University of Rochester School of Medicine and Dentistry

Department of Public Health Sciences

GRADUATE STUDENT HANDBOOK

2019 – 2020

Last modified 10-3-19

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DEPARTMENT EDUCATION ADMINISTRATIVE TEAM

Role	Name
PHS Department Chair	Ann Dozier, PhD
PHS Associate Chair	Edwin van Wijngaarden, PhD
Program Directors	
PhD Epidemiology (PhD-EPI)	David Rich, ScD
PhD Health Services Research & Policy (PhD-HSRP)	Yue Li, PhD
MS in Epidemiology (MS-EPI)	David Rich, ScD
MS in Health Services Research & Policy (MS-HSRP)	Yue Li, PhD
Master of Public Health (MPH)	Christopher Seplaki, PhD
MS in Clinical Investigation (MS-CI)	Edwin van Wijngaarden, PhD
Preventive Medicine Residency (PM)	James Tacci, MD, JD, MPH
Advanced Certificates (AC)	Edwin van Wijngaarden, PhD
Education Program Staff	
Graduate Programs Administrator	Annie Majoka, MBA
Education Secretary	Candace Davis
Instructional Design Specialist	Michele Messenger, MLS, Med, MedL
Information Technology Support	Kelly Thevenet-Morrison, MS
Web Support, Assistant to Chair	Susan Van Dongen

DEPARTMENT EDUCATION POLICIES

CONTINUATION OF ENROLLMENT

Students must maintain continuous registration from the time of matriculation until he/she

- is awarded his/her degree
- withdraws from the program
- is dropped from the program.

Students must register for each semester during this time, excluding the summer sessions. The continuation of enrollment fee for 2018 - 2019 academic year is $1,070 per semester.

COURSE WAIVERS

All requests must be made at the time of initial registration in a degree program. Please see the program administrator for this request.

ELECTIVE COURSES

Courses may be chosen from the variety of courses offered within the Department and within the various departments and colleges of the University, but in any event the course topic must be relevant to public and population health. Descriptions of PHS courses can be found on the PHS website.

Courses may be accepted toward degree requirements if the subjects taken form an integral part of the student's proposed program of study

Students need to consult with their advisor and the Program Director as to whether or not a certain course is appropriate

With the permission of the Master's Program Director and approval in advance from the Senior Associate Dean of Graduate Studies, a student may take a course at another college or university to count as an elective. Ordinarily, the course must be taken in a timely fashion, and before beginning the MPH research project

INCOMPLETE GRADES

An Incomplete ("I") grade may be given for medical reasons only per the University Policy. The student who receives an incomplete grade is passing the course and has already completed the majority of the work required in the course

Work for courses with grades of "I" must be completed no later than 2 months after the course concludes, although instructors may require work to be submitted sooner. If the work is not completed within the designated period of time, the instructor must grade on the basis of work completed by the specified completion date. This grade cannot be changed.

The grade must be submitted to the Dean in a memo within one week of the completion date. If the contract is not fulfilled or the grade not reported to the Registrar by the specified completion date, the incomplete grade will convert to an "IE" (Incomplete/Failure). This grade cannot be changed.

DEPARTMENT EDUCATION POLICIES

LEAVE OF ABSENCE

Upon the recommendation of the Program Director, the Dean may grant a leave of absence to a matriculated graduate student who has not yet completed the course requirements **only** for medical reasons. No more than two one-semester leaves or one one-year leave will be granted. In order to declare a leave of absence, a student must complete and sign the appropriate form and pay a $60 registration fee per semester.

MAXIMUM TIME

An MPH candidate must complete all the requirements for the degree within five years from the time of his/her initial matriculation into the graduate program. PhD candidates have a maximum of seven years to complete degree requirements. Students must maintain continuous enrollment for each term after matriculation. Students who for good reason have been unable to complete their program within the maximum time may, upon recommendation of their faculty advisor and the Program Director, petition the Dean for an extension of the time limit. The extension, if granted, will be of limited duration.

Minimum grades for courses or research work carrying graduate credit are B- or S. C is considered to be an unsatisfactory (poor) grade.

- One C grade would be cause for academic probation
- Two C grades would be cause for dismissal from the graduate program.

A C grade is considered to be a failing grade for any student who is on probation. See **Graduate Education Trainee Handbook-Policies & Benefits** related to minimum grade.

PART-TIME/FULL-TIME

Any student registered for fewer than twelve credit hours is considered to be a part-time student.

TRANSFER CREDIT POLICY

Of the School of Medicine and Dentistry's minimum required credit hours for the Doctor of Philosophy degree, no more than 30 credit hours may be accepted as transfer credit for work previously taken at the University of Rochester or at another university for the Masters degrees and only 1 course or 3 credits for the certificates. All transfer credits, whether taken at the University of Rochester or at another university must be approved by the Senior Associate Dean for Graduate Education prior to matriculation.

Of the University's minimum required 30 credits for the Master's degree, no more than 10 credit hours may be accepted as transfer credit for work previously taken at the University of Rochester or another university. All transfer credit, whether taken at the University of Rochester or at another university, must be approved by the Senior Associate Dean for Graduate Education prior to matriculation.

Work taken prior to matriculation in a graduate degree program is classified as possible transfer work. Credit hours up to the limit may be accepted toward degree requirements if the subjects taken form an integral part of the proposed program of study and if taken within five years of the date of matriculation with a grade of B- or higher as interpreted in this University. Requests for transfer credit must have the approval of the Senior Associate Dean for Graduate Education prior to matriculation. Permission to take work at another institution for transfer credit after matriculation in a graduate program must be approved in advance by the Senior Associate Dean for Graduate Education.

DEPARTMENT EDUCATION POLICIES

TUITION AND FEES

Tuition in the School of Medicine and Dentistry for the 2018 – 2019 academic year is $1,654 per credit hour. Most courses in the Department of Public Health Sciences are three credits, carrying a total cost of $4,962 per course. Students taking courses outside of the Department must pay the tuition rate of the particular college offering the course(s) to be taken.

1) Students with other health insurance may choose to waive the University's policy. 2) All full-time students must pay a mandatory Health Fee of $306.

For more information please contact Annie Majoka, Graduate Programs Administrator

annie_majoka@urmc.rochester.edu

or telephone (585) 275-7882

Or visit the program website:

https://www.urmc.rochester.edu/public-health-sciences.aspx

INDEPENDENT STUDY POLICY

Steps to take

- Pick who will be your supervisor/instructor
- Give your course a title,
- Submit a plan of what you plan to do, i.e., the specific about what you will accomplish, that you work out with your supervisor/instructor
    - Include books, readings, and exercises – similar to a regular course syllabus
    - Include an estimate as to the amount of time that will be required (aim for approximately 120 hours over the course of the semester0
    - Include a signed statement from your supervisor/teacher that that approve of the plan

Below is an example of a working proposal to give you an idea of what this should look like.

Department of Public Health Sciences
PM494: Independent Study: Title
Semester here for student name here

Topic: Recruitment efforts of Racial/Ethnic Minority and Underserved population in Clinical Trials: A comprehensive review of cultural humility, cultural responsiveness and cultural competency approaches.

Instructors: Amina Alio, PhD.

Course Description: This is an independent study course, designed to provide the student with knowledge and understanding of how cultural competency, humility and responsiveness have been used in the literature to address cancer health disparities. Specifically how those theoretical frameworks have been applied in addressing disparities in recruiting minority and underserved in clinical trials and research in general. The study will also help the student with the knowledge and skills of conducting systematic review of literature. Finally, the study will help equip the student with the skills of developing and submitting of manuscript for publication. The content and schedule for the course will be self-guided and there will be no textbook. Various scientific and public health databases (PubMed, MEDLINE, CINAHL etc.) will be searched for the purpose of the literature review. The student will meet with the instructors regularly, either in person, by phone or via electronic means.

Required textbooks: No textbook required.

Credits: 3 hours

Learning Objectives: At the completion of this course the student should be able to:

- Describe the steps involved in or methods of conducting systematic review of literature.
- Describe the concepts of Cultural humility, cultural responsiveness and cultural competence
- Describe application of those concepts to recruit the minority and underserved population to research.
- Describe steps involved in developing manuscript and manuscript submission process.

Evaluation: Along with working through the assignments as noted in the schedule, the student will be required to produce a written manuscript developed in the course. The manuscript should include a brief background, description of the search method, synthesize of the results and discussions and recommendations of the findings.

Schedule (TENTATIVE):

Week	Topic	Lectures/Readings	Assignments
1 (8/31)	Cultural Competence, Cultural humility, Cultural responsiveness		Database search
2 (9/09)	Cultural Competence, Cultural humility, Cultural responsiveness		Database search
3 (9/16)	Cultural Competence, Cultural humility, Cultural responsiveness		Database search
4 (9/23)	Cultural Competence, Cultural humility, Cultural responsiveness		Database search
5 (9/30)	Cultural Competence, Cultural humility, Cultural responsiveness		Database search
6 (10/7)	Cultural Competence, Cultural humility,		Develop manuscript (Background)
7 (10/14)	Cultural Competence, Cultural humility, Cultural responsiveness		Develop manuscript (Background)
8 (10/21)	Cultural Competence, Cultural humility, Cultural responsiveness		Develop manuscript (Methods)
9 (10/28)	Cultural Competence, Cultural humility, Cultural responsiveness		Develop manuscript (Methods)
10 (11/4)	Cultural Competence, Cultural humility,		Develop manuscript (Synthesize results)
11 (11/11)	Cultural Competence, Cultural humility, Cultural responsiveness		Develop manuscript (Synthesize results)
12 (11/18)	Cultural Competence, Cultural humility, Cultural responsiveness		Develop manuscript (Synthesize results)
13 (11/25)	Cultural Competence, Cultural humility, Cultural responsiveness		Develop manuscript (Discussions and conclusions; revise preliminary sections as needed)
14 (12/2)	Cultural Competence, Cultural humility, Cultural responsiveness		Develop manuscript (Discussions and conclusions; revise sections as needed)
15 (12/13)	Review		Finish and hand-in manuscript. Submission to a journal for publication.

Signatures:
Faculty Instructor: _____

Graduate Student: _____

Program Director: _____

Guidelines to Assure a Professional and Respectful Learning Environment

University of Rochester Medical Center ICARE Values:
The University of Rochester Medical Center's (URMC) culture is steeped in its values – Integrity, Inclusion, Compassion, Accountability, Respect and Excellence (ICARE). These values apply to all members of the URMC community – faculty, students, staff – in all missions of the medical center: education, research, clinical care and community. A respectful and professional learning environment is an important reflection of our ICARE values.

Learning Environment:

The URMC learning environment is committed to facilitating students' and trainees' acquisition of the professional and collegial attitudes necessary for effective, successful careers in research, teaching, and clinical care. The development and nurturing of these attitudes is enhanced and based on the presence of mutual respect among all members of our learning community.

Characteristics of this mutual respect include the expectation that all participants in an educational program assume their responsibilities in a manner that enriches the quality of the learning process, supports a spirit of inquiry, and values diversity of opinion.

Members of our learning community include all individuals educated in undergraduate, graduate, doctoral and post-doctoral programs at the University and the medical center as well as those learners from other institutions training at URMC. Faculty include all faculty, employed and volunteer, who participate in the education of learners and contribute to the learning environment. Staff include all employed staff or volunteers at the University of Rochester.

URMC expects and requires learners, faculty, and staff to conduct themselves in a professional and respectful manner while participating in any activity related to URMC. Inappropriate behavior that negatively impacts URMC's professional and respectful learning environment is prohibited. Inappropriate behavior includes but is not limited to: sexual harassment; any discrimination or harassment based on age, color, disability, domestic violence status, ethnicity, gender identity or expression, genetic information, marital status, military/veteran status, national origin, race, religion/creed, sex, sexual orientation, or any other status protected by law; humiliation; verbal, psychological or physical punishment; and/or the use of grading and other forms of assessment in a punitive manner. The intentional or unintentional occurrence of such behavior results in a disruption of the spirit of learning and a breach in the integrity and trust among, and between, learners, faculty, and staff.

All concerns or complaints regarding inappropriate behavior, either witnessed or experienced, should be reported to designated officers or offices in the School of Nursing or the School of Medicine and Dentistry's Undergraduate Medical Education, Graduate Medical Education, Graduate Education and Postdoctoral Affairs, or Eastman Institute of Oral Health, as indicated below or in program handbooks. Each area is charged with taking appropriate steps consistent with their program's processes and procedures to thoroughly review and address the reported concern.

Expectations and Responsibilities for All Learners, Faculty and Staff:

- Non-discrimination and non-harassment: to treat others and be treated consistent with the institution's commitment to maintaining a workplace and academic environment free from unlawful discrimination and harassment.
- Collegiality: to cultivate and enjoy a welcoming environment in which to pursue research, clinical care, teaching and professional activities.
- Respect: to be valued as an important member of the URMC community and to treat all others with respect.
- Conflicts of interest: to receive appropriate instruction about conflicts of interest to avoid situations where learners and educators are unable to do their jobs with the appropriate level of impartiality.
- Policies: to be educated about and know how to access University of Rochester, medical center, hospital and program-specific policies including, but not limited to, grievance processes and disciplinary processes.
- Procedures: to receive and be aware of guidelines, policies and resources to report concerns about the learning environment or behaviors of other learners, faculty, or staff, including but not limited to reporting concerns regarding harassment or discrimination.
- Feedback: to be provided formative and summative information on performance at regular intervals as well as ad hoc when necessary, consistent with the program's procedures, to provide clear guidance and expectations on performance. Additionally, provide feedback to all in a productive, prompt manner as required by educational or institutional expectations.
- Design of instruction: to ensure equal access for learners with diverse backgrounds and abilities to curricula, courses, learning activities, and academic support services.
- Assessment: to ensure valid and equitable measurement of learning through appropriate measurement instruments.
- Confidentiality and Due Process: to ensure that identity is protected to the greatest extent possible and due process received for any complaint or concern, as required by University policy and legal requirements.

Sexual Misconduct, Harassment, Discrimination, Unprofessional Behaviors and/or Violations of the Expectations and Responsibilities

Policies and Reporting Procedures

It is the University's aim to provide a setting which is characterized by respect for all and encouragement for the development of each individual's full potential. The University will not tolerate any behavior, including verbal or physical conduct, which constitutes sexual misconduct, harassment, discrimination or other unprofessional actions. All learners, staff, and faculty are accountable for compliance with our ICARE values and codes of conduct. Violations may lead to disciplinary action which, in sufficiently severe cases, may lead to separation from the University after applicable due process.

Students or trainees in the School of Medicine and Dentistry, School of Nursing, and URMC should advise a supervisor or other designated faculty member, leader or staff about all suspected violations of this guideline as well as all incidents of mistreatment, sexual discrimination, misconduct, harassment and acts of intolerance and discrimination. Reports should be directed to their school or program as indicated in the chart below. All individuals who file a report will be advised about the follow-up and outcome of any reported incident.

SMD Ombudspersons for Graduate Students, Postdoctoral Appointees, and Preparatory Program Trainees*

While graduate, postdoctoral, and pre-graduate study are exciting and intellectually stimulating times in a trainee's career, occasionally problems arise. There are many people to whom trainees can turn for advice when facing problems: faculty advisor(s), committee members, graduate program director, department chair, Senior Associate Dean for Graduate Education. However, sometimes trainees may feel unable to approach any of these people for help, and this is when a trainee should turn to the Ombudsperson.

There are three ombudspersons available:

- Bob Freeman, Professor of Pharmacology and Physiology
  Medical Center room 4-6718
  Phone: 585-273-4893
  Email: **robert_freeman@urmc.rochester.edu**
- Krystel Huxlin, Professor of Ophthalmology
  Medical Center room G-3186
  Phone: 585-275-5495
  Email: **khuxlin@ur.rochester.edu**
- Chris Seplaki, Associate Professor of Public Health Sciences
  Saunders Research Building Room 3.238
  Phone: 585-273-1549
  Email: **christopher_seplaki@urmc.rochester.edu**

Each of these ombudspersons is a faculty member who can provide **confidential, neutral, independent,** and **informal** advice to help trainees address their concerns.

The Ombudspersons provide a resource for and information about institutional policies, act as facilitators to help trainees resolve their problems and connecting trainees with those who can help, accompany the trainee in discussions of problems or issues with faculty or administrators, and act as an informal mediator between the trainee and faculty or administrators. The Ombudspersons can also help to effect positive change by providing feedback on patterns of problems and complaints to appropriate administrators.

Trainees can contact any of the three Ombudspersons for general questions. Discussions with the Ombudspersons can be through phone or in-person.

KEY DATES & DELIVERABLES FOR MASTER'S STUDENTS

May Graduation

- **March 1** – First draft of the thesis must be submitted to your ENTIRE committee. Note this deadline applies to the report of the completed project, not your project proposal.

- **April 15 –** Final completed hard copy of the thesis with completed committee sign-off form to the Graduate Program Administrator.

August Graduation

- **June 15 –** First draft of your essay must be submitted to your ENTIRE committee. Note: this deadline applies to the report of the completed project, not your project proposal.

- **August 1 –** Final completed hard copy of the thesis with completed committee sign-off form to the Graduate Program Administrator.

December Graduation

- **November 1 –** First draft of your essay must be submitted to your ENTIRE committee. Note this deadline applies to the report of the completed project, not your project proposal.

- **December 15 –** Final completed hard copy of the thesis with completed committee sign-off form to the Graduate Program Administrator.

The Master's graduation ceremony is usually the second Saturday in May. Consult the academic calendar at: **https://www.rochester.edu/registrar/academiccalendar.html**

Certificate Programs

An Advanced Certificate program is a post-Baccalaureate course of academic study designed for students and practitioners who seek to enhance their professional development. Certificates typically consist of 4 or 5 courses (12-15 credits). Credits can be applied to a subsequent Master's degree, if desired. Designated directors for each certificate are below.

Analytic Epidemiology – David Rich, ScD

Biomedical Data Science – Edwin van Wijngaarden, PhD
Dongmei Li, PhD

Clinical Research Methods – Edwin van Wijngaarden, PhD

Experimental Therapeutics – Edwin van Wijngaarden, PhD

Health Services Research – Yue Li, PhD

Public Health – Edwin van Wijngaarden, PhD

Regulatory Science – Edwin van Wijngaarden, PhD
Scott Steele, PhD

DEPARTMENT OF PUBLIC HEALTH SCIENCES
ANALYTIC EPIDEMIOLOGY CERTIFICATE
TOTAL CREDITS REQUIRED: 12

Program Description
The advanced certificate in clinical research methods is designed to give individuals the knowledge and tools needed to conduct clinical research.

Educational Objectives of the Program
To provide researchers and other interested individuals with a practical understanding of quantitative and qualitative research methods including case-control studies, cohort studies, randomized clinical trials, surveys, and mixed methods research.

REQUIRED COURSES	COURSE TITLE	WHEN OFFERED	CREDITS
PM 410	Intro to Data Management & Analysis	Fall, Summer	3
PM 415	Principles of Epidemiology	Fall	3
ONE OF THE FOLLOWING:			
PM 401	Quantitative Methods	Fall, Summer	3
BST 463	Introduction to Biostatistics	Fall	4
ONE OF THE FOLLOWING:			
PM 416	Advanced Epi Methods	Spring	3
BST 464	Linear Regression	Fall	4

Last modified: 12-13-18

DEPARTMENT OF PUBLIC HEALTH SCIENCES
BIOMEDICAL DATA SCIENCE CERTIFICATE
TOTAL CREDITS REQUIRED: 16-17

Program Description

The CAS-BDS is a multidisciplinary, cross-departmental University-wide graduate credential administered jointly by the University of Rochester's Clinical and Translational Science Institute (CTSI) and the Department of Public Health Sciences that prepares researchers to conduct insightful, applied "big data" analytics for health services, clinical, and public health research.

Program Objectives

- To prepare students to conduct analyses of, and analytics with, large, health-oriented data sets
- To provide team science experiences for students addressing health-related questions through data analysis

Required courses (10 credits)

Required Courses	Course Name	When Offered	Credits
PM401	Quantitative Methods in Public Health Research	Summer, Fall	3
PM403	Research Team Science Seminar	Fall, Spring	1
PM410	Introduction to Data Management and Analysis	Summer, Fall	3
PM485	Introduction to Biomedical Informatics	Fall	3

Electives (select 2 courses; 6-7 credits)

Students are permitted to select any combination of two elective courses from those listed below, but are encouraged to focus on a specific track. Each elective track is designed to add depth in one area of concentration beyond the core coursework. These tracks relate to key elements of the required course sequence.

Elective Courses	Course Name	When Offered	Credits
Computational Track			
BST411	Statistical Inference	Fall	4
BST430	Introduction to Statistical Computing	Fall	3
Clinical Research Informatics Track			
BST465	Design of Clinical Trials	Spring	4
PM431	Advanced Methods in Health Services Research	Fall	3
Genomics and Bioinformatics Track			
IND419	Introduction to Quantitative Biology	Spring	4
GEN508	Genomics and Systems Biology	Fall	3
Public Health Informatics Track (choose two courses)			
PM421	US Health Care System	Fall	3
PM422	Quality of Care and Risk Adjustment	Spring	3
PM426	Social and Behavioral Medicine	Spring	3
PM484	Medical Decisions and Cost Effectiveness Research	Spring	3
PM486	Medical Ecology	Spring	3

Last modified: 12-13-18

DEPARTMENT OF PUBLIC HEALTH SCIENCES
CLINICAL RESEARCH METHODS CERTIFICATE
TOTAL CREDITS REQUIRED: 12

Program Description
The advanced certificate in clinical research methods is designed to give individuals the knowledge and tools needed to conduct clinical research.

Educational Objectives of the Program
To provide researchers and other interested individuals with a practical understanding of quantitative and qualitative research methods including case control studies, cohort studies, randomized clinical trials, surveys, and mixed methods research.

REQUIRED COURSES	COURSE TITLE	WHEN OFFERED	CREDITS
PM 412	Survey Research	Fall	3
PM 415	Principles of Epidemiology	Fall	3
PM 458	Qualitative Health Care Research	Spring	3
ONE OF THE FOLLOWING:			
PM 401	Quantitative Methods	Fall, Summer	3
PM 410	Intro to Data Management & Analysis	Fall, Summer	3
PM 426	Social and Behavioral Medicine	Spring	3
PM 461	Program Evaluation for Public Health	Summer	3
PM 472	Measurement & Evaluation of Research Instruments	Spring	3

Last modified: 12-13-18

DEPARTMENT OF PUBLIC HEALTH SCIENCES
ADVANCED CERTIFICATE IN EXPERIMENTAL THERAPEUTICS
TOTAL CREDITS REQUIRED: 13

Program Description
The advanced certificate in experimental therapeutics is designed to give individuals the knowledge and tools needed to conduct clinical research trials.

Educational Objectives of the Program
To provide researchers and other interested individuals with a practical understanding of how to design, implement and conduct randomized controlled clinical trials.

REQUIRED COURSES	COURSE TITLE	WHEN OFFERED	CREDITS
BST 465	Design of Clinical Trials	Spring	3
IND 501	Clinical Research Ethics	Fall	1
PM 401 **or** BST 463	Quantitative Methods in PH Res. Intro. To Biostatistics	Fall, Summer Fall	3
PM 488	Experimental Therapeutics	Fall	3
AT LEAST ONE OF THE FOLLOWING:			
PM 410	Introduction to Data Management & Analysis	Fall, Sumer	3
PM 415	Principles of Epidemiology	Fall	3
PM 419	Recruitment & Retention of Human Subjects	Fall	3
PM 438	Grantsmanship	**ONLINE ONLY**	3
PM 472	Measurement & Evaluation of Research Instruments	Spring	3
PM 484	Medical Decision Analysis & Cost Effectiveness Analysis	Spring	3
PM 487	Fundamentals of Science, Technology, & Health Policy	Spring	3

Last modified: 12/13/18

DEPARTMENT OF PUBLIC HEALTH SCIENCES
HEALTH SERVICES RESEARCH CERTIFICATE
TOTAL CREDITS REQUIRED: 12

Program Description
The advanced certificate in health services research is designed to give individuals the knowledge and tools needed to evaluate the effectiveness of health services programs and policies.

Educational Objectives of the Program
To provide researchers and other interested individuals with a practical understanding of health services research methods including cost-effectiveness analysis, impact analysis, and implementation research.

REQUIRED COURSES	COURSE TITLE	WHEN OFFERED	CREDITS
PM 445	Intro to Health Services Research & Policy	Fall	3
PM 456	Health Economics I	Fall	3
PM 484	Medical Decision Making and Cost Effectiveness Research	Spring	3
ONE OF THE FOLLOWING:			
PM 401	Quantitative Methods	Fall, Summer	3
PM 415	Principles of Epidemiology	Fall	3
PM 421	US Health Care System: Financing, Delivery, Performance	Fall	3
PM 422	Quality of Care & Risk Adjustment	Spring	3
PM 430	Psychology in Health Services Research	Fall	3
PM 487	Fundamentals of Science, Technology, & Health Policy	Spring	3

Last modified: 12/20/18

DEPARTMENT OF PUBLIC HEALTH SCIENCES
PUBLIC HEALTH CERTIFICATE
TOTAL CREDITS REQUIRED: 15

Program Description
To provide individuals with knowledge and understanding of the key elements of public health practice.

Educational Objectives of the Program
To convey a working knowledge of the five key areas of public health practice; epidemiology, biostatistics, social and behavioral medicine, the US health care system, and environmental epidemiology. The certificate is also designed to prepare qualified individuals to take the American Board of Public Health certification exam.

REQUIRED COURSES	COURSE TITLE	WHEN OFFERED	CREDITS
PM 401	Quantitative Methods	Fall, Summer	3
PM 415	Principles of Epidemiology	Fall	3
PM 421	US Health Care System: Financing, Delivery, Performance	Fall	3
PM 426	Social and Behavioral Medicine	Spring	3
PM 470	Environmental & Occupational Epidemiology (or PH455 Foundations of Public Health)	Fall	3

Last modified: 10-1-19

DEPARTMENT OF PUBLIC HEALTH SCIENCES
REGULATORY SCIENCE CERTIFICATE
TOTAL CREDITS REQUIRED: 16-17

Program Description
The program is designed to produce a cadre of highly trained professionals able to contribute to the development of new medical interventions by enhancing the innovation, efficiency, and quality of the medical product development pipeline.

REQUIRED COURSES	COURSE TITLE	WHEN OFFERED	CREDITS
Core Courses:			
BME 431	FDA Regulatory Processes & Intel Property	Fall	2
BME 432	Navigating FDA Regulatory & Commercialization Landscapes	Spring	2
PM 487	Fundamentals of Science, Technology & Health Policy	Spring	2
PM 488	Experimental Therapeutics	Fall	3
BST 463	Introduction to Biostatistics	Fall	3
IND 501	Ethics in Research	Fall	1
Graduate level elective courses. Select one or more of the following totaling at least 3 credits (sample graduate level courses, with others available upon approval):			
PHP 404	Principles of Pharmacology	Spring	4
PM 415	Principles of Epidemiology	Fall	3
BST 465	Design of Clinical Trials	Spring	4
MBI 403	Drug Discovery	Spring	2
	Additional Requirement:		
Capstone	***Regulatory Science Student Competition***	***Spring***	

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University of Rochester School of Medicine and Dentistry

Department of Public Health Sciences

Masters' Programs

Master of Public Health (MPH)
Program Director: Christopher Seplaki, PhD

Master of Science
Clinical Investigation (MS-CI)
Program Director: Edwin van Wijngaarden, PhD

Master of Science
Epidemiology (MS-EPI)
Program Director: David Rich, ScD

Master of Science
Health Services Research & Policy (MS-HSRP)
Program Director: Yue Li, PhD

MPH Program Mission Statement

The MPH program is dedicated to providing students with the knowledge and skills to improve health and healthcare among diverse populations through public health education, practice and research.

Skills You Acquire

- Formulate and answer questions related to health improvement and healthcare among diverse populations through statistical thinking as evidenced in student project work in methods classes
- Understand different ways to measure the distribution of traits and diseases in populations, and the determinants of those distributions
- Utilize concepts and theories of public health in addressing specific population health concerns in a community-based practice setting by using these to frame their Capstone Projects
- Identify and discuss different social and behavioral factors which impact on human health and the use of health services
- Employ statistical methods toward quantitative inferences
- Apply epidemiologic principles and methods to problems in population health
- Identify and analyze environmental factors and/or conditions that impact human health
- Conduct a practical study of community health problems and interpret and summarize the appropriate literature as evidenced in their Capstone Project
- Work collaboratively with communities to identify assets and problems, collect relevant data and devise and evaluate programs
- Portray high ethical and professional standards in public health practice and research activities
- Appreciate the cultural logic that informs the world views of diverse communities

https://www.urmc.rochester.edu/public-health-sciences.aspx

In order to meet the new CEPH (Council on Education for Public Health, our accrediting institution) program requirements, effective Fall 2017, the MPH program requirements have changed. Below is the link to those changes:

http://goo.gl/forms/NzEBqmNovr

DEPARTMENT OF PUBLIC HEALTH SCIENCES
MASTER OF PUBLIC HEALTH (MPH) PROGRAM OF STUDY SHEET
TOTAL CREDITS REQUIRED: 43

Student Name:_____ Date Matriculated:_____

GENERAL INFORMATION

Electives can be tailored toward individual's research focus and are identified accordingly.

COURSE NUMBER	COURSE TITLE	CREDITS	WHEN OFFERED	CREDITS COMPLETED
IND 501	Ethics and Professional Integrity in Research	1	Fall	
PM 401	Quantitative Methods	3	Fall/Summer	
PM 410	Intro to Data Management & Analysis	3	Fall or Summer	
PM 415	Principles of Epidemiology	3	Fall	
PM421	US Health Care System: Financing, Delivery & Performance	3	Fall	
PM 426	Social & Behavioral Medicine	3	Spring	
PM 445	Intro to Health Services Res.	3	Fall	
PM 450 **or** PM 452	MPH Practicum Community Health Improvement Practicum	3 3	***ONLINE ONLY*** Spring	
PM 455	Foundations in Public Health Sciences	3	***ONLINE ONLY*** Fall	
PM 458	Qualitative Health Research	3	Spring	
PM 460	Masters Essay (to include new research methods course)	6		
PM 461	Program Evaluation	3	Summer	
PM 487	Fundamentals of Science, Technology and Health Policy	3	Spring	
ELECTIVES				
	See Electives on page 2	3	Fall or Spring	
	TOTAL CREDITS	**43**		

Last modified: 1-7-19

MASTER OF PUBLIC HEALTH (MPH)
MPH ELECTIVES

COURSE NUMBER	COURSE TITLE	CREDITS	WHEN OFFERED	CREDITS COMPLETED
PM 412 ^	Survey Research	3	Fall	
PM 413 #	Field Epidemiology	3	Spring	
PM 414	History of Epidemiology	3	Spring	
PM 416 ^	Epidemiologic Methods	3	Spring	
PM 417	Molecular Epidemiology	3	Spring	
PM 418 >	Cardiovascular Epidemiology	3	Fall	
PM 419	Recruitment & Retention of Human Subject	3	Fall (Alternate)	
PM 422	Qual. of Care & Risk Adjustment	3	Spring	
PM 424 >	Chronic Disease-Epi	3	Spring(Alternate)	
PM 425	Health Promo. & Preventive Med	3	Spring	
PM 430	Psychology in Health Svcs Res	3	Fall	
PM 438	Grantsmanship	3	***ONLINE ONLY***	
PM 442 ¥	Nutritional Epidemiology	3	Spring	
PM 443	Maternal & Child Health	3	Fall	
PM 451	Infectious Disease Epidemiology	3	Spring	
PM 466 ¥	Cancer Epidemiology	3	Fall	
PM 469 ¥	Multivariate Models for Epi	3	Fall	
PM 470	Environmental & Occ Med	3	Fall	
PM 472	Measurement & Evaluation of Research Instruments	3	Spring	
PM 484	Medical Decision Making & Cost Effectiveness Research	3	Spring	
PM 485	Intro. To Biomedical Informatics	3	Fall	
PM 486	Medical Ecology	3	Spring	
PM 488	Experimental Therapeutics	3	Fall	
PM 489 >	Injury Epi & Emergency Care Research Methods	3	Fall	

Last modified: 1-7-19

Pre-requisites ^ Principles of Epidemiology PM 415
 # Principles of Epidemiology PM 415
- **Principles of Epidemiology PM 415 -or- Introduction to Epidemiology PH 103**

¥ Introductory courses in Epidemiology and Statistics

MS-CI Education Program Mission Statement

Train individuals to combine clinical knowledge and population-based research in an academic program that awards a recognized credential indicating expertise in clinical epidemiology, research study design, clinical decision-making and the evaluation of health care services.

The core courses required are epidemiology, biostatistics, health informatics, cost-effectiveness analysis, design of clinical trials, data management and clinical evaluative sciences.

The degree is completed with a mentored research experience, usually in conjunction with a post-doctoral fellowship program in the trainee's medical field. The mentored research project can begin concurrently with coursework and, in most cases, will extend beyond completion of courses. The goal of the research project is an article worthy of publication in a peer-reviewed journal.

Master of Science in Clinical Investigation Competencies

At the conclusion of the MS-CI Degree program, a graduate should be able to:

Knowledge

- Identify principles and theories which will serve as a basis for biostatistics and quantitative data analysis
- Understand the ways to measure the distribution of traits and diseases in populations, the determinants of those distributions and study designs for this purpose.
- Be able to design and analyze studies relevant to patient-oriented clinical research.
- Appreciate study designs, settings and databases available to evaluate clinical interventions.
- Comprehend the concepts underlying the quantitative analysis of medical decisions.
- Understand the design and conduct of human experiments.
- Identify social and behavioral factors which impact on human health and the use of health services.

Skills

- Develop hypothesis with a data set and perform appropriate statistical tests.
- Use multiple types and sources of medical informatics to facilitate research.
- Use database management and statistical software to organize and analyze data.
- Gain skills in communicating results of research in abstract and presentation form.
- Acquire skills in writing and critiquing research manuscripts.
- Develop abilities in writing and critiquing of research grant proposals.
- Manage the fiscal, personnel, facilities and regulatory assets of a funded clinical research program.
- Identify institutional resources needed to carry out high-quality research

Attitudes

- Appreciate ethical issues involved with research in human subjects.
- Understand the regulations and rationale for inclusion of women, minorities and children in research.
- Comprehend the types of clinical research which offers career opportunities.
- Appreciate the opportunities and challenges of multidisciplinary research involving two or more basic, clinical or population sciences.
- Understand the opportunities and obstacles to performing research within the private sector.

DEPARTMENT OF PUBLIC HEALTH SCIENCES
MASTER OF SCIENCE CLINICAL INVESTIGATION (MS-CI) PROGRAM
OF STUDY SHEET
TOTAL CREDITS REQUIRED: 31

Student Name: _____ Date Matriculated:_____

GENERAL INFORMATION

Electives can be tailored toward individual's research focus and are identified accordingly.

COURSE NUMBER	COURSE TITLE	CREDITS	PROPOSED SEMESTER	CREDITS COMPLETED
Pm 401	Quantitative Methods	3	Fall or Summer	
PM 410	Intro. to Data Mgmt & Analysis	3	Fall or Summer	
PM 415	Principles of Epidemiology	3	Fall	
PM 460	Masters Research Project/Paper	6		
IND 501	Ethics in Prof. Integrity-Clinical	1	Fall	
BST 465	Design of Clinical Trials	3	Spring	
PLUS ONE OF THE FOLLOWING				
PM 413 **or** PM 416* **or**	Field Epidemiology Advanced Epi Methods ***Advanced Biostatistics Course**	3	Spring Spring Fall or Spring	
OPTIONAL WORKSHOPS AS NEDED				
List of training opportunities may be found at **http://www.urmc.rochester.edu/ctsi/education/**				
ELECTIVES				
	Elective Table 1	3	Fall or Spring	
	Elective Table 2	3	Fall or Spring	
	Elective Table 3	3	Fall or Spring	
	TOTAL CREDITS	**31**		

Last modified: 11/28/18

***Pm 416 (Core 2, 3, 4) Epidemiologic Methods (CRN: 79443) 3 credits**
***PM 464 (Core) Introduction to Regression Analysis (CRN: 79758) 3 credits**
(Instructor: Cai, Shubing, PhD)
***Any biostats course of interest would qualify.**

MS-CI ELECTIVES

We have identified certain electives into cluster areas to better assist students in choosing electives which focus around their research project topics

COURSE NUMBER	COURSE TITLE	CREDITS	WHEN OFFERED	CREDITS COMPLETED
PM 412 ^	Survey Research	3	Fall	
PM 413 #	Field Epidemiology	3	Spring	
PM 414	History of Epidemiology	3	Spring	
*PM 416 ^	Epidemiologic Methods	3	Spring	
PM 417	Molecular Epidemiology	3	Spring	
PM 418 >	Cardiovascular Disease Epi & Prevention	3	Fall	
PM 419	Recruitmt & Reten.of Human Subject	3	Fall (Alternate)	
PM 420	American Health Policy & Politics	3	Fall	
PM 421	US HC Sys.: Financing, Delivery, Performance	3	Fall	
PM 422	Quality of Care & Risk Adjustment	3	Spring	
PM 424 >	Chronic Disease-Epi	3	Spring(Alternate)	
PM 425	Health Promo.& Preventive Medicine	3	Spring	
PM 426	Social & Behavioral Medicine	3	Spring	
PM 430	Psychology in Health Services Res.	3	Fall	
PM 438	Grantsmanship	3	**ONLINE ONLY**	
PM 442 ¥	Nutritional Epidemiology	3	Spring	
PM 443	Maternal & Child Health	3	Fall	
PM 445	Intro to Health Services Res.& Policy	3	Fall	
PM 451	Infectious Disease Epidemiology	3	Spring	
PM 452	Comm.Health Improvemt Practicum	3	Spring	
PM 458	Qualitative Health Care Research	3	Spring	
PM 461	Program Evaluation for Public Health	3	Summer	
*PM 464	Introduction to Regression Analysis	3	Spring	
PM 466 ¥	Cancer Epidemiology	3	Fall/Spring	
PM 469 ¥	Multivariate Models for Epi	3	Fall	
PM 472	Measurement & Eval of Res. Instru.	3	Spring	
PM 484	Med Decision Making & Cost Effec. Research	3	Spring	
PM 485	Intro to Biomedical Infomatics	3	Fall	
PM 486	Medical Ecology	3	Spring	
PM 487	Fundamentals of Sci.,Tech. & Health Policy	3	Spring	
PM 488	Experimental Therapeutics	3	Fall	
PM 489 >	Injury Epi & Emer.Care Res. Methods	3	Fall	

Last modified: 1/7/19

Pre-requisites ^ Principles of Epidemiology PM 415

 # Principles of Epidemiology PM 415

- **Principles of Epidemiology PM 415 -or- Introduction to Epidemiology PH 103**

¥ Introductory courses in Epidemiology and Statistics

Master of Science in Epidemiology (MS-EPI)

Mission Statement

The mission of the University of Rochester Medical Center is to use education, science, and technology to improve the health of patients and communities ---transforming the patient experience with fresh ideas and approaches steeped in disciplined science, and delivered by health care professionals who innovate, take intelligent risks, and care about the lives they tough. The MS in Epidemiology will support this mission by preparing students to apply these ideals in clinical and public health research and outcomes evaluation.

Program Description

Our Master of Science in degree is a 34-credit, three semester course of study designed to provide students with the methodologies and skills needed to 1) carry out research and manage public health programs to identify correlates of disease that may be targets of primary prevention; 2) evaluate the consequences of changes in health care delivery on populations; and 3) to accommodate the growing need to integrate and analyze large-scale information.We meet this goal by providing students with a firm foundation in the fundamental elements of epidemiologic research and biostatistics. The 34 credits of required coursework, include 6 epidemiology (or biostatistics) core methods courses, 1 Ethics (1 credit) course, 3 elective courses, and thesis research (6 credits). Students will propose their thesis research to their thesis committee in a closed session. They will defend their thesis at completion in a public forum followed by a closed Q & A session with thesis committee members. Students completing the program will be well prepared to take positions in academic research, private industry, government, and non-profit agencies.

www.urmc.rochester.edu/education/graduate/masters-degrees/masters-of-science-in-epedemiology.aspx

DEPARTMENT OF PUBLIC HEALTH SCIENCES
MASTER OF SCIENCE EPIDEMIOLOGY (MS-EPI)
PROGRAM OF STUDY SHEET
TOTAL CREDITS REQUIRED: 34

Student Name: _____ Date Matriculated: _____

GENERAL INFORMATION

Electives can be tailored toward individual's research focus and are identified accordingly.

COURSE NUMBER	COURSE TITLE	CREDITS	CREDITS COMPLETED
PM 401 **or** BST 463	Quantitative Methods in Public Health Research Introduction to Biostatistics	3 3	
PM 410	Intro To Data Mgmt. & Data Analysis Using SAS	3	
PM 413 **or** BST 465	Field Epidemiology Design of Clinical Trials	3 4	
PM 415	Principles of Epidemiology	3	
PM 416	Epidemiological Methods	3	
PM 469 **or** BST 464	Multivariable Models for Epidemiology Linear Regression	3 4	
IND 501	Ethics		
	Epidemiology Elective	3	
	Epidemiology Elective	3	
	Epidemiology Elective **or** Public Health/ Clinical Research Elective	3 3	
PM 460	Master's Essay	6	

Last modified: 10-3-19

DEPARTMENT OF PUBLIC HEALTH SCIENCES
MASTER OF SCIENCE EPIDEMIOLOGY (MS-EPI)

MS-EPI ELECTIVES

COURSE NUMBER	COURSE TITLE	CREDITS	CREDITS COMPLETED
	EPIDEMIOLOGY		
PM 413	Field Epidemiology	3	
PM 414	History of Epidemiology	3	
PM 417	Molecular Epidemiology	3	
PM 418	Cardiovascular Epidemiology	3	
PM 424	Chronic Disease Epidemiology	3	
PM 442	Nutritional Epidemiology	3	
PM 451	Infectious Disease Epidemiology	3	
PM 466	Cancer Epidemiology	3	
PM 469 ¥	Multivariable Models for Epidemiology	3	
PM 470	Environmental & Occupational Epi	3	
PM 489	Injury Epi & Emergency Care Res Methods	3	
	PUBLIC HEALTH/CLINICAL RESEARCH		
PM 412	Survey Research	3	
PM 419	Recruitment and Retention of Human Subjects in Clinical Research	3	
PM 426	Social & Behavioral Medicine	3	
PM 445	Intro to Human Services Research and Policy	3	
BST 465	Design of Clinical	4	
	Other course with approval from advisor	3	
	***If not taken as required course**		

Last modified: 10-3-19

¥ Pre-requisites: Introductory courses in Epidemiology and Statistics and PM 416.

MS-HSRP Program Mission Statement

The MS HSRP program is dedicated to providing students with the knowledge and skills needed to conduct high quality health services research and policy analysis

Health services research is a multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies, and personal behaviors affect access to health care, the quality and cost of health care, and ultimately our health and well-being. Health services research aims to provide timely, reliable, and continuously-improved evidence base to guide health care decisions made by clinicians, patients and families, executives and agencies, policymakers, and payers or purchasers. Our MS program in Health Services Research and Policy in the Department of Public Health Sciences is a 37-credit course of study designed to provide students with the knowledge and skills needed to conduct high quality health services and policy analysis.

MS-HSRP Program Learning Competencies

At the conclusion of the Master of Science in Health Services Research and Policy program, a graduate will be able to:

- Appreciate the multi-disciplinary nature of health services research
- Understand the structure, financing, and performance of the US health care system
- Be familiar with quantitative and qualitative analyses of health care services and policy
- Understand the basic principles of statistical (or econometric) analysis, economic theories, quality assessment and comparative effectiveness analysis
- Understand current methods used to formulate health care policy
- Know how to conduct basic statistical tests and regression analysis
- Know how to interpret health services research studies
- Be able to perform decision analysis and comparative-effectiveness analysis.
- Learn how to risk-adjust health care data
- Be able to perform a health care policy analysis

DEPARTMENT OF PUBLIC HEALTH SCIENCES
MASTER OF SCIENCE HEALTH SERVICES RESEARCH & POLICY (MS-HSRP)
PROGRAM OF STUDY SHEET
TOTAL CREDITS REQUIRED: 37

Year One – Fall Term

COURSE NUMBER	COURSE TITLE	CREDITS	PRE-REQUISITE
PM 421	Intro to US Health Care System	3	None
PM 445	Introduction to Health Services Research & Policy	3	None
PM 430 PM 412	Psychology in HSR (odd years) or Survey Research	3	None
PM 410	Intro to Data Management/Analysis with SAS	3	None
IND 501	Ethics in Professional Integrity-Clinical	1	None
	Total Credits	**13**	

Year One – Spring Term

COURSE NUMBER	COURSE TITLE	CREDITS	PRE-REQUISITE
PM 422	Quality of Care & Risk Adjustment	3	PM 421
PM 464	Introduction to Regression Analysis	3	None
PM 472	Measurement & Evaluation of Research Instruments	3	None
PM 484 PM 426	Cost Effectiveness Research (even years) or Social and Behavioral Medicine	3	None
	Total Credits	**12**	

Year Two – Fall Term

COURSE NUMBER	COURSE TITLE	CREDITS	PRE-REQUISITE
PM 430 PM 412	Psychology in HSR (odd years) or Survey Research	3	None
PM 415 PM 456	Principles of Epidemiology or Health Economics I	3	None None
PM 460	Master's Essay	6	None
	Total Credits	**12**	

Last modified: 10/2/19

University of Rochester School of Medicine and Dentistry

Department of Public Health Sciences

Masters' Capstone Project

Master of Public Health (MPH) – Integrated Learning Experience (ILE) Project Essay

Master of Science – Clinical Investigation (MS-CI) & Health Services Research & Policy (MS-HSRP)

Master of Science – Epidemiology (MS-EPI)

Guidelines

MPH ILE Project Essay Guidelines

Important Steps Toward MPH ILE Project Essay Completion		
Steps	***Involvement***	***Description***
1. Feasibility Inquiry	Student & Academic Advisor	Idea discussion (begin at first meeting with Academic Advisor)
2. General Topic Identification	Student & Academic Advisor	Development of idea into topic
3. Identification of proposed Committee Chair (may or may not be Academic Advisor)	Student & Academic Advisor	Student and Academic Advisor identify PHS primary faculty members who are best match to topic
4. Research Committee Identified	Student, Academic Advisor, proposed Committee Chair and committee members	Student secures agreement for involvement in their project and topic from suggested committee members, then submits completed ***ILE Essay Committee Member Agreement form*** to the Hub for approval (the directions, form and submission link are available on the Hub under "ILE" link on left side menu).
5. Complete learning modules 1-3	Student, Committee Chair, committee	• Student completes leadership course (*see module 1 information*) • Student reads appropriate chapters in O'Leary book and completes checklists (*see module 2 information*) • Student incorporates "Knowledge Translation" dissemination plan into Methods section of proposal (*see module 3 information*)
6. Committee Meeting(s)	Student & committee	• Refine topic and research question • Plan methods (including "Knowledge Translation" dissemination plan per module 3) • Prepare timeline
7. Schedule Project Proposal Presentation -- when deemed ready by committee	Student, Committee Chair, Committee Members	The PHS Graduate Programs Administrator's office will assist you in scheduling the date for your proposal.
9. Announcement of Project Proposal Presentation	Student & Graduate Programs Administrative Assistant	Student submits committee-approved abstract of project to the Hub using the appropriate link (under ILE section of Hub) *at least one week prior* to presentation date. PHS Graduate Administrator's office posts notices within department and forwarded via email to all PHS faculty and students one week prior to presentation date.
10. Project Proposal Presentation	Student, Committee Chair and Members, PHS faculty and students	Student presents (typically ~20 minutes, plus ~10 minutes question/answer)

11. Committee Caucus	Student, Committee Chair and Members, other faculty	Committee and student review feedback and suggestions based on presentation, adjust project plan if necessary
12. Project	Student, Committee Chair and Members (plus consultants as necessary)	• RSRB approval • Data collection • Data analyses • Completion of ILE essay project document (results, discussion, and documentation of the analysis)
13. Committee Meeting(s) (synchronous or asynchronous e.g., via email)	Student, Committee Chair and Members	• Review of progress • Revisions based as needed
14. First draft of the completed thesis to Committee	Student	• **March 1** for May graduation • **June 15** for August graduation • **November 1** for December graduation
15. Final Project (see guidelines)	Student, Committee Chair and Members, Graduate Programs Administrator	• Recording and submission of *final project findings VoiceThread presentation*, via VoiceThread link (record and submit via link on Hub) • Preparation and submission of *visual abstract* illustrating study findings (submit via Hub) • Submission of *final ILE project written document* (submit via Hub) • Submission of completed/signed *Weber Leadership Assessment Rubric* (submit via Hub) • Committee chair reviews and approves submission of all four components above. • Student downloads the *MPH ILE Essay Project Completion Approval Form* from the Hub, circulates the form for Committee and Chair signatures, and submits the form to the Hub and emails PHS Graduate Programs Administrator for approval, by: • **April 15 for May graduation,** • **August 1 for August graduation,** • **December 15 for December graduation**

MPH ILE Project Essay Guidelines

Purpose/Background

MPH students complete an **Integrative Learning Experience (ILE)** project at or near the end of the program of study (e.g., in the final year or term). The ILE represents a culminating experience for the program of study and demonstrates synthesis of foundational and concentration competencies. All students are to design, conduct, and complete this project under the supervision of their ILE project Chair and committee.

Requirements

All MPH students are strongly encouraged to begin *thinking* about their ILE project on "day 1" of the program by discussing their topic interests during their initial meetings with Academic Advisor. Students can start *working* on their ILE Project when they are ready in the judgment of their academic advisor and committee chair. Students will generally be expected to have taken courses covering the methods the student proposes to use in their project.

The core element of the University of Rochester MPH ILE experience is a high quality written product (i.e., a sustained piece of writing, typically a research paper*) that is appropriate to the student's educational and professional objectives, and, where relevant, ideally useful to external stakeholders. In addition to the written product, MPH students at the University of Rochester are required to complete four educational modules. The overall learning objective for the modules is to provide students with the essential resources and skills they need to plan, conduct, and report a successful MPH ILE project. These modules are described in detail further below; briefly they are:

- Module 1: Leadership and Project Management
- Module 2: Research Project Fundamentals
- Module 3: Knowledge Translation
- Module 4: Communication of Study Results

Modules 1, 2, and 3 should be completed during the proposal development period. Module 4 should be completed during the thesis writing and reporting period. Each of the modules have deliverables that must be submitted to the appropriate assignment link on the Program Hub (see detailed descriptions of each module below).

Students register for PM460 during this time when working on their ILE (see the Program of Study Planning Worksheet, available via the "Course Planning and Student Advising link on the left side menu of the Program Hub).

** While the definition of what constitutes a high quality, sustained piece of writing is purposely broad, requirements specifically exclude products such as Powerpoint presentations or posters. In addition, students cannot use completed course assignments to satisfy the ILE requirement. Please feel free to reach out to the Program Director with any questions about what kind of product is sufficient to satisfy the ILE requirement.*

Specific Guidance Regarding the ILE Project Topic, Committee Formation, Proposal Process and Human Subjects Requirements

Essay Topic

Consult with your advisor on identification of a topic. MPH ILE project topics often have a public health and/or population relevance and should be appropriate to the student's educational and professional objectives, and, where relevant, ideally useful to external stakeholders. As noted above, while the definition of what constitutes a high quality, sustained piece of writing is purposely broad, requirements specifically *exclude* products such as Powerpoint presentations or posters. In addition, students cannot use completed course assignments to satisfy the ILE requirement. Please feel free to reach out to the Program Director with any questions about what kind of product is sufficient to satisfy the ILE requirement.

ILE Committee Chair

The ILE Project Committee Chair has primary responsibility for helping the student plan, propose, complete, and report the results of their ILE project. The committee chair also has primary responsibility for coordinating the efforts of all committee members. Consult with your Academic Advisor on identification of an ILE Committee Chair. Note that a PHS Master's committee is comprised of *3 members*: *Committee Member #1* - Chair (must have PHS primary faculty appointment), *Committee Member #2* (must have PHS primary faculty appointment), *Committee Member #3* (can be any URMC faculty, or other qualified individual outside of URMC with special permission of the Master's Program Director and PHS Associate Chair). If Member #3 is outside of URMC, you must forward a brief bio and degrees to the PHS Graduate Programs Administrator.

All students must arrange for their proposed Committee Chair to complete the *ILE Essay Committee Member Agreement form* (available on the MPH Program Hub). MPH ILE committee Chair has primary responsibility for ensuring MPH students complete the required educational modules and conducting the required assessments. (See descriptions of ILE modules below). To model best practices and avoid future misunderstanding, when completing the *ILE Essay Committee Member Agreement form* students and their proposed Chair should talk about authorship on any potential publication derived from the capstone project as part of the proposal development process. Plans for deciding manuscript authorship should be made following the International Committee of Medical Journal Editors (ICMJE) guidelines:

> *All those designated as authors should meet all four of the following criteria for authorship, and all who meet the four criteria should be identified as authors:*
> *1. Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND*
> *2. Drafting the work or revising it critically for important intellectual content; AND*
> *3. Final approval of the version to be published; AND*
> *4. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved*.

MPH ILE Project Essay Guidelines

Committee Members

Consult with your Academic Advisor and/or your ILE Committee Chair regarding identification of committee members. A PHS Master's committee is comprised of *3 members*: *Committee Member #1* - Chair (must have PHS primary faculty appointment), *Committee Member #2* (must have PHS primary faculty appointment), *Committee Member #3* (can be any URMC faculty, or other qualified individual outside of URMC with special permission of the Master's Program Director and PHS Associate Chair). If Member #3 is outside of URMC, you must forward a brief bio and degrees to the PHS Graduate Programs Administrator. A committee may also include one or more consultants who are asked to help with specific issues identified by the committee.

Committee members who are not the chair are responsible for helping the student plan, complete, and report the results of their project, particularly in areas of their individual expertise. They are also required to agree to the terms of the committee member agreement form (see below).

All committee members should also be listed as authors on manuscripts reporting the results of the capstone project if they meet the ICMJE criteria for authorship.

Committee members who supply the ILE project data agree to allow the student to use the data to complete their proposed project and to include the student and all committee members on any manuscripts reporting the project that are subsequently published whenever ICMJE authorship criteria are met.

Approval

After the committee is chosen, you must submit a completed *ILE Essay Committee Member Agreement form* (available from the ILE overview section of Program Hub) for review and approval by the Program Director.

Research Proposal Presentations

Before the actual ILE project starts, the final ILE project proposal, including the background, study objectives, and methods, is presented publicly. The goal of the presentation is to obtain feedback about the project objectives and proposed methodology from additional faculty and students.

All committee members need to agree that the proposal is ready for presentation before it can be scheduled. At this point, the proposal will consist of the first part of the finished thesis document and include the introduction, background, public health significance (MPH ILE projects only), and a detailed description of the proposed methods. These thesis components typically are 10 to 25 pages long.

Presentations are usually scheduled on Wednesday from 12:00 to 1:00 in 30-minute time slots. The presentation should last no more than 20 minutes to leave ample time for questions and discussion.

To set a date, first verify consent and availability of committee members, then secure a presentation date with PHS Graduate Administrator's Office. The student then must submit the committee-approved abstract of the project to the ILE section of the Hub using the appropriate link *at least one week prior* to presentation date. The abstract should describe the project and be approximately 250-300 words. The PHS Graduate Administrator's office posts notices within department and distributes the abstract via email to all PHS faculty and students one week prior to presentation date. See steps 7-10 of the table "Important Steps Toward MPH ILE Project Essay Completion" below and on the Program Hub contact information below.

Students are strongly encouraged to arrange a time with student colleagues and/or committee members to rehearse the proposal presentation several days in advance of the proposal date. Students are also encouraged to review information and guidelines regarding how to prepare effective Power Point presentations available from the University of Rochester (as they prepare for their proposal. This information can be accessed using this link.

Investigations Involving Human Subjects

Projects involving the use of human subjects (through direct subject contact or through use of subject records) must be approved by the Research Review Board, Human Subjects for approval.
For this reason, all students must have an active Human Subjects Protection Program (HSPP) number.

Your Committee Chair will be the primary investigator (PI). Students should register as the study coordinator. Because review may take several weeks before a decision is rendered, advance planning is necessary. After submission, there is a departmental review prior to delivery of the proposal to the RSRB. You can track the status of your application on the RSRB website. If it remains in "Departmental Review" for more than one week, ask your committee chair to follow-up with the Department Chair. Please consult the on-line RSRB application instructions for protocol development, templates for consent letters, etc. and definition of terms (**http://www.urmc.rochester.edu/rsrb**).

Contact Information:

Quratulain A. Majoka, MBA, PHS Graduate Programs Administrator
Phone (585) 275-7882
Email: Annie_majoka@urmc.rochester.edu

Christopher Seplaki, PhD, Program Director for MPH
Phone: (585) 273-1549
Email: Christopher_seplaki@urmc.rochester.edu

MPH ILE Project Essay Guidelines

This information is subject to change. Please see the online ***MPH Program Hub*** on Blackboard for the most current version of the ILE Committee Member Agreement Form.

PHS Master's ILE Essay / Thesis Committee Member Agreement Form
Form to be used for program (please check): ☒MPH

Student Name (print/type): _____ **Date:** _____

Directions to student: This form should be completed when your proposed committee decides that you are ready to propose your ILE Essay / Thesis. Please circulate this form to members of your proposed ILE Essay / Thesis Committee for signature (electronic or hardcopy) and submit the completed form to the MPH hub under the appropriate assignment link (if you obtain hardcopy signatures, please re-scan the completed form to a PDF and submit that file to the Hub). Once submitted, please alert the PHS Graduate Programs Administrator via email that your form is ready for review. After your form is approved, the PHS Graduate Programs Administrator's office will assist you in scheduling the date for your proposal.

Note that a PHS Master's committee is comprised of 3 members: **Committee Member #1 - Chair** (must have PHS primary faculty appointment*), **Committee Member #2** (must have PHS primary faculty appointment), **Committee Member #3** (can be any URMC faculty, or other qualified individual outside of URMC with special permission of the Master's Program Director and PHS Associate Chair). ***If Member #3 is outside of URMC****, forward a brief bio and degrees for inclusion in the student's file to the PHS Graduate Programs Administrator, who will obtain initials here: Program Director: _____ ; PHS Associate Chair: _____.*

Committee Member #1: Committee Chair (Must be PHS primary faculty)

I agree to serve as committee chair for the above named student's Master's ILE essay / thesis subject to the following stipulations:

Initial one	Authorship expectations for any publication(s) that may result from this project
	I will serve as chair if I am listed as the *senior author on all publications* resulting from this project.
	I will serve as chair if I am listed as the *senior author on at least one publication* resulting from this project.
	I will serve as chair if I am listed as *an author on all publications* resulting from this project.
	I will serve as chair if I am listed as *an author on at least one publication* resulting from this project.
	I will serve as chair and have *no preferences* regarding authorship decisions.
	Other (type/print):

Committee Chair:_____
(type/print name and sign) Date

Committee Member #2 (Must be PHS primary faculty)

I agree to serve on the Master's ILE Essay / Thesis Committee for the above named student subject to the stipulations stated above.

Committee Member #2:_____
(type/print name and sign) Date

Committee Member #3 (see directions above)

I agree to serve on the Master's ILE Essay / Thesis Committee for the above named student subject to the stipulations stated above.

Committee Member #3:_____
(type/print name and sign) Date

PHS Graduate Programs Administrator: *Record completion of this form in the Hub assignment space and send a copy of the completed pdf to the Committee Chair listed above. Please update the PHS Advisor's list to replace the Academic Advisor with the Committee Chair and communicate the change to GEPA so that their advisor records can be updated.* ***If member #3 is outside of URMC****, obtain from the student a brief bio and degree information on member #3 for inclusion in the student's file and circulate for approval initials, per directions above.*

MPH Thesis Project Guidelines

ILE essay document content requirements and example cover page format

The final essay document should be a complete record of the project. The following sections should be included:

1. Title page (see formatting below)
   a. The cover page is not numbered
   b. Project title is typed in Title Case following standard rules of English
   c. Only the Chair is listed on the cover page. Others may be included in the acknowledgements
   d. Student's Departmental Name
   e. College/School
   f. Year of Final Defense (not month or day)
2. Table of contents
3. Abstract
   a. The final abstract of the project should appear immediately after the table of contents
   b. The final abstract must include the following headings bolded with a brief description of each: Background, Objective, Methods, Results and Conclusion.
4. Introduction
5. Background
6. Public Health Significance
7. Methods (including a "Knowledge Translation" dissemination plan, per module 3)
8. Results
9. Discussion
   a. Summary of findings
   b. Relationship of study findings with previous results
   c. Strengths and weaknesses
   d. Conclusion and implications for further research
10. References
11. Tables
12. Figures
13. Appendix
    a. Study materials (surveys etc)

Formatting

The report should be double-spaced and use the following margins: 1 l/2" from the left side and 1 l/4" from the right side, top and bottom. Page numbers should be put on the bottom of the page.

Font size should be 11 – 12. Font type should be Times New Roman.

(Example cover page format)

Title of Thesis

by

Your Name

Submitted in Partial Fulfillment of the Requirements for the (Master of Science Degree) or (Master of Public Health Degree)

Supervised by

(Chair of Committee **Only**)

Department of Public Health Sciences

School of Medicine and Dentistry

University of Rochester
Rochester, New York

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MPH ILE Project Essay Guidelines

Additional MPH (PM 460, requirements) learning modules

Check list for committee chair

Module	Requirements
Module 1: Leadership and project management	☐ Chapter quizzes 80% correct, Leadership foundations course at Lynda .com ☐ Weber leadership assessment rubric completed (at time of ILE final submission)
Module 2: Research Project Fundamentals	☐ Checklist for good questions ☐ Checklist for elements of a research proposal ☐ Checklist for literature review Checklists (Appropriate for proposed study design, chosen and evaluated by committee chair) for: ☐ Assessing practicality ☐ Experimental design ☐ Appropriate data analysis
Module 3 – Knowledge Translation	☐ Incorporation of key questions for knowledge translation listed on pages 15-17 of the *Guide to knowledge translation planning at CIHR* into the Methods section of essay proposal. Primary evaluator: committee chair. Secondary evaluators: other committee members.
Module 4 – Communication of study results	☐ Creation and presentation of a summary of thesis research findings and implications using an adapted version of the 3 minute thesis format ☐ Creation of a visual abstract using the method developed by Ibraham.

MPH ILE Project Essay Guidelines

Overall Learning Objective for Modules

To provide students with the essential resources and skills they need to plan, conduct, and report a successful MPH thesis capstone project.

Modules 1, 2, and 3 should be completed during the proposal development period.

Module 4 should be completed during the thesis writing and reporting period.

Module 1: Leadership and Project Management

Objective

To provide students with the leadership skills needed to successfully organize and lead an in-depth scholarly research project

Activities

Leadership foundations course at Lynda.com
This course, taught by Britt Andreatta of the Project Management Institute covers the following topics:

- What is leadership, and when are you leading?
- Mapping your leadership competencies
- Dealing with changing scope and stakes
- Motivating and engaging others
- Increasing team performance
- Developing political acumen
- Creating a culture of trust and integrity
- Developing resilience

Time required: 1 hour 24 minutes

Students can use free 30 day trial membership if they do not already have a subscription to Lynda.com. (See appendix)

Assessments:

1. Completion of all chapter quizzes with at least 80% of questions correct. Students submit screen shots of completed chapter quizzes to the appropriate link in the Hub, for evaluation by their ILE Committee Chair.
2. At the time of ILE essay project completion (i.e., upon completion of Module 4), the ILE committee Chair and committee will assess how well the student functioned as a project leader in preparing, doing, and completing the thesis project, using the *Weber Leadership Assessment Rubric*. The rubric and its submission link are available in the Hub (below Module 4) and in the Appendix. ***The student should deliver this form to your ILE Essay Chair around the time you are completing the penultimate draft of your essay document***. Your chair will complete and sign the (electronically or in hardcopy) and return it to you. Please upload a pdf of the completed form to the appropriate link in the Hub at the time you complete module 4.

MPH ILE Project Essay Guidelines

Module 2: Research Project Fundamentals

Objective

To help students identify the steps needed to successfully conduct a research project and learn how to accomplish them.

Activities

Required:
Read chapters: 1-7, & 16 + additional chapters relevant to methods chosen for the project, in O'Leary, Z: The essential guide to doing your research project. 3rd ed. Sage. This book is available at Amazon, Barnes & Noble, and other online sellers. Cost is about $10 to rent, $25 to buy.

Optional:
Review of Tutors Quick Guide to Statistics, online at http://www.statstutor.ac.uk/resources/uploaded/tutorsquickguidetostatistics.pdf. Review sections relevant to project.

Assessments:

Completion of applicable student resources (available at https://study.sagepub.com/oleary3e).
Primary evaluator: committee chair. Secondary evaluators: other committee members.

1. Checklist for good questions (under "Forming Research Questions")
2. Checklist for elements of a research proposal (under "Developing Research Proposals")
3. Checklist for writing a literature review (under Crafting Literature Reviews")
4. Checklists under "Choosing and Practicing Appropriate Methods" (choose those appropriate for proposed study design, chosen and evaluated by committee chair) for:
    a. Checklist for Assessing Practicality
    b. Checklist for Experimental Design
    c. Other checklist in this section appropriate to data analysis (e.g., qualitative studies, mixed methods, evaluating research)

Module 3 – Knowledge Translation

Objective

To learn how to effectively plan to disseminate results of a research project.

Activities

- Read pages 15-25 of the Guide to knowledge translation planning at CIHR: Integrated and end-of-grant approaches published by the Canadian Institutes of Health Research

MPH ILE Project Essay Guidelines

Assessment

Incorporation of key questions for knowledge translation listed **on pages 15-17** of the *Guide to knowledge translation planning at CIHR* into the Methods section of essay protocol. Primary evaluator: committee chair. Secondary evaluators: other committee members.

Module 4 – Communication of study results

Objective

To learn how to communicate audience-appropriate public health content, both in writing and through oral presentation.

Activities

1. Creation and presentation of a summary of ILE essay findings and implications using an adapted version of the 3 minute thesis format:

The presentation should be recorded by the student using the VoiceThread link on the MPH Hub. Presentations must be limited to 5 minutes. Presentations longer than 5 minutes will be rejected as unacceptable.

The presentation should include a brief summary of your study question, study methods, results and conclusions. Two projected diagrams, such as power point slides, may be used: one to help describe the study and the other to summarize the results.

2. Creation of a visual abstract using the method developed by Ibraham.

Optional use of Mind the Graph online software.

The visual abstract can be included in the presentation or submitted as a separate file.

Both the final report and the visual abstract should be saved and submitted via email to the PHS Graduate Programs Administrator.

Assessment

Presentations and visual abstracts will be judged using the following criteria by a faculty committee:

- Did the presentation provide an understanding of the background to the research question being addressed and its significance?
- Did the presentation clearly describe the key results of the research including conclusions and outcomes?
- Did the presentation follow a clear and logical sequence?
- Was the thesis topic, key results and research significance and outcomes communicated in language appropriate to a non-specialist audience?
- Did the speaker avoid scientific jargon, explain terminology and provide adequate background information to illustrate points?
- Did the presenter spend adequate time on each element of their presentation - or did they elaborate for too long on one aspect or was the presentation rushed?

Appendix

MPH ILE Essay Module 1 Evaluation: Leadership and Project Management

Weber Leadership Assessment Rubric

Directions to student: Please deliver this form to your ILE Essay Chair together with the penultimate draft of your essay document. Your chair will complete and sign the (electronically or in hardcopy). Please upload the completed form to the appropriate link in the Hub at the time you complete module 4.

	1 - Emerging	2 - Approaching	3 - Meeting	4 - Exceeding	N/A
Potential ☐	• Unaware of own potential	• Aware of own potential, but not able to recognize it in others	• Aware of own potential and can recognize potential in others	• Aware of own potential and both recognizes and encourages potential in others	
Accountablity ☐	• Does not hold self accountable for actions	• Inconsistently holds self accountable for actions	• Holds self accountable for actions but not others	• Holds self and others accountable for their actions	
Involvement ☐	• Does not seek involvement opportunities	• Actively seeks involvement opportunities for self	• Seeks involvement opportunities for self and others	• Seeks and generates opportunities for involvement for self and others	
Facilitation ☐	• Is not able to lead or empower a group to develop a consensus which results in the members' commitment/satisfaction regarding their responses within a specified time limit.	• Requires significant assistance in leading and empowering group members in collaborative solutions resulting in group satisfaction with agreed responses after an extended time period.	• Is hesitant but able to lead and empower group members in collaborative solutions resulting in group satisfaction with agreed responses within a specific time limit.	• Leaders and empowers group members towards collaborative solutions which maximize members' commitment to and satisfaction with agreed upon responses within a specified time limit.	
Feedback ☐	• Does not give feedback and is not open to receiving feedback.	• Inconsistently provides feedback and is somewhat open to receiving feedback	• Consistently provides feedback and is open to receiving feedback	• Incorporates reciprocal feedback as an integral part of processes.	
Total:					

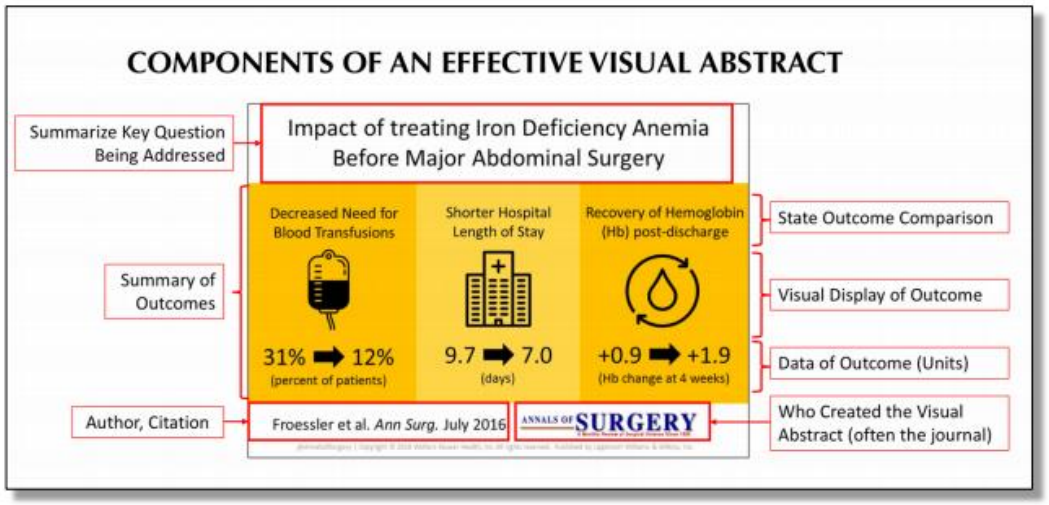
Overall Comments:

Signature at the time of summary presentation of findings and implications (i.e., Module 4):

ILE Essay Committee Chair Signature Project completion date

MPH ILE Project Essay Guidelines

Visual Abstracts



Key components of the visual abstract include:

Summarize Key Question Being Addressed: This usually comes from the title of the article or a heading of key figure. Keep it short and clear.

Summary of Outcomes: You will need to spend time thinking about outcomes you want to present. Most articles have many more than 3, so you'll have to prioritize.

Author, Citation: Always include at least the first author's name and year of publication.

State Outcome Comparison: A short phrase that clearly states the outcome with the respect to groups being compared. For example, "Decreased Need for Blood Transfusions" is easier to follow than simply, "Blood Transfusions." As much as possible, you should use the same prose used in the article for consistency.

Visual Display of Outcome: You will want a visual that reflects the outcome you're describing. (More on this below – "Making it Visual.")

Data of Outcome (Units): In addition to stating the outcome, you will want to give the numeric representation. Be sure to include the units.

MPH ILE Project Essay Guidelines

How to Open a Free 30-day Account at Lynda.com

1. go to **www.lynda.com**

2. Click on Free trial

3. Enter an email address and password.

4. Select either a basic or premium account in case you decide to keep your account open after the 30 day free trial period.

5. Select either monthly or yearly billing

6. Enter your payment information: paypal or charge card

7. Note the end date of your free trial. If you can cancel any time before this date, you will not be charged. If you leave your account open past this date, your paypal account or credit card will be billed according to the schedule you picked in step 5.

8. Pick at least one skill area of interest

9. Proceed to Leadership course:
    - select leadership from library menu
    - check Britt Andreatta from the author list on the left

MS-CI & HSRP Capstone Project Guidelines

IMPORTANT STEPS TOWARDS CAPSTONE PROJECT COMPLETION

Steps	Involvement	Description
1. Feasibility Inquiry	Student & Advisor	• Idea discussion
2. General Topic Identification	Student & Advisor	• Development of idea into topic
3. Identification of proposed Committee Chair	Student & Advisor	
4. Research Committee Identified	Student, Advisor, proposed Committee Chair and other faculty	• Student secures agreement for involvement from suggested committee members
5. Topic & Committee Member Approval	Student & Program Director	• Brief abstract submitted for discussion, review and approval by Program Director
6. Committee Meeting	Student, Committee Chair and Committee Members	• Refine topic and research question • Layout methods • Prepare timeline
7. Project Proposal	Student, Committee Chair and Committee Members	• Preparation of proposal with review and feedback from Committee Chair and Members
8. Schedule Project Proposal Presentation	Student, Committee Chair, Committee Members	• Schedule presentation with assistance of Education Secretary (TBD)
9. Announcement of Project Proposal Presentation	Student & Graduate Programs Administrative Assistant	• Submission of abstract to Administrative Assistant one week prior to presentation • Notice posted within department and forwarded via email to all PHS faculty and students one week prior to presentation date
10. Project Proposal Presentation	Student, Committee Chair and Members, PHS faculty and students	• Student presents
11. Faculty Caucus	Student, Committee Chair and Members, other faculty	• Provided feedback and suggestions based on presentation
12. Project	Student, Committee Chair and Members and Consultants as necessary	• RSRB approval • Data collection • Data analyses • Essay write up (draft format)
13. Committee Meeting(s)	Student, Committee Chair and Members	• Review of progress and essay draft • Reworks based on feedback
14. First draft of thesis to Committee	Student	• March 1 for May graduation • June 15 for August graduation • November 1 for December graduation
15. Final Project (see guidelines)	Student, Committee Chair and Members, Graduate Programs Administrator	• Submission of final project to Committee Chair & Members for sign off • Submission of final project to Graduate Programs Administrator • Submission of final abstract with findings to Graduate Programs Administrative Assistant

MS-CI & HSRP Capstone Project Guidelines

Purpose/Background

A Public Health Sciences (PHS) Capstone Project is a requirement of all Masters programs. It is an opportunity for students to synthesize knowledge and skills gained during their course work. All students are to design, conduct, and write this project under the supervision of a chair and committee.

Requirements

Students are able to start working on their Capstone Project when they are ready in the judgment of their advisor and committee chair. Students will generally be expected to have taken courses covering the methods the student proposes to use in their project.

Departmental Specifications for Students

Topic:

Consult with your advisor on identification of a topic. Note that MS-HSRP research topics have a public health and/or population relevance.

Use of course assignments to satisfy the capstone requirement, with no additional work, is prohibited.

Committee Chair:

Consult with your advisor on identification of a Project Chair.

The Project Chair **must** hold a full-time faculty appointment in PHS.

Committee Members:

Consult with your advisor and/or your committee chair on identification of committee members.

Committees shall consist of at least three members:

> Two members whose primary faculty appointment is in the Department of Public Health Sciences (PHS) and one whose primary faculty appointment is not in the Department of Public Health Sciences.
>
> A committee may also include one or more consultants who are asked to help with specific issues identified by the committee.

MS-CI & HSRP Capstone Project Guidelines

Department Specifications for Faculty

Committee Chair

The committee chair has primary responsibility for helping the student plan, propose, complete, and report the results of their capstone project.

The committee chair also has primary responsibility for coordinating the efforts of all committee members.

The committee chair is also charged with encouraging the student to publish a manuscript based on their capstone project.

To model best practices and avoid future misunderstanding, students and their chair should expect to talk about authorship order on any potential publication derived from the capstone project as part of the proposal development process. Plans for deciding manuscript authorship should be made following the International Committee of Medical Journal Editors (ICMJE) guidelines:

All those designated as authors should meet all four of the following criteria for authorship, and all who meet the four criteria should be identified as authors:

- *Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND*
- *Drafting the work or revising it critically for important intellectual content; AND*
- *Final approval of the version to be published; AND*
- *Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.*

Other committee members

Committee members are responsible for helping the student plan, complete, and report the results of their capstone project, particularly in areas of their individual expertise.

All committee members should also be listed as authors on manuscripts reporting the results of the capstone project if they meet the ICMJE criteria for authorship

Committee members who supply Capstone project data agree to allow the student to use the data to complete their proposed project and include the student and all committee members on any manuscripts reporting the project that are subsequently published whenever ICMJE authorship criteria are met.

PHS Master's ILE Essay / Thesis Committee Member Agreement Form

Form to be used for program (please circle): MPH, MS-CI, MS-EPI, MS-HSRP

Student Name (print)**:** _____ **Date:** _____

A PHS Master's committee is comprised of 3 members: **#1 Committee Chair** (must have PHS primary faculty appointment), **Member #2** (must have PHS primary faculty appointment), **Member #3 (external)**. The external member can be any URMC faculty (PHS secondary, or other URMC faculty appointment) or other qualified individuals *with special permission of the Master's Program Director and PHS Associate Chair* (if applicable, obtain initial here: Program Director: _____; PHS Associate Chair: _____)

Committee chair (Must be PHS primary faculty)
I agree to serve as committee chair for the above named student's Master's ILE essay / thesis subject to the following stipulations:

Initial one	Authorship expectations for any publication(s) that may result from this project
	I will serve as chair if I am listed as the *senior author on all publications* resulting from this project.
	I will serve as chair if I am listed as the *senior author on at least one publication* resulting from this project.
	I will serve as chair if I am listed as *an author on all publications* resulting from this project.
	I will serve as chair if I am listed as *an author on at least one publication* resulting from this project.
	I will serve as chair and have *no preferences* regarding authorship decisions.
	Other:

Committee Chair:_____
(print name and sign) Date

Committee Member #2 (Must be PHS primary faculty)
I agree to serve on the Master's ILE Essay / Thesis Committee for the above named student subject to the stipulations stated above.

Committee Member #2:_____
(print name and sign) Date

Committee Member #3 (External)

I agree to serve on the Master's ILE Essay / Thesis Committee for the above named student subject to the stipulations stated above.

Committee Member #3:_____
(print name and sign) Date

MS-CI & HSRP Capstone Project Guidelines

Research Proposal Presentations:

Before the actual research project starts, the final research proposal, including the background, study objectives, and methods, is presented publicly.

The goal of the presentation is to obtain feedback about the study objectives and proposed methodology from additional faculty and students.

Presentations are usually scheduled on Wednesday from 12:00 to 1:00 in 30 minute time slots.

The presentation should last no more than 18 minutes to leave ample time for discussion.

To set a date, first verify availability of committee members, then secure a presentation date with the Education Secretary.

Send an electronic version of the proposal abstract to the Education Secretary at least 7 days in advance of scheduled presentation.

The abstract should describe the project and be approximately 250-300 words.

An electronic announcement for the presentation with the abstract will be disseminated to all PHS faculty, staff and students as well as invited guests one week prior to the scheduled presentation. Printed announcements will also be posted.

A reminder announcement will be forwarded the morning of the scheduled presentation.

Students are strongly encouraged to arrange a time with committee members to rehearse the proposal presentation several days in advance of the proposal date.

Students are strongly encouraged to review information and guidelines regarding how to prepare effective Power Point presentations available from the University of Rochester (as they prepare for their proposal. This information can be accessed using this link.

Investigations Involving Human Subjects:

Projects involving the use of human subjects (through direct subject contact or through use of subject records) must be approved by the Research Review Board, Human Subjects for approval.

All students must have an active Human Subjects Protection Program (HSPP) number.

Your committee chair will be the primary investigator; students should register as the study coordinator.

Because review may take several weeks before a decision is rendered, advance planning is necessary.

MS-CI & HSRP Capstone Project Guidelines

After submission, there is a departmental review prior to delivery of the proposal to the RSRB. You can track the status of your application on the RSRB website. If it remains in "Departmental Review" for more than one week, ask the PI (your committee chair) to follow-up with the Department Chair.

Please consult the on-line RSRB application instructions for protocol development, templates for consent letters, etc. and definition of terms (**http://www.urmc.rochester.edu/rsrb**)

Contact Information:

Edwin van Wijngaarden, PhD, Program Director (MS-CI)
Phone: (585) 275-1985
Email: **edwin_van_wijngaarden@urmc.rochester.edu**

Yue Li, Ph.D., Program Director (MS-HSRP)
Phone: (585) 275-3276
E-mail: yue_li@urmc.rochester.edu

Annie Majoka, Graduate Programs Administrator
Phone: (585) 275-7882
Email: **annie_majoka@urmc.rochester.edu**

Candace Davis, Education Secretary
Phone: (585) 275-6806
Email: **candace_davis@urmc.rochester.edu**

MS-CI & HSRP Capstone Project Guidelines

Thesis Requirements

The final thesis document should be a complete record of the capstone project. The following sections should be included:

1. ***Title page (see formatting below)***
    - ***a. The cover page is not numbered***
    - ***b. Project title is typed in Title Case following standard rules of English***
    - ***c. Only the Chair is listed on the cover page. Others may be included in the acknowledgements***
    - ***d. Student's Departmental Name***
    - ***e. College/School***
    - ***f. Year of Final Defense (not month or day)***
2. ***Table of contents***
3. ***Abstract***
    - ***a. The final abstract of the project should appear immediately after the table of contents***
    - ***b. The final abstract must include the following headings bolded with a brief description of each: Background, Objective, Methods, Results and Conclusion.***
4. Introduction
5. Background
6. Public Health Significance (For MPH projects)
7. Methods
8. Results
9. Discussion
    - a. Summary of findings
    - b. Relationship of study findings with previous results
    - c. Strengths and weaknesses
    - d. Conclusion and implications for further research
10. References
11. Tables
12. Figures
13. Appendix
    - a. Study materials (surveys etc)

In addition to the final thesis document, we encourage students to prepare a shorter version of the project in the form of a manuscript suitable for publication as they complete the main thesis document.

MS-CI & HSRP Capstone Project Guidelines

Formatting

All students are required to submit a final copy of their Masters Capstone Project to the Graduate Programs Administrator in an electronic version. In addition they are required to present the final abstract with findings to the Education Secretary.

Text:

Students should use the following margins: 1 l/2" from the left side and 1 l/4" from the right side, top and bottom, including the page number (you may put the page number on the bottom of the page)

Font size should be 11 – 12; Font type should be Times New Roman; The report should be double-spaced

(Example cover page format)

Title of Thesis

by

Your Name

Submitted in Partial Fulfillment of the Requirements for the (Master of Science Degree) or (Master of Public Health Degree)

Supervised by

(Chair of Committee **Only**)

Department of Public Health Sciences

School of Medicine and Dentistry

University of Rochester
Rochester, New York

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MS-EPI Thesis Project Guidelines

Purpose/Background

A Master's Thesis Project is a requirement of all MS-EPI students. It is an opportunity for students to synthesize knowledge and skills gained during their course work. All students are to design, conduct, and write a document summarizing this project under the supervision of a chair and committee.

Requirements

Students are able to start working on their Thesis Project when they are ready in the judgment of their advisor and committee chair. Students will generally be expected to have taken courses covering the methods the student proposes to use in their project.

Program Specifications for Students

Topic

Consult with your advisor on identification of a topic. Note that MS thesis topic must have a public health relevance, focusing on the determinants of disease in a population (e.g., descriptive or qualitative studies will not be considered). Thesis projects in epidemiologic methods will be considered on a case by case basis. Use of course assignments to satisfy the thesis requirement, with no additional work, is prohibited.

Committee Chair

Consult with your advisor on identification of a thesis committee chairperson. The chair must hold a full-time faculty appointment in the Division of Epidemiology in the Department of Public Health Sciences. The committee chair has primary responsibility for helping the student plan, propose, complete, and report the results of their thesis project.

The committee chair also has primary responsibility for coordinating the efforts of all committee members. The committee chair is also charged with mentoring the student through publication of the thesis as it is our expectation that all thesis projects will be submitted for peer review in an academic journal. To model best practices and avoid future misunderstanding, students and their chair should expect to talk about authorship order on any potential publication derived from the thesis project as part of the proposal development process.

Committee Members

Consult with your advisor and/or your committee chair on identification of committee members (at least 3):

- Two members whose primary faculty appointment is in the Division of Epidemiology, and one whose primary faculty appointment is not in the Division of Epidemiology.
- A committee may also include one or more consultants who are asked to help with specific issues identified by the committee, but who would not formally serve on the committee.

MS-EPI Thesis Project Guidelines

Committee members are responsible for helping the student plan, complete, and report the results of their thesis project, particularly in areas of their individual expertise. Committee members who supply thesis project data must agree to allow the student to use the data to complete their proposed project. The student and all committee members must be included on any manuscripts reporting the project that are subsequently published whenever established authorship criteria are met.

Approval

Submit a description of your proposed research topic and proposed committee members for approval by the Program Director. Students may then proceed with the proposed work upon approval of the thesis proposal by the committee. The Program Director should be notified by the committee chair of the proposal approval. **At this point the committee members will complete the Thesis Committee Member Agreement Form.**

Investigations Involving Human Subjects

Projects involving the use of human subjects (through direct subject contact or through use of subject records) must be approved by the University of Rochester Research Subjects Review Board. All students must have successfully completed human subjects training through an on-line program called the Collaborative Institutional Training Initiative (CITI Program) prior to conducting any human subject research (see

https://www.rochester.edu/ohsp/education/certification/initialCertification.html for more information). Your committee chair will typically be the primary investigator for the RSRB application; however, in cases where the data used for the thesis come from a project led by another member of the committee, that committee member should be the primary investigator for the RSRB application. Students should register as the study coordinator. Because review may take several weeks before a decision is rendered, advance planning is necessary. After submission, there is a departmental review prior to delivery of the proposal to the RSRB. You can track the status of your application on the RSRB website. If it remains in "Departmental Review" for more than one week, ask the PI (your committee chair) to follow up with the Department Chair. Please consult the on-line RSRB application instructions for protocol development, templates for consent letters, and definition of terms (**http://www.urmc.rochester.edu/rsrb**).

Thesis Project presentations

The final thesis document, including the background, study objectives, methods, results and discussion is presented publicly. The goal of the presentation is to obtain feedback about the completed work from additional faculty and students. Presentations are usually scheduled on Wednesday from 12:00 to 1:30 in 90-minute time slots. The presentation should last no more than 30 minutes to leave ample time for public discussion. The public forum will be followed by a closed Q & A session with thesis committee members.

To set a date, first verify availability of committee members. Then send an electronic version of the proposal abstract to the Education Secretary and schedule a presentation date with her (see contact information below). The abstract should describe the project and be approximately 250-300 words. An electronic announcement for the presentation with the abstract will be disseminated to all PHS faculty, staff and students as well as invited guests one week prior to the scheduled presentation.

MS-EPI Thesis Project Guidelines

Printed announcements will also be posted. A reminder announcement will be forwarded the morning of the scheduled presentation. Students are strongly encouraged to arrange a time with the committee chair to rehearse the proposal presentation several days in advance of the proposal date. Students are strongly encouraged to review information and guidelines regarding how to prepare effective PowerPoint presentations available from the University of Rochester (as they prepare for their proposal). This information can be accessed at **https://www.urmc.rochester.edu/education/graduate/professional-development/skills-development/communication/powerpoint.aspx**.

Contact Information

David Rich, ScD, MS-EPI Program Director
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Email: **david_rich@urmc.rochester.edu**

Annie Majoka, Graduate Programs Administrator
Phone: (585) 275-7882
Email: **annie_majoka@urmc.rochester.edu**

Candace Davis, Education Secretary:
Phone: (585) 275-6806
Email: **candace_davis@urmc.rochester.edu**

Formatting

All students are required to submit a final copy of their Master's Thesis to the Graduate Programs Administrator in an electronic version. In addition they are required to present the final abstract with findings to the Education Secretary. Students should use the following margins: 1 l/2" from the left side and 1 l/4" from the right side, top and bottom, including the page number (you may put the page number on the bottom of the page). Font size should be 11 – 12; font type should be Times New Roman; the report should be double-spaced.

Thesis Requirements

The final thesis document should be a complete record of the Thesis project. The following sections should be included:

1. Title page (see formatting below)
    a. The cover page is not numbered
    b. Project title is typed in Title Case following standard rules of English
    c. Only the Chair is listed on the cover page. Others may be included in the acknowledgements
    d. Student's Departmental Name
    e. College/School
    f. Year of Final Defense (not month or day)

MS-EPI Thesis Project Guidelines

2. Table of contents
3. Abstract
    a. The final abstract of the project should appear immediately after the table of contents
    b. The final abstract must include the following headings bolded with a brief description of each: Background, Objective, Methods, Results and Conclusion.
4. Introduction
5. Background
6. Public Health Significance
7. Methods
8. Results
9. Discussion
    a. Summary of findings
    b. Relationship of study findings with previous results
    c. Strengths and weaknesses
    d. Conclusion and implications for further research
10. References
11. Tables
12. Figures
13. Appendix
    a. Study materials (surveys, etc.)

In addition to the final thesis document, we encourage students to prepare a shorter version of the project in the form of a manuscript suitable for publication as they complete the main thesis document.

PHS Master's ILE Essay / Thesis Committee Member Agreement Form

Form to be used for program (please circle): MPH, MS-CI, MS-EPI, MS-HSRP

Student Name (print)**:** _____ **Date:** _____

A PHS Master's committee is comprised of 3 members: **#1 Committee Chair** (must have PHS primary faculty appointment), **Member #2** (must have PHS primary faculty appointment), **Member #3 (external)**. The external member can be any URMC faculty (PHS primary, PHS secondary, or other URMC faculty appointment) or other qualified individuals *with special permission of the Master's Program Director and PHS Associate Chair* (if applicable, obtain initial here: Program Director: _____; PHS Associate Chair: _____)

Committee chair (Must be PHS primary faculty)
I agree to serve as committee chair for the above named student's Master's ILE essay / thesis subject to the following stipulations:

Initial one	Authorship expectations for any publication(s) that may result from this project
	I will serve as chair if I am listed as the *senior author on all publications* resulting from this project.
	I will serve as chair if I am listed as the *senior author on at least one publication* resulting from this project.
	I will serve as chair if I am listed as *an author on all publications* resulting from this project.
	I will serve as chair if I am listed as *an author on at least one publication* resulting from this project.
	I will serve as chair and have *no preferences* regarding authorship decisions.
	Other:

Committee Chair:_____
(print name and sign) Date

Committee Member #2 (Must be PHS primary faculty)
I agree to serve on the Master's ILE Essay / Thesis Committee for the above named student subject to the stipulations stated above.

Committee Member #2:_____
(print name and sign) Date

Committee Member #3 (External)

I agree to serve on the Master's ILE Essay / Thesis Committee for the above named student subject to the stipulations stated above.

Committee Member #3:_____
(print name and sign) Date

University of Rochester School of Medicine and Dentistry

Department of Public Health Sciences

Doctoral Programs

Epidemiology

Health Services Research & Policy

EPIDEMIOLOGY PhD PROGRAM

Mission Statement

To prepare individuals for an academic career in the conduct of scholarly work in epidemiology that acknowledges the complexity of disease occurrence, etiology and prevention in populations.

PROGRAM GOALS

- Foster scholarly achievement in the field of epidemiology in an environment of interdisciplinary and collaborative research at the University of Rochester
- Train graduate students to become independent research investigators and educators
- Provide trainees with a unique set of skills and perspectives that can be applied in all areas of clinical and population research
- Promote research and service at the local, state and national level, thereby contributing to improving the health of all U.S. communities
- Build a cadre of prepared individuals who will reflect the strengths of the university as these individuals fill academic positions in other institutions nationwide

PROGRAM OBJECTIVES

The primary objective of the epidemiology doctoral program at the University of Rochester is to train epidemiologists in a wide variety of skills and methods spanning the disciplines of psychology, social and behavioral health, statistics and biostatistics in addition to solid course offerings in advanced epidemiologic methods and specialized areas of epidemiologic and population health research.

Specific objectives are to:

- Educate individuals in the basic science of Epidemiology
- Teach the skills required to conduct population research
- Provide intense mentoring to assure a productive, and satisfying educational and research experience
- Prepare students to successfully transition into a role of an independent investigator by providing opportunities for peer mentoring, writing grant proposals, publishing work in scientific journals, and reviewing the work of peers
- Provide educational role models and opportunities that encourage students to develop and cultivate their own teaching skills
- Nurture a research environment in which accuracy, integrity and ethical practices are highly valued

EPIDEMIOLOGY PHD PROGRAM COMPETENCIES

Upon completion of the epidemiology doctoral program, every graduate should be able to:

- Describe the development of epidemiology into its own distinct scientific field from various disciplines
- Understand and describe traditional and emerging epidemiological study designs, including their advantages and limitations
- Define key concepts of bias and interaction and assess their impact in epidemiologic investigations
- Develop and apply a detailed statistical analysis strategy using a combination of techniques
- Critically evaluate the design and conduct of published observational and interventional studies and interpret their findings
- Design and conduct an original epidemiologic investigation including recruitment, data collection, data management and statistical analysis
- Understand the methodological commonalities and differences across specialized areas of epidemiologic and population health research

EPIDEMIOLOGY PhD PROGRAM

PROGRAM REQUIREMENTS

- 64 credit hours of formal coursework and 29 credit hours of dissertation research as mandated by the University of Rochester Graduate Studies Program
- Coursework will focus on methodologic skills while providing adequate training in current epidemiologic content areas
- Three electives specific to area of research interest

SUGGESTED SCHEDULE OF CLASSES

YEAR 1 (Fall Semester)		**YEAR 1 (Spring Semester)**		**Total**
PM412 Survey Research	(3)	PM413 Field Epidemiology	(3)	
PM415 Principles of Epidemiology	(3)	PM416 Advanced Epi Methods	(3)	
BST463 Intro to Biostatistics	(4)	PM426 Social & Behavioral Medicine	(3)	
PM410 Intro to Data Management	(3)	Elective or Epi Content Course	(3)	
Elective or Epi Content Course	(3)	Elective or Epi Content Course	(3)	
IND503 Ethics	(1)			
Total Semester Credits:	17	Total Semester Credits:	15	32
YEAR 2 (Fall Semester)		**YEAR 2 (Spring Semester)**		
PM414 History of Epidemiology	(3)	BST465 Clinical Trials	(4)	
BST464 Statistical Methods	(4)	PM472 Measurement & Evaluation	(3)	
BST448 Grant Writing	(3)	Elective or Epi Content Course	(3)	
PM469 Multivariate Stats for Epi	(3)	Elective or Epi Content Course	(3)	
Elective or Epi Content Course	(3)	Elective or Epi Content Course	(3)	
Total Semester Credits:	16	Total Semester Credits:	16	32
		TOTAL RECOMMENDED COURSE CREDITS		**64**

Epidemiology Content Courses (3 credits each) include:

PM417 Molecular Epidemiology (spring)
PM418 Cardiovascular Epidemiology (fall)
PM424 Chronic Disease Epidemiology (spring)
PM442 Nutritional Epidemiology (spring)
PM451 Infectious Disease Epidemiology (fall)
PM466 Cancer Epidemiology (fall)
PM470 Environmental and Occupational Epidemiology (fall)
PM484 Injury Epidemiology (fall)

EPIDEMIOLOGY PhD PROGRAM

COMPREHENSIVE EXAMINATIONS

Student performance in the oral examination is independently scored by each committee member and these scores are averaged to one grade which represents 30% of the overall qualifying examination grade (0-100%). Each written examination is independently scored by two faculty reviewers. If the scores differ by more than 10% or if the two grades result in a differing decision regarding the pass/fail status of the student, that written exam is graded by a third reviewer. The scores are then averaged and this grade represents 70% of the overall grade. The weighted average of the oral and written exams represents the student's final qualifying examination grade. A cut-off score for passing has been established, determining successful completion of the examination. Students will receive formal notification of pass/fail status, but will not receive the actual grade. If a student does not pass the exam, she/he may repeat the examination once following a minimum of six months of remedial preparation.

Written and oral qualifying examinations are required upon completion of a minimum of 55 credit hours of coursework.

- Written examination is developed yearly by the Executive Committee of the Program and administered in a one-day classroom setting.
- Oral examination is administered by the Executive Committee of the Program on one-day immediately adjoining the day of the written examination.

Completion (pass) status

- Based on scores of written and oral examination
- Second qualifying examination opportunity is provided for those who fail
- A minimum of six months must elapse since the first examination
- No further opportunities will be provided if a student fails the qualifying examination twice
- Any student not successfully completing the examination will be counseled to complete requirements for a Master of Epidemiology or one or more Certificates

TEACHING ASSISTANTSHIPS

- Each student is required to serve as a Teaching Assistant for a minimum of two courses in the Epidemiology graduate program
- If additional Teaching Assistant positions need to be filled in order to meet course demands, students who are funded on a training fellowship will be the first asked to serve in these additional Teaching Assistantships.

SEMINAR SERIES

- All students are required to attend this weekly series
- The series includes "Nuts & Bolts" informal discussions with an investigator, formal lecture series of speakers in Epidemiology and Public Health, and Journal Club

DISSERTATION RESEARCH

Research Component of the Doctoral Training that is planned as an intense, carefully mentored process:

- Program faculty will provide the primary source of research opportunities for students to share in during their training, as well as serving as the foundation for dissertation research
- Collaboration with faculty across URMC clinical and basic science departments is encouraged
- The inclusion of primary data collection in the doctoral research is required and is a critical component of each project
- Candidates are required to make a formal oral presentation of their planned research investigation to their respective Dissertation Advisory Committee. This presentation is open to any URMC faculty and staff
- Each student will be strongly encouraged to seek pre-doctoral funding to support the dissertation research.

- At the completion of the research investigation the student will be required to present and defend his/her research methodology and findings at a public forum

EPIDEMIOLOGY PhD PROGRAM

- The committee for the final defense will consist of:
  - The committee Chairperson must be at an Assistant Professor or higher level and must hold a primary appointment in the Division of Epidemiology. Faculty at the Assistant Professor level must have served as a member on the committee of a completed dissertation research project prior to serving as committee Chairperson
  - One full-time faculty member of the rank of Assistant Professor or higher who holds a primary appointment in the PHS
  - Two "outside" members who hold a primary appointment in another department
  - All other requirements for completion of this process will follow the regulations outlined in the *Official Bulletin for Graduate Studies*

- Award of Degree
  - A degree candidate upon meeting all degree requirements will be recommended for the degree at the next meeting of the Board of Trustees
  - Degrees are approved by the Board of Trustees at its regular meetings in October, February and May
  - Degrees are conferred annually at the University's Graduate Commencement in May

HEALTH SERVICES RESEARCH & POLICY
PhD PROGRAM

1. General Expectations and Requirements

1.1 *Timeline and milestones*.
All incoming first-year students are required to participate in Math Camp (see section 1.2) two weeks prior to the start of the Fall Semester. Core courses that comprise the basis of the comprehensive exams are completed in the first two years (see section 1.3); depending on cohort and individual plans, additional courses may be required in the third year. Comprehensive exams are required at the end of the second academic year (see section 2); if the student does not pass this exam, they may retake the exam before the end of the calendar year.

After the comprehensive exams, students typically begin fulfilling their required Research Assistantships (see section 1.6) and Teaching Assistantships (see section 1.7).

After taking the comprehensive exams students are expected to begin formally developing their dissertation proposal (see section 3). As presented in Table 1 below, students are expected (1) to have a proposal topic selected by November of the third year, (2) to have a theory and conceptual framework identified by March of the third year, (3) data identified by June of the third year, and (4) methods identified by September of the fourth year. Progress toward, and completion of, each milestone is to be periodically reviewed with the student's advisor. A dissertation committee must be formed and a proposal date scheduled by December of the fourth year. The proposal (which is the University's qualifying exam) must be completed by January of the fourth year. The dissertation is expected to be completed within 2 years following a successful proposal (see section 4).

1.2 *Math Camp*
Incoming students are required to attend a short-course prior to the start of the fall semester of their first year. This course provides a refresher on key mathematical concepts used in the program. The course is held within the two-week period prior to the start of the fall semester: the syllabus and specific schedule will be provided to each incoming student before the two-week period.

1.3 *Curriculum*
See below for the suggested schedule of courses for all PhD students—these are the courses the student must take, except as modified by necessity due to course availability or as determined by the Program Director. Per Graduate School policy, a student receiving a C grade or below on any course is placed on academic probation; the receipt of a second C (or below) at any time during their tenure in the program constitutes grounds for dismissal from the program.

Suggested Schedule of Courses
FIRST YEAR STUDENTS

2 Weeks Prior to Year 1, Fall

_____		2-week Mathematics and Statistics Review Course (Math Camp)

Year 1, Fall

_____	PM 421	Intro to US Health Care System (3.0 credits)
_____	PM 445	Introduction to Health Services Research and Policy (3.0 credits)
_____	PM 463	Introduction to Mathematical Statistics, Part I (3.0 credits)
_____	PM 430	Psychology in Health Services Research (3.0 credits, odd years) **or**
	PM 412	Survey Research (3.0 credits)
_____	IND 501	Ethics and Professional Integrity in Research (1.0 credit)
_____	PM 428	Health Services Research Seminar (0.0 credit)

Year 1, Spring

_____	PM 464	Statistics II: Introduction to Regression Analysis (3.0 credits)
_____	PM 472	Measurement and Evaluation of Research Instruments (3.0 credits)
_____	PM 484	Cost Effectiveness Research (3.0 credits, even years) **or**
		Faculty-led Independent Study (3.0 credits)
_____	PM 487	Fundamentals of Science, Technology& Health Policy (3.0 credits)
_____	PM 428	Health Services Research Seminar (0.0 credit)

SECOND YEAR STUDENTS

Year 2, Fall

_____	PM 410	Intro to Data Management/Analysis with SAS (3.0 credits) **or**
	PM 415	Principles of Epidemiology (3.0 credits) **or**
		Faculty-led independent study
_____	PM 430	Psychology in Health Services Research (3.0 credits, odd years) **or**
	PM 412	Survey Research (3.0 credits, even years)
_____	PM 431	Advanced Methods in Health Services Research (3.0 credits)
_____	PM 456	Health Economics I (3.0 credits)
_____	PM 428	Health Services Research Seminar (0.0 credit)

Year 2, Spring

_____	PM 416	Epidemiologic Methods (3.0 credits) **or**
	PM 426	Social and Behavioral Medicine (3.0 credits) **or**
	PM 438	Grantsmanship (3.0 credits, on-line only)
_____	PM 422	Quality of Care and Risk Adjustment (3.0 credits)
_____	PM 465	Advanced Multivariate Analysis (3.0 credits, odd years) **or**
	PM 484	Cost Effectiveness Research (3.0 credits, even years)
_____	PM 483	Advanced Health Economics II (3.0 credits)
_____	PM 428	Health Services Research Seminar (0.0 credit)

THIRD YEAR STUDENTS

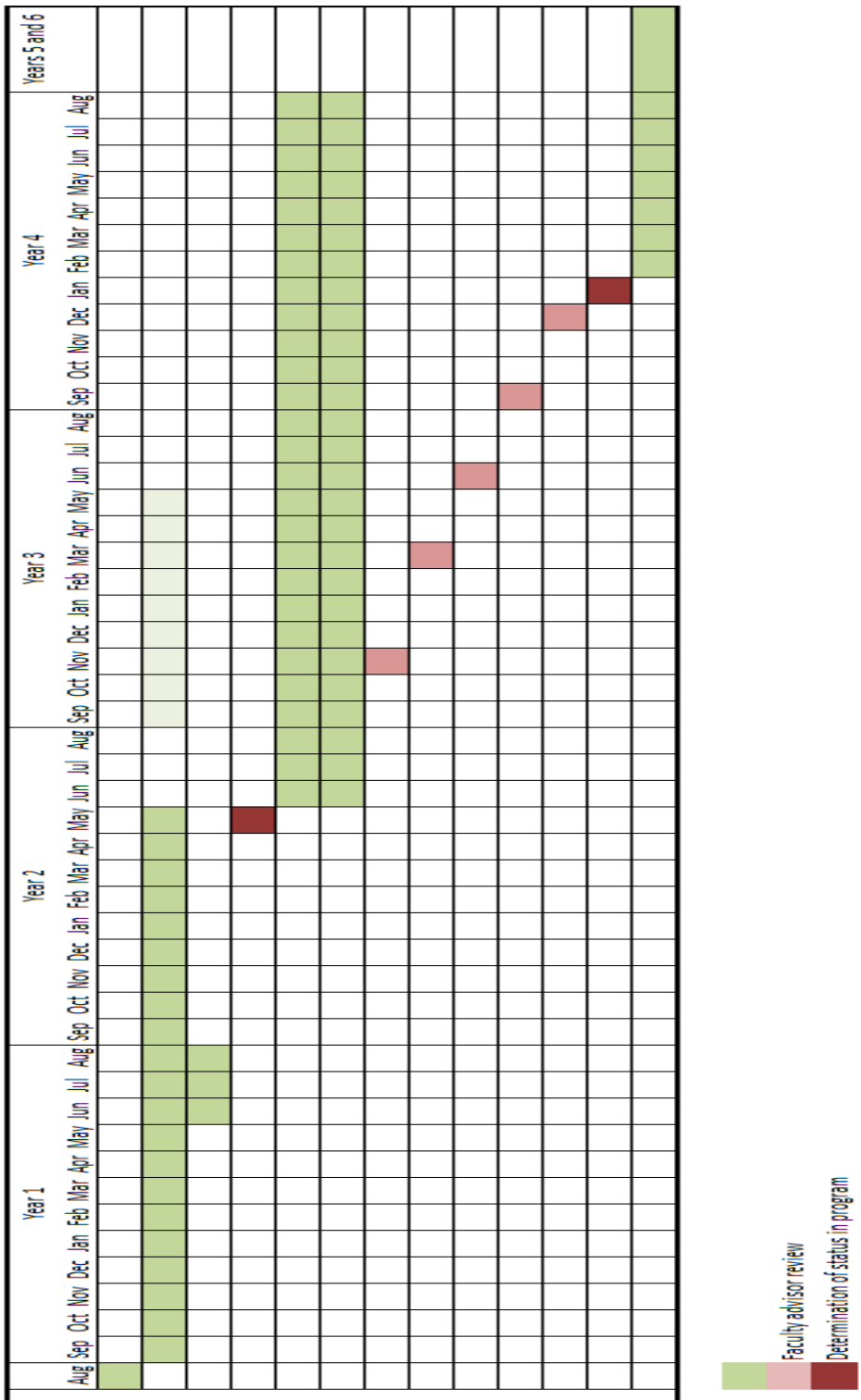
Year 3, Fall

_____	Elective	
_____	PM 428	Health Services Research Seminar (0.0 credit)

Year 3, Spring

_____	PM 465	Advanced Multivariate Analysis (3.0 credits, odd years) **or** Elective
	PM 428	Health Services Research Seminar (0.0 credit)

Table 1. Milestones



1.4 *Financial Support*
Students are provided with a fellowship from the Office for Graduate Education and Postdoctoral Affairs that covers a stipend and health fee for 20 months. If used continuously, this funding continues through April of the second year. However, if the student obtains a paid internship during their first summer, the Dean's fellowship can be extended accordingly up to the 1st of July (the Dean's fellowship does not extend into or beyond July of the second year).

Students' stipends and health fees are covered by Research Assistantships after the Dean's fellowship is completed.

Tuition is waived for students throughout the program when covered by the Dean's fellowship, a Research Assistantship, or as otherwise approved by the Associate Dean of Graduate Education.

1.5 *Seminars and Workshops*
Students are expected to attend workshops, seminars, and presentations listed below and as required by the Director:

- RESEARCH WORKSHOPS, a bi-weekly workshop (PM 428) at which students present their work and ideas; student participation is required.
- PROGRAM ENRICHMENT SEMINARS, students are required to attend monthly seminars (during the academic year). These are informal, but required gatherings, designed to educate students with regard to the training and dissertation processes, and to help students socialize with faculty and alumni.
- HSRP DOCTORAL STUDENT PROPOSALS AND DEFENSES. HSRP doctoral students' dissertation proposals and dissertation defenses.
- JOB CANDIDATE TALKS. Presentations by faculty job candidates in the Division.

1.6 *Research Assistantships*. After 20 months of Dean's funding, students are required to complete 24 months of Research Assistantships. Research assistantships are based within the University of Rochester; however, the Director can approve community-based research assistantships if the assistantship is judged to provide an educational opportunity for the student. Assistantships can be no more than 20 hours per week appointments.

1.7 *Teaching Assistantships*. Students are required to gain experience as teaching assistants for two courses. Except by permission of the Director, students must have passed their comprehensive exams before becoming a teaching assistant. Students should consult with their advisor to determine appropriate timing for completing the TA requirement: a teaching assistantships should be timed so as not to postpone progress toward the dissertation proposal.

2. Comprehensive Exams

Except as otherwise approved by the Director, Comprehensive Exams are taken at the end of the second academic year in the program. They are graded by faculty exam committees appointed by the Director. Students who fail the exams may retake the exams before the end of the calendar year. Students who fail the retake of the comprehensive exams will be dismissed from the program.

The objectives, structure, and content of the comprehensive exams is as stated below, or as modified by the Director and core HSRP faculty.

Objectives: To examine student's abilities to integrate knowledge and methods learned across coursework in order to (1) identify and conceptualize an important health services research question, (2) develop testable hypotheses, and (3) propose rigorous empirical plans for hypothesis testing.

Structure: Five-day take-home exam.

Content: Usually questions that ask the student to integrate and use methods taught in individual courses, and/or paper on an assigned topic to demonstrate student's abilities regarding

1. *Analysis*. Students must show sufficient ability to break down complex conceptual structures into appropriate components and understand the individual components and how they relate to each other.
2. *Synthesis*. Students must show sufficient ability to combine disparate ideas into coherent systems of concepts.
3. *Reasoning*. Students must show sufficient ability to properly reason to conclusions, providing arguments for claims.

3. Dissertation Proposal

Year 3 is crucial in identifying and focusing on the possible dissertation research topic. Starting in the summer preceding year 3, and continuing onwards, each student is expected to work closely with his/her academic advisor, selected faculty member, or future dissertation chair to complete each of the following benchmarks and research milestones in a timely manner. At each milestone, the advisor, together with the student, will review the student's progress and identify reasons and remedies for insufficient progress.

3.1 *Dates and Milestones*

1. ***November 30*** (YR3)
   - Select an area of interest; synthesize and critically evaluate the current state of knowledge within this area.
   - Identify important gap(s) in current knowledge and isolate the research and/or policy question of interest.
   - Argue why the research question or phenomenon is important to explain, answer, or further investigate.

2. ***March 31*** (YR3)
   - Formulate a theory-based explanation or conceptual framework for the question of interest.
   - Argue why the explanation or framework is important for understanding the selected phenomenon or answering the selected question.
   - Develop a model that connects theory to data such that theory implied hypotheses are testable or theory implied quantities can be estimated.
   - Meet with core faculty to discuss the research or policy question and its importance.
   - Identify dissertation committee.

3. ***June 30*** (YR3)
   - Identify the required type of data and measurements.
   - Identify appropriate data collection and/or data generation procedures.

4. ***September 30*** (YR4)
   - Select appropriate methodology for the proposed analyses.
   - Draft written proposal and work with the committee to finalize.

5. ***December 31*** (YR4)
   - Complete written proposal
   - Obtain consensus of committee that the student is ready to propose.
   - Schedule doctoral proposal defense.

6. **January 30th** (YR4)
   - Doctoral dissertation proposals must be defended no later than January 30th of Year 4. Any student who has not proposed by January of 30th of their fourth year will be recommended to the Associate Dean of Graduate Education for dismissal from the program unless an extension is granted per section 3.2 below. Students are expected to defend their dissertation within two years of successfully passing the dissertation proposal.

3.2 *Extensions.*

3.2.1 Automatic extensions. Students will be granted extensions to the timeline as per University policy for prior medical leave or maternity leave.

3.2.2 Technical extensions. Extensions due to technical difficulties not due to student progress (e.g. difficulty scheduling proposal dates due to committee schedules, unexpected legitimate absenses) may be granted at the discretion of the PhD Program Director.

3.2.3 Progress extensions. Students who do not propose by January 30th and who do not obtain Automatic or Technical extensions may petition the Director for an extension. The petition must include (1) the request for extension, (2) a summary of previous progress, (3) a description of current status, (4) the justification for extension, (5) a plan for completing the proposal, and (6) the endorsement of the proposed plan by the chair of the dissertation committee. Upon review of the student's petition by the Director and the Progress Review Committee, the Director will take one of two actions: (1) notify the student that the petition for extension is granted and notify the student of

conditions for continuing in the program, or (2) recommend dismissal of the student to the URSMD Associate Dean of Graduate Education.

3.3 *The dissertation proposal*

Unless otherwise approved by the dissertation committee, the dissertation proposal should contain seven essential components:

1. *Provide an introduction that motivates the study*: What are the basic questions, why are they important, and how can they be answered? This is a short version of the introduction to the dissertation.
2. *Sufficiently summarize the synthesis and analysis of the current literature bearing upon the thesis topic*. Essentially this is a version of the background section for the thesis. What is "sufficient" means is up to the committee, but this section should leave little doubt regarding the student's knowledge of the literature and provide assurance that the remaining, unexplored, literature is not likely to render the thesis topic moot.
3. *Carefully develop and articulate the theory, model, and hypotheses or questions*. This of course is a preliminary version of the corresponding sections in the thesis. This section must be sufficiently developed to convince the committee that it is correct, or at least that any uncertainty about it will not compromise the dissertation. A failing in theory or modeling and their connection to the hypotheses could well derail the dissertation effort later if it is undetected at an early stage. Essentially, this section provides the explanation of the phenomenon being studied and frames the investigation.
4. *Describe the key variables and the data collection (or generation) process*. This section must be sufficient to assure the committee that the data properly correspond to the requirements for testing and estimation, and that the data generation process is sufficient to support the analysis.
5. *Describe the methods of analysis with supporting argument why the methods are appropriate*. This section must be sufficient to assure the committee that there exists an analytical method appropriate to the data generating process and data to facilitate the required tests or estimation.
6. *Discuss limitations*. This section should identify any limitations can compromise achieving the study goals. Each limitation should be accompanied by a discussion of why it is not fatal and why the study remains sufficiently informative to warrant its status as a thesis topic.
7. *Provide a conclusion* that discusses some potential outcomes and briefly summarizes the proposed study and its importance.

The structure of the proposal is determined by the dissertation committee: common structures are a document following the sections above, or a document in the form of an NIH research grant application, with modifications as indicated by the committee.

3.4 *Qualifying Exam*

The dissertation proposal constitutes the University required Qualifying Exam. The exam is a closed door oral exam at which the dissertation committee and student are in attendance. Prior to the exam,

the student must provide the committee with an acceptable proposal document as outlined is section 3.3 above. The committee must meet and determine that the student is ready to propose prior to formally scheduling the exam through the Office for Graduate Education and Postdoctoral Affairs.

The qualifying exam must be immediately preceded by a public presentation of the proposed dissertation work by the student.

4. Dissertation

4.1 *The dissertation process objectives.*

The goal of the dissertation process is to train the student to, and provide evidence to the dissertation committee that the candidate can, operate at the level of a PhD in both thought and performance. In Health Services Research this requires that the student, through the dissertation process and writing of the final document itself, learn and exhibit the following ten capabilities:

1. to synthesize and analyze the current state of knowledge regarding a specific area of interest;
2. to identify an important gap in current knowledge and a research question or phenomenon to be explained;
3. to clearly formulate a theory-based conceptual framework or explanation that implies testable consequences or interpretable parameters for estimation;
4. to develop a model that connects the conceptual framework/explanation to data such that implied hypotheses are testable or implied quantities can be estimated;
5. to identify the required type of data and measurements;
6. to identify appropriate data collection and/or data generation procedures (this is where design issues come in to play);
7. to select appropriate methodology for analysis;
8. to carry out the analysis;
9. to draw conclusions based on results and integrate findings into the current body of knowledge; and
10. to communicate the full extent of the preceding steps in both written and oral form.

4.2 *Dissertation Committees*

The dissertation committee for the Health Services Research and Policy PhD must comprise at least four members meeting the following eligibility requirements:

A committee chair, who must be a

1. PhD or academic equivalent (e.g. ScD) faculty member with the Division of Health Policy and Outcomes Research having a primary appointment in the Department of Public Health Sciences, and either
2. A full or associate professor who has been a committee member of a completed HPOR PhD dissertation proposal (i.e. the qualifying exam), or

3. An assistant professor with at least three years of experience in the Division and who has been a committee member of a completed HPOR PhD dissertation.

A second member who must be a

1. A faculty member with the Division of Health Policy and Outcomes Research having a primary appointment in the Department of Public Health Sciences, and either
2. Have a PhD or academic equivalent (e.g. ScD), or
3. Have a professional doctorate (e.g. MD, JD, DrPH) with at least three years of experience in the Division, research experience on HSRP, and, if the committee chair has not been chair for a completed dissertation, has been a member of a committee for a completed HSRP dissertation.

A third member who must be a

1. University of Rochester faculty member as allowed by the UR policy, and who
2. Must not have a primary appointment with the Department of Public Health Sciences.

A fourth member who

1. Need not have a primary appointment with the department, but must be a
2. University of Rochester faculty member as allowed by the UR policy. Students can petition for individuals who are not University of Rochester faculty to be the fourth member.

Additional members may be added as deemed appropriate by the Chair and the student.

At least two members of the dissertation committee must have relevant PhD's or academically equivalent doctoral degrees (e.g. ScD) and experience in the fields of Health Services Research or Health Policy.

4.3 *The structure of the dissertation.*
The Health Services Research and Policy PhD dissertation may be structured in the traditional dissertation format or in the three-paper format described below. The student must select the format with agreement of the dissertation committee. Dissertations must be the student's original work.

A thesis is to be written for non-specialized scientists. Specifically, every member of the thesis examination committee must be able to read and understand the document as a whole, and the details of each section must be understandable to at least one committee member with the expertise to verify its content is sound. Specialist terms need to be explained or avoided. It is written in English with correct spelling and grammar. It is not the job of the committee to proof-read the text. Having the text of the thesis corrected and edited for spelling and grammar by a second person is acceptable and recommended. A committee member can refuse to accept a thesis with excessive grammatical or graphical errors. There is no formal minimum or maximum length.

This section is meant to be a supplement to the general guidelines of the University of Rochester for preparation of a traditional thesis (THE PREPARATION OF DOCTORAL THESES: A MANUAL FOR GRADUATE STUDENTS), which can be found at the website:
http://www.rochester.edu/Theses/ThesesManual.pdf, and which governs all theses at this university. This guideline does not supersede the general guidelines.

The Graduate School's manual titled "The Preparation of Doctoral Theses" outlines the overall structure of the thesis in terms of general formatting and required parts such as Title Page, Abstract, etc. See The Preparation of Doctoral Theses manual for specifications regarding these components. The graduate school's manual does not address the substantive chapters of the thesis. HSRP theses may have a traditional or a three-paper structure as described in the following sections

4.3.1 Traditional format

Because HSRP theses topics and methods vary greatly, the thesis document may vary from the guidelines presented below as is required to facilitate coherent presentation. However, notwithstanding such exceptions, the structure and content provided below is the standard for a traditional HSRP thesis at the University of Rochester.

A traditionally formatted Health Services Research and Policy thesis will typically contain five chapters:

1. Introduction, which introduces the research question, provides the requisite arguments to establish its importance as a health services research topic, and briefly summarizes the research approach to the thesis.
2. Background, which provides the information necessary to understanding what is currently known and what needs to be known regarding the research question. This chapter also describes underlying theories, the development of explanations, and the description of substantive parameters of interest and any substantive hypotheses.
3. Methods, which details the study design, data, and analytical methods that were used in the research. This chapter will also provide the identification of structural parameters of interest with empirical parameters to be estimated and the translation of substantive hypotheses into empirical hypotheses. Results of specification tests used to determine the statistically adequate model used to empirically address hypotheses or identify parameters can be included in this section.
4. Results, which reports the empirical results of applying the methods to address the research question.
5. Discussion and conclusion, which briefly outlines the dissertation topic, and then provides an interpretation of the results in light of the research question, integrates the results and interpretation with existing literature, discusses any limitations of the methods in addressing the research question, and provides a concluding section that addresses the student's broad scientific conclusions, broad policy implications, and future research.

4.3.2 The three-paper format

The three-paper format must meet the following requirements:

1. The dissertation must form a coherent body of work addressing a single research topic.
2. Each paper must be distinct; therefore, each paper must address different questions, perspectives (e.g. phenomenological/theoretical/conceptual frameworks, or methodological approaches), or goals (e.g. identification of predictors, risk factors and moderators, estimation of effects, or testing explanations) regarding the research topic. The purpose and scope of each paper should be approved by the committee.
3. The dissertation must have four sections, each may comprise multiple chapters:
    a. An introductory section that presents the research topic with general background; the general theoretical/conceptual framework (if a general framework does not cover all papers, the

conceptual framework section within each paper may be acceptable at the discretion of the committee); a synthesized summary of the purposes, scopes, methods, and key results of the three paper; and a conclusion that integrates the findings of the three papers and discusses implications.

b. The three sections for papers (one for each paper). Each paper must be deemed by the dissertation committee to be of publishable quality and formatted for specific peer-reviewed journals.

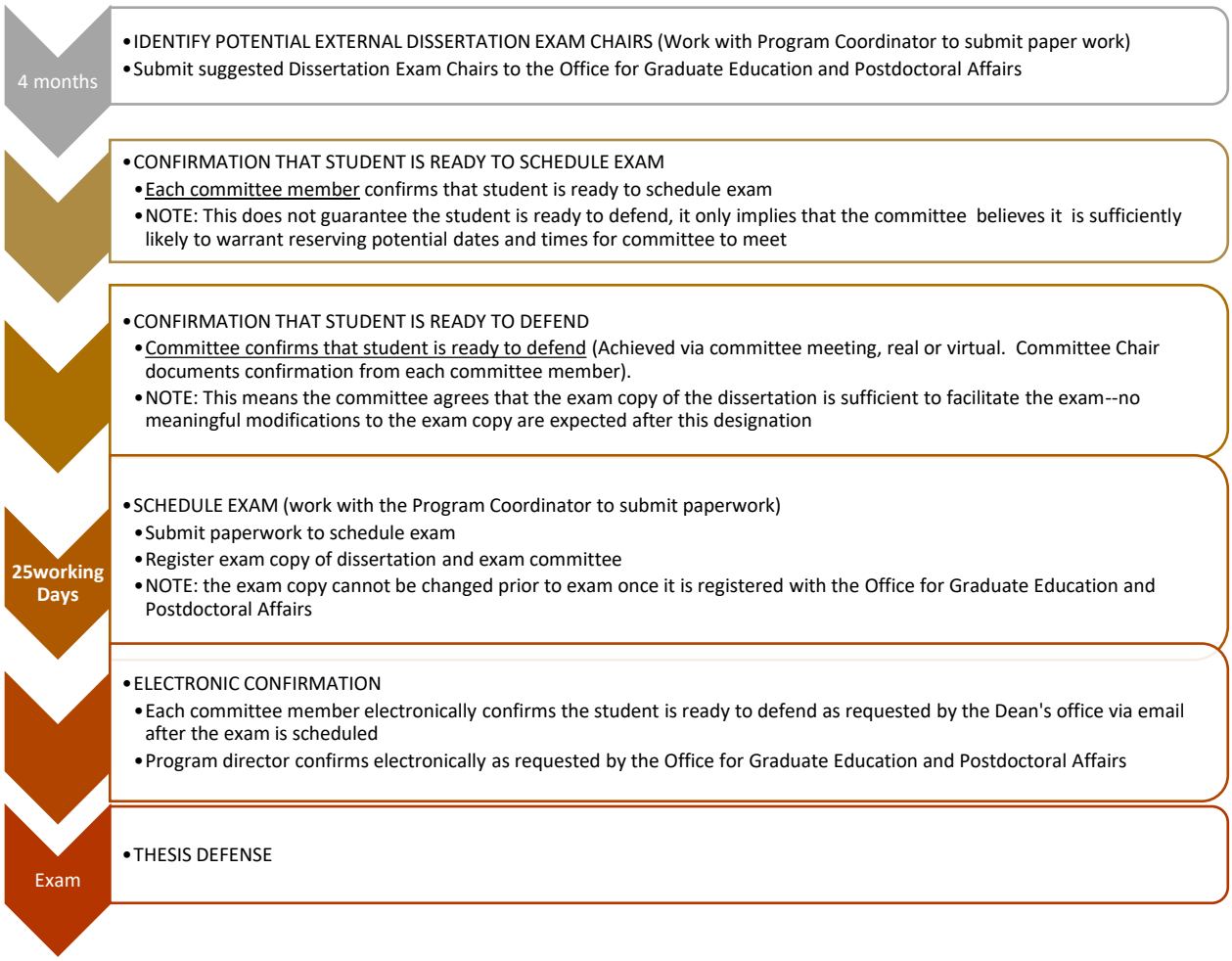
c. An optional appendix section that includes any additional elaboration or details related to each paper required to support the level of training for a PhD dissertation project.

d. All content and formatting requirements of the Graduate School must be followed.

4.4 *The dissertation defense.*

4.4.1 Timeline

The timeline for submission of paperwork prior to defense is as follows:



4.4.2 Results of the defense

The result of the dissertation defense can be (1) pass without revision, (2) pass with only minor revisions, (3) pass with major revisions, or (4) a fail. If the student passes without revisions or with only minor revisions, the student is expected to make any requested changes before submitting the final document. No further review of the document from faculty is necessary. If the student passes with major revisions, the student must make the required revisions and they must be approved by a designated committee member before submitting the final document. If a student fails, the student will need to discuss the situation with the chair of the dissertation committee to determine next steps.