox"/> Vascular Ultrasound & Tech	
	<input type="checkbox"/> Clinical Research			
	<input type="checkbox"/> Health Care Ethics			

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

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

<p>1. COMMITTEE CHAIR (only PhD or master's students writing a thesis) All requirements for the dissertation/thesis have been met.</p>	<p>1. _____</p> <p style="text-align: center;">Signature</p>	<p>_____</p> <p style="text-align: center;">Date</p>
<p>2. PROGRAM DIRECTOR All academic requirements for degree have been met or will be completed by the end of the quarter.</p>	<p>2. _____</p> <p style="text-align: center;">Signature</p>	<p>_____</p> <p style="text-align: center;">Date</p>
<p>3. OFFICE OF THE REGISTRAR (only PhD or master's students writing a thesis) Letter for Library microfilming.</p>	<p>3. _____</p> <p style="text-align: center;">Signature</p>	<p>_____</p> <p style="text-align: center;">Date</p>
<p>4. LIBRARY Library obligations checked. (All students) Dissertation/thesis received (Some MS and all PhD students)</p>	<p>4. _____</p> <p style="text-align: center;">Signature</p>	<p>_____</p> <p style="text-align: center;">Date</p>
<p>5. OFFICE OF FINANCIAL AID Student has performed exit interview or been waived.</p>	<p>5. _____</p> <p style="text-align: center;">Signature</p>	<p>_____</p> <p style="text-align: center;">Date</p>
<p>6. LOAN COLLECTION COORDINATOR Student has performed exit interview or been waived.</p>	<p>6. _____</p> <p style="text-align: center;">Signature</p>	<p>_____</p> <p style="text-align: center;">Date</p>
<p>7. BURSAR Status of student's account balance with University checked.</p>	<p>7. _____</p> <p style="text-align: center;">Signature</p>	<p>_____</p> <p style="text-align: center;">Date</p>
<p>8. PARKING GARAGE Student has made arrangements to return AVIT. If Rush parking is not being used, Office of the Registrar can sign.</p>	<p>8. _____</p> <p style="text-align: center;">Signature</p>	<p>_____</p> <p style="text-align: center;">Date</p>
<p>9. OFFICE OF THE REGISTRAR</p> <p>a) Post-graduation address checked for all students. PRAXIS on file for CDS students. Survey of Earned Doctorate (for PhD students only) completed.</p> <p>b) ID Card received? Yes <input type="checkbox"/> ID Not Issued <input type="checkbox"/></p>	<p>9. _____</p> <p style="text-align: center;">Signature</p>	<p>_____</p> <p style="text-align: center;">Date</p>

DEGREE APPROVAL INSTRUCTIONS

College of Health Sciences & The Graduate College

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

BACHELOR OF SCIENCE or MASTER of SCIENCE (not writing a thesis) or DOCTOR of AUDIOLOGY Complete items 2-4-5-6-7-8-9 only

MASTER of SCIENCE (writing a thesis) Complete all items 1 through 9

DOCTOR of PHILOSOPHY Complete all items 1 through 9

1. Committee Chair signs upon completion of thesis defense and approval of final draft.
2. Program Director signs to verify that all academic requirements have been met or will be completed by the end of the quarter.
3. (Allow two working days for this step.) Present this form to the Office of the Registrar for preparation of microfilm letter needed in #5.
4. Present the "DA" 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.
5. Present the "DA" form to Financial Aid for an exit interview. If you have not received aid, Financial Aid will waive the interview and sign the form.
6. Present the "DA" form to Loan Collection Coordinator. If you have not received loans, Loan Collection Coordinator will waive the interview and sign the form.
7. Present the "DA" form to the Bursar for signature and clearance of financial obligations to the University or Medical Center.
8. 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.
9. 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.

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.

2. Program Director signs to verify that all academic requirements have been met or will be completed by the end of the quarter.*
4. Present the "DA" form to the Library's Circulation desk so that a staff member can ensure that all fines have been paid and all library materials have been returned.
5. Present the "DA" form to Financial Aid for an exit interview. If you have not received aid, Financial Aid will waive the interview and sign the form.
6. Present the "DA" form to Loan Collection Coordinator. If you have not received loans, Loan Collection Coordinator will waive the interview and sign the form.
7. Present the "DA" form to the Bursar for signature and clearance of financial obligations to the University or Medical Center.
8. 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.
9. 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.

* Doctor of Audiology students will follow a different process as established by the Dept. of Communication Disorders and Sciences and the Office of the Registrar.

OTHER GUIDELINES

MS candidates who are writing a thesis that is submitted to the Library and who plan to "march" in commencement are advised to have successfully 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.

1. Committee Chair signs upon completion of dissertation defense and approval of final draft.
2. Program Director signs to verify that all academic requirements have been met or will be completed by the end of the quarter.
3. (Allow two working days for this step.) Present this form to the Office of the Registrar for preparation of microfilm letter needed in #5.
4. Present this form and letter from step #3 to the Director of the Library. Submit with original copy of dissertation 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 Proquest. Director of Library will also determine if all fines have been paid and all library materials have been returned.
5. Present the "DA" form to Financial Aid for an exit interview. If you have not received aid, Financial Aid will waive the interview and sign the form.
6. Present the "DA" form to Loan Collection Coordinator. If you have not received loans, the Loan Collection Coordinator will waive the interview and sign the form.
7. Present the "DA" form to the Bursar for signature and clearance of financial obligations to the University or Medical Center.
8. 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.
9. Inform Office of the Registrar of post-graduation address. Degree Approval form should be submitted to the Office of the Registrar **on or before the last day of the quarter of graduation**. Student ID card must be surrendered at the time this form is submitted. PhD students must complete Survey of Earned Doctorate. Diplomas are **not released** to students until this form is on file with the Office of the Registrar.

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.

THIS COMPLETED FORM MUST BE RETURNED TO THE OFFICE OF THE REGISTRAR IN ADVANCE OF THE STUDENT'S OFFICIAL GRADUATION DATE. STUDENTS NOT SUBMITTING THE FORM WILL NOT RECEIVE THEIR DIPLOMA AND WILL BE REQUIRED TO REGISTER FOR THE NEXT QUARTER THEREBY DELAYING THEIR GRADUATION. IF THERE ARE QUESTIONS, PLEASE CONTACT THE OFFICE OF THE REGISTRAR.



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.



RUSH UNIVERSITY INTERNAL DEGREE PROGRAM INFORMATION

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 of their tuition each fall semester per calendar year and then the LEAP funds 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:

Term-Summer 2018 College of Health and Sciences	Term-Start Date 5/7/2018	Term-End Date 8/24/2018	Leap Forms Deadline 4/2/2018
Term-Fall 2018 College of Health and Sciences	9/4/2018	12/21/2018	8/6/2018
Term-Summer 2018 College of Nursing	5/7/2018	8/24/2018	4/2/2018
Term-Fall 2018 College of Nursing	9/4/2018	12/21/2018	8/6/2018
Term-Summer 2018 Graduate College	5/7/2018	8/24/2018	4/2/2018
Term- Fall 2018 Graduate College	9/4/2018	12/21/2018	8/6/2018
Term-Spring 2019 (All Colleges)	1/2/2019	4/26/2019	12/3/2018



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 manuscript formatting and submission within the required timeframes ([Section D](#)). Any questions or concerns, please contact the Thesis and Dissertation Coordinator Sandra Wenner, at Sandra_Wenner@rush.edu

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

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

Rush University Guide for Preparation of Master's Theses and Doctoral Dissertations

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).

Rush University Guide for Preparation of Master's Theses and Doctoral Dissertations

- 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 emailed in a PDF format to Thesis and Dissertation Coordinator, Sandra Wenner at Sandra.Wenner@rush.edu (see the section immediately below).

C. Order of Assembly

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

*** *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

Checklist of Procedures	Required Timeframe
1. File an Intent to Graduate form with the Registrar's office. The Registrar's office will send anticipated graduation letters to the Library.	Consult academic calendar (https://www.rushu.rush.edu/rush-experience/student-services/office-registrar/academic-calendars)
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.	ASAP
3. Create your ProQuest ETD account, and review ProQuest ETD submission guidelines and user manual.	At least four weeks prior to defense
4. Contact the Library to schedule a final approval appointment. The appointment itself (see step 6) will take place after your defense.	Prior to defense
5. After thesis/dissertation has been approved by your committee, obtain Committee Chair and Program Director signatures on the Degree Approval form.	After defense and prior to final approval appointment (step 6)
6. Submit your manuscript via the ProQuest ETD before your final meeting with the Dissertation/Thesis Coordinator	Prior to your meeting with the Dissertation/Thesis Coordinator.

Rush University Guide for Preparation of Master's Theses and Doctoral Dissertations

<p>7. 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:</p> <p>Signed approval page (for Registrar's file) on any type of paper</p> <p>Signed abstract page (for Registrar's file) on any type of paper</p> <p>Signed copyright statement (for Registrar's file) on any type of paper</p> <p>Extra title page (on any type of paper)</p> <p>Extra abstract (on any type of paper)</p> <p>Signed degree approval form.</p> <p>Original copyright permission letters/emails, if applicable.</p> <p>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.</p>	<p>At least ten days before end of term, * to avoid delay in graduation.</p> <p>*Students will not be seen after 11am on the final day of the term.</p>
<p><input type="checkbox"/>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.</p>	
<p><input type="checkbox"/>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.</p>	

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 via credit card transaction in your ETD account.

Publishing (choose one).

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

Traditional Publishing: Dissertation	\$0
Open Access Publishing Plus: Dissertation	\$95
Traditional Publishing: Thesis	\$0
Open Access Publishing Plus: Thesis	\$95

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
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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
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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. Fees are listed in the Proquest ETD account.**

G. Guides for Format & Style Available in the Library

(Check the online catalog for call number and location)

American Psychological Association. Publication Manual of the American Psychological Association. 6th ed. Washington, D.C. 2010

Browner, Warren S., Publishing and Presenting Clinical Research 3rd ed. Baltimore: Lippincott Williams & Wilkins, 2012.

Huth, Edward J., Writing and Publishing in Medicine. 3rd ed. Baltimore: Williams & Wilkins, 1999.

Iverson, Cheryl., MA Manual of Style. 10th ed. Baltimore: Williams & Wilkins, 2nd Ed., 2006.

Mauch, James E. and Park, Namgi, Guide to the Successful Thesis and Dissertation: A Handbook for Students and Faculty. 5th ed., rev. and expanded. New York: M. Dekker, 2003.

Patrias, Karen. Citing Medicine: The NLM Style Guide for Authors, Editors, and Publishers 2nd ed. Bethesda, MD: National Library of Medicine, 2007.
<http://www.ncbi.nlm.nih.gov/bookshelf/br.fcgi?book=citmed>

Pyrzczak, Fred., ed. Completing Your Thesis or Dissertation: A Handbook for Students and Faculty. Los Angeles, CA: Pyrczak Pub, 2000.

Pyrzczak, Fred., Writing Empirical Research Reports: A Basic Guide for Students of the Social and Behavioral Sciences. 8th ed. Glendale, CA: Pyrczak Pub, 2014.

Zeiger, Mimi., Essentials of Writing Biomedical Research Papers. 2nd ed. New York: McGraw-Hill, Health Professions Division, 2000.

Zuckerman, Edward L., Clinician's Thesaurus: The Guidebook for Writing Psychological Reports. 5th ed. New York: Guilford Press, 2000.

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

[or]

Doctor of Philosophy

[or]

Master of Arts

[for Health Care Ethics students only]

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

(signature)

* Name *[of Chairperson]* (date)

Rank

Department

University

(signature)

* Name (date)

Rank

Department

University

(signature)

* Name (date)

Rank

Department

University

(signature)

* Name (date)

Rank

Department

University

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

Abstract Format

ABSTRACT

Title *[of Thesis or Dissertation]*:

(Candidate's full name), (degree), (year in which degree is to be conferred) ***[Please Note: This is current degree to be conferred]***

(Thesis or Dissertation) Directed by: (Name of major research advisor, academic rank, name of department or program, university).

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/>. 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.

RUSH UNIVERSITY | RULearning Support

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RULearning Knowledgebase

- + Rush University Blackboard Learn FAQs
- + Blackboard Learn 9.1 October 2014 Release
- + Registration Information
- + Collaborate
- + Panopto
- + ExamSoft / SoftTest
- + Respondus Support
- + Turnitin
- + Academic Calendar
- + General Info

[Home](#) [My Support](#)

Welcome to the RULearning Support Center for Rush University. This site is designed to provide a variety of support channels, all of which are available 24 hours per day.

Here, you can search the **Knowledge Base** for answers to commonly asked questions. You can also connect with a Blackboard support representative through several options. The **Live Chat** option allows you to get answers quickly, while submitting a **Ticket** typically takes up the least amount of your time. Of course, you can **Call** us at 3-CLAS (312--563-2527 from off campus).

First Time Logging in? Click here.

Request Support:
You can submit a web ticket, speak with an agent through live chat or even call us directly. Options are available 24x7x365

Knowledge Base:
Browse or search the Knowledge Base for a wide variety of solutions.

Office of the Registrar:
Please contact the Office of the Registrar if you have questions about registration.

Live Chat
Chat with a service representative live over the web.

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

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>

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 window, 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?g=283073&p=1886003>

Adding Page Numbers (The University of Michigan Library)

<http://guides.lib.umich.edu/c.php?g=283073&p=1886008>

Landscape Pages (The University of Michigan Library)

<http://guides.lib.umich.edu/c.php?g=283073&p=1886009>

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