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Policies & Procedures Manual for Graduate Studies

Residential & Distance Program

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I. Graduate Program

Mission

Pharmaceutical products are the most widely used and efficacious treatment modalities available for a variety of health disorders. Yet problems with the use are persistent and costly. Medication safety and efficacy as established in clinical trials may not translate into real life, resulting in important areas of inquiry for safety and comparative effectiveness research. Quality deficits in the way medications are used continue to be sources of major concern. Research and teaching in the Department of Pharmaceutical Outcomes and Policy (POP) at the University of Florida focus on issues related to the use and effects of medications in society and ways to improve the drug use process.

Our graduate program, housed in the Department of Pharmaceutical Outcomes & Policy for more than 30 years, was created to meet the continued demands of academic, private, and governmental organizations to build research capacity surrounding the safe, effective, and efficient use of medications. The degrees provide individuals with the credentials to develop, direct or contribute to research programs in patient safety and program evaluation, pharmacoconomics, and pharmacoepidemiology, in universities, industry, and government organizations.

Role of the departmental graduate director

The departmental graduate director is responsible for advising students on general graduate policies. The graduate coordinator may be assisted by other faculty members in advising new students. The director also is responsible for overseeing the quality of the graduate program.

Graduate Programs Overview

The Department Graduate Program includes several degree programs with differences in structure. Specifically addressed in this document are:

- The residential PhD program
- The residential MS program in POP Research
- The distance MS program

II. Program Requirements

Objectives

The objectives of the graduate program in Pharmaceutical Outcomes and Policy (POP) are:

- To provide an environment that nurtures and stimulates the intellectual advancement of our students and faculty. This includes providing forums for discussion of ongoing research as well as issues affecting us as educators of health care professionals.
- To provide a broad foundation in the social/psychological, epidemiologic, and economic aspects of medication use and pharmacy's role in the control of medication use in society.
- To provide in-depth research training in at least one focus area of study.
- To provide training and experience in teaching.

Research Competencies

Students will be able to demonstrate competencies required to conduct research in our discipline.

- **Philosophy of science:** Describe philosophical views of the nature of science and research and different theories of how knowledge is acquired.
- **Individual line of research:** Select an area of research, master the related knowledge base, formulate problem statements and develop sound research questions.
- **Research design:** Describe essential elements of experimental, quasi-experimental and observational research designs and use them appropriately to address research questions.
- **Principles of measurement:** Develop or select instruments or indicators to measure research constructs and establish the reliability and validity of the measurement.
- **Analytical skills:** Manage big data, determine appropriate statistical tests and interpret the results appropriately.
- **Communication of research results:** Select appropriate means to present research results to target audiences, interpret findings appropriately, and effectively communicate those findings.
- **Evaluation of research:** Write critical reviews of research reports, manuscripts, and proposals.
- **Principles of research ethics:** Apply ethical principles in use of human subjects in research.
- **Interdisciplinary research:** Apply skills of working on a research team involving interdisciplinary collaboration.
- **Research funding:** Identify funding opportunities for the chosen line of research and develop and submit research proposals to funding agencies.

Disciplinary Competencies

Students completing requirements for a Ph.D. will be able to demonstrate competencies required to understand and conduct research pertinent to our discipline. Competencies specific to one of the program's specialties are listed in the description of these specialties in the next section of this report.

- **Health care organizations in the US:** Describe issues related to organization, production, consumption, reimbursement, financing, access to, and delivery of health care in the United States.
- **The drug product:** Describe principles of drug development, the evaluation of drug efficacy, effectiveness, safety and costs and regulatory and public policy related to drug approval and withdrawal.

Specializations

Pharmacoeconomics

Pharmacoeconomics is the scientific discipline that evaluates the clinical, economic, and humanistic aspects of pharmaceutical products, services, and programs, as well as other health care interventions to provide health care decision makers, providers and patients with information needed to efficiently allocate health care resources. Pharmacoeconomics involves the application of a variety of scientific disciplines, including health economics, epidemiology, statistics, and decision science. Elements of a pharmacoeconomic analysis may incorporate evaluations of clinical safety and efficacy, comparative effectiveness, meta-analysis, health-related quality of life, epidemiology, decision sciences, and health services research.

Examples of pharmacoeconomic research include:

- economic evaluation of alternative medical and other therapies;
- assessment of patients' willingness to pay for health care interventions;
- elicitation of quality of life and health state utilities.

Core competencies acquired in the pharmacoeconomics specialty track include:

- Pharmacy product and service: Identify and determine relevant costs and consequences associated with pharmacy products and services
- Pharmacoeconomic approaches: Assess the economic impact of pharmaceutical interventions using cost-minimization analysis, cost-effectiveness analysis, cost-utility analysis, and cost-benefit analysis
- Decision making: Understand fundamental concepts behind rationing and economic evaluation of health care; and role of pharmacoeconomics in the drug development process and health care decision making.

Pharmacoepidemiology

Pharmacoepidemiology can be defined as the application of epidemiologic reasoning, methods, and knowledge to the study of the uses and effects of drugs in human populations.

Pharmacoepidemiology examines intended and unintended effects and risk management strategies for drugs (including biologicals, vaccines, and therapeutic devices) in defined populations, to optimize the benefit to risk balance, and contribute to quality of care. Methods include passive safety signal detection methods, active surveillance methods for signal refinement, and formal controlled studies on drug effects. Pharmacoepidemiology increasingly interfaces with programming technology, computer sciences and bioinformatics in the standardization and operationalization of research designs, use of disparate data systems and alternate search methods (e.g. Natural Language Processing) in the identification of covariates, addressing bias and confounding.

Examples of pharmacoepidemiologic research include:

- drug safety studies
- comparative effectiveness studies
- drug utilization studies
- Assessments of risk evaluation and mitigation strategies

Core competencies acquired in the pharmacoepidemiology specialty track include:

- Pharmacovigilance: Describe the regulatory framework and methodological structure and analyze and interpret data of passive and active safety surveillance systems for signal evaluation and mitigation
- Drug utilization: Devise valid drug exposure measures through primary data ascertainment and secondary analysis of administrative or clinical data
- Epidemiology: Select the most appropriate design for a given analytical question on drug safety or effectiveness considering confounding, measurement and time-related biases
- Pharmacology: Apply basic principles of pharmacology in study design and measurement
- Analysis: Apply advanced statistical techniques to control for bias and confounding

- Risk Management: Appropriately synthesize pharmacoepidemiologic data to assess needs for research and regulatory action

Patient Safety and Program Evaluation

Patient Safety and Program Evaluation focuses on the design, and conduct of quality improvement studies and assessment of policy and health care services as they relate to quality delivery of and access to healthcare. It provides students with the knowledge and skills set to develop research programs that evaluate the quality of medication use and medication use systems, to determine barriers and root causes related to patient safety problems, to identify or develop targeted interventions, and to evaluate the effectiveness and safety of such interventions. Research in patient safety and program evaluation is expected to lead to direct improvements of the medication use system, changes in healthcare delivery, or public policy. Methodological aspects focus on the measurement clinical processes and outcomes as they relate to quality, and the evaluation of programs such as quality improvement initiatives or healthcare policies.

Examples of research in Patient Safety and Program Evaluation include:

- Evaluations of quality improvement programs
- Development of quality measures
- Evaluations of policy on access or quality of medication use

Core competencies acquired in the patient safety and program evaluation specialty track include:

- The medication use system: Describe the impact of policy, providers and patients on medication use and problems with patient safety and quality
- Quality improvement: Select among common quality improvement techniques the most appropriate approach for a given quality deficit considering its root causes and evidence on effectiveness
- Program evaluation: For a given service, policy or other phenomenon affecting medication use, select the most appropriate design and measurements for evaluation

Specific requirements for graduate study

The Graduate School, located in Grinter Hall, prepares an online Graduate Catalogue <http://gradcatalog.ufl.edu/> which gives detailed information on requirements for study in graduate degree programs. The Graduate Catalogue and latest Graduate School rules, including deadlines and requirements for graduation, are on the Graduate School home page. It is up to students to be informed of Graduate School requirements. The information in the Department's Policies and Procedures Manual does not contain the rules and requirements of the University or the Graduate School. These can be found at <http://gradschool.ufl.edu>.

“The student must be familiar with Graduate Catalog general regulations and requirements, specific degree program requirements, and offerings and requirements of the major academic unit. Rules are not waived for ignorance.” (UF Graduate School)

Student responsibilities

Students must stay informed on critical dates for their registration and progress through their program. No appeals for missing deadlines will be granted. Students also become financially liable for any course added or dropped after the deadline, including students with fee waivers. Critical dates are available on the Graduate School website (<http://gradschool.ufl.edu>) at the link for “Graduate Students”.

Major and Concentration

The graduate program in pharmaceutical outcomes and policy falls within a major called “Pharmaceutical Sciences,” and the concentration within that major is “Pharmaceutical Outcomes and Policy.”

Graduate student classification

Students enrolled for the first time in Graduate School in the College of Pharmacy are classified as 7PH. The student becomes classified 8PH upon accumulating thirty-six (36) credits and continuing enrollment in Graduate School. On successful completion of all parts of the Qualifying Examination and approval of a dissertation proposal, the student is admitted to Candidacy for the Ph.D. degree which carries the classification 9PH.

Selection of a major advisor

Upon entering the department, a temporary faculty advisor will be assigned to each residential MS and PhD student. A student should meet with each faculty member in the department during his or her first month in the graduate program to discuss the faculty member's research interests. A PhD student must select a major advisor from the department who has an appointment to the Graduate Faculty to direct his or her graduate studies before the end of the 3rd semester of study (summer of first year). A MS Student must select a major advisor before the end of the spring semester of her or his first year of graduate study. Once an advisor is selected, the student must develop a preliminary plan of study that has been approved by the advisor.

Supervisory committee for PhD students

PhD students will establish a supervisory committee. Please refer to the Graduate Catalog concerning who may be seated on a supervisory committee. The supervisory committee is nominated by the student's major advisor in consultation with the student. PhD Students must convene the internal (departmental) members of the supervisory committee before the end of the spring term during the second year and the entire committee (including the external member) before the start of the fall term of their third year. Students must ask the internal members to review, modify if necessary, and approve the preliminary plan of study by the end of the spring term during the second year and then the entire committee must review and approve the final plan of study before the start of the fall term of their third year.

Students cannot sit for the qualifying exam if the entire supervisory committee is not established. The committee will review and approve the plan of study as well as the preliminary description of the research question to be pursued for a dissertation. Residential MS students in the thesis option must also form a supervisory committee. Please refer to the Graduate School Catalog for added information about the composition of the committee. Online MS students (non-thesis option) do not form a supervisory committee.

Changing major advisors

If a student desires to change their major advisor, the current advisor should first be consulted. If both agree to such a change, the student may choose a new advisor. If they cannot come to an agreement concerning the proposed change then the student and the faculty member will consult the chairman and departmental graduate coordinator in order to resolve the issue.

Review of academic progress

It is the primary responsibility of the major advisor to assure quality performance by the student. Satisfactory progress is defined as a) having not less than a B grade in any course and b) meeting all milestone deadlines in the academic timetable. All milestones are summarized in the Milestones document (see appendix).

Grades of I (incomplete) should be removed as soon as possible. Grades of I carry no quality point and lower the overall grade point average. All grades of I must be removed before the end of the next academic term or the student will receive an E. A student cannot complete degree requirement with a grade of an I.

Students will be provided with a written evaluation of their academic progress at the end of each academic year. The major advisor in consultation with the graduate faculty will prepare this evaluation and will discuss the evaluation with the student. The original will be signed by the student and kept in the student's academic file.

Individual Development Plans

Individual Development Plans (IDPs) assist with identifying and planning for professional development needs and career objectives. IDPs can also be utilized as a means for facilitating communication between faculty and students about how best to meet long-term career plans and how best to gather the resources needed to realize those goals. Further IDPS can be useful for identifying short-term goals and needs and for developing a strategy for addressing those needs.

Graduate students in POP shall submit an Individual Development Plan (IDP) annually to their advisor and meet with their advisor to review the plan. Following approval of the IDP by the advisor, the student shall forward the plan to the graduate program director. The Department has adopted an IDP format available at <http://myidp.sciencecareers.org/Account/LogOn>. Students are encouraged to revise their IDP throughout the year, but are expected to update the IDP at the end of each academic year and have their IDP approved by the advisor.

Presenting and Publishing Research Findings

All students in the residential MS and PhD programs are expected to begin their involvement in research from the day they start the graduate program. Distance program MS students have no requirement to engage in research. Within the first month of beginning graduate studies, new residential students should schedule an individual interview with each faculty in the department about the research activities and interests of the faculty member. Within the first semester, students are expected to identify a research project they would like to become involved in and ask the faculty member to mentor their initial

research efforts. Involvement in research and presentation of research findings in a public forum is required. Presentation of research findings may involve submitting a manuscript to a professional journal, presenting a paper (poster or podium) at a research forum (i.e. at the Research Showcase at the College of Pharmacy), or presenting a paper at a professional meeting. Specific requirements for presentation and publication of research findings are defined in the Milestones document in the appendix. Specifically,

- PhD students must have either given a presentation or have their research accepted for an upcoming presentation at a professional meeting before sitting for the preliminary examination.
- PhD students are required to have at least two research manuscripts submitted before the qualifying exam with one as first author and second with no requirement for rank in authorship.
- In addition, PhD students are required to have at least one component of the dissertation submitted as a paper suitable for submission to a peer-reviewed journal to the dissertation committee at or before the dissertation defense.
- Residential MS students must have submitted a paper suitable for submission to a peer-reviewed journal to the thesis committee before the thesis defense.
- Active participation in the college research showcase is expected for all residential students.
- All abstracts, posters, slides sets or other materials that are presented or published need to be shared with all co-authors at least one week in advance of submission/presentation.

III. EXAMINATIONS

Student must register for sufficient and appropriate graduate credits during the term when the qualifying examination or final exam (defense of dissertation) is taken. Credit requirements are described in the Graduate Catalog. Note that students must be registered for a minimum of 3 credits fall and spring and 2 credits summer whenever an examination occurs, even if they are not on a graduate assistantship.

When students are ready to schedule any of the examinations described below, the Departmental Graduate Coordinator must be notified as well as the Graduate Secretary. If forms are required for signature, the Graduate Secretary will prepare the forms. It is up to the student to make sure that the secretary is notified in advance of the forms that are required for signature.

Preliminary examination

Students working toward the PhD degree in POP take a preliminary exam administered shortly after the end of the spring semester of the second year. Residential students in the MS track who desire to transition into the PhD program will be required to take the preliminary exam. This exam will consist of questions, organized into sections, submitted by members of the department to reflect coursework included in the core curriculum as well as a general understanding of issues relevant to our discipline. In addition, an ability to integrate and apply information on research methods and statistics to problems presented will be evaluated. Grading on each section of the exam will be either "Pass," "Marginal Pass," or "Fail." In order to pass the examination, the student must achieve "Pass" on all sections. Students who have a "Marginal Pass," will be required to successfully complete remediation activities within a specified time period; otherwise their grade for that section will become a "Fail." At the discretion of the departmental faculty, sections receiving a "Fail" grade may be re-administered. Failure to pass a section of the preliminary exam at the first retake will result in dismissal from the PhD program.

MS research project

MS in POP Research students are required to complete a thesis which comprises a research project of publishable quality. Research topics can be proposed by the MS student or his or her major advisor, and the final research question selected by the end of the first year. The student's major advisor must approve the research question and analysis plan before the student can begin the research. The research findings, presented in a thesis, must also be summarized in a manuscript, which needs to be submitted to the thesis committee before the thesis defense. Students in the POP distance program are not required to complete a research project.

Qualifying examination and research proposal

The qualifying exam (Ph.D. candidacy exam) will be administered after the PhD student has completed the entire plan of study approved by the supervisory committee. This exam will emphasize the coursework taken in the focus area of study selected by the student. Grading policies for the qualifying exam will be the same as for the preliminary exam.

The written qualifying exam is usually administered over several days and may at discretion of the supervisory committee include in-house and take-home portions. The supervisory committee also decides whether and what type of references and materials may be used by the students to complete the exam. Completion of the written qualifying exam requires documentation of the results by completing the SACS Graduate Exam Form. This form should be submitted to the POP academic program coordinator as soon as the committee has agreed on the assessment.

Satisfactory performance of the written qualifying exam will allow the student to take the Oral Qualifying Examination (proposal defense). Time and location of the proposal defense needs to be shared at least one week before with all students, faculty, and graduate staff in the department. The student and the chair or co-chair of the supervisory committee are required to be in the same physical location during the oral qualifying exam. All other committee members, including the external, can participate via advanced communication technology (check Graduate Catalog as policies can be modified at any time). The examination, including the proposal presentation as well as committee questions, is conducted as an open forum.

During the oral qualifying exam, the student will present his or her proposal for dissertation research to the supervisory committee. Each student must have submitted a written research proposal to each committee member at least fourteen (14) days prior to the Oral Qualifying Exam. If the student is able to present his/her proposal both orally and in writing, defend the proposal satisfactorily, and answer questions posed by the supervisory committee, a passing grade will be given. Even when a passing grade is given, the committee is expected to make suggestions for changes in the dissertation proposal that could improve the research project. If the student fails the qualifying examination, the Graduate School must be notified. A re-examination may be requested, but it must be recommended by the supervisory committee. At least one (1) semester of additional preparation is considered essential for re-examination. Successful completion of the qualifying exam admits a student into candidacy for the Ph.D. degree. The results of the qualifying examination must be reported electronically to the Graduate School via the Admission to Candidacy form in Graduate Information Management Systems (GIMS). Completion of the oral qualifying exam also requires documentation of the results by completing the SACS Graduate Exam Form. This form should be submitted to the POP academic coordinator immediately after the exam along with the Admission to Candidacy Form for GIMS.

Between successful completion of the qualifying examination and the date the degree is conferred, there must be a minimum of two semesters of study if the candidate is in full-time residence, or one calendar year if the candidate is on less than full-time basis. The semester in which the oral qualifying examination is passed is counted, provided the examination occurs before the midpoint of the term. All work for the doctoral degree must be completed within five (5) calendar years after completion of the qualifying examination, or the qualifying examination must be repeated.

Dissertation

The goal of the doctoral research project is for a student to engage in research leading to new knowledge or enhancing existing knowledge. During the course of the research project, the student is expected to critically evaluate research already done in the student's field of interest as it relates to his or her dissertation research. Because the goal of our program is to provide training that enables our graduates to build independent research programs, we expect our PhD students to identify their dissertation research topic on their own. The role of the major advisor and supervisory committee is to provide guidance and feedback on the relevance, novelty and feasibility of proposed research ideas and to help shape the final research questions through frequent discussion. The student, with advice from the supervisory committee, will then design and implement a method of answering the research questions of interest.

The faculty wants the research experience to be an exciting one -- a culmination of your graduate studies. We urge you to talk with us throughout your program, both individually and in the classroom, about your interests and ideas for research.

Final examination/oral defense of dissertation

After completion of all other work for the degree, and in no case earlier than six (6) months before the conferral of the degree, the candidate will be given a final examination, consisting of an oral defense of his/her dissertation by the supervisory committee. The POP Graduate Secretary and Graduate Program Director must be informed of the date of this examination at least 2 weeks in advance, will give public notice of the exam, and will prepare all UF forms and the SACS Graduate Exam Form. The dissertation or thesis must be submitted at least two weeks prior to the scheduled defense date to all committee members along with at least one manuscript draft based on the research suitable for submission to a peer-reviewed journal. All forms should be submitted to the coordinator immediately after completion of the thesis defense. Both Students are responsible for meeting all deadlines for dissertation and final defense published by the Graduate School. Students must be registered for a minimum of 3 credit houses in fall and spring, and 2 credit hours in summer in order for final exam to be valid.

Graduation requirements

When planning to graduate it is the responsibility of each student to access Final Term requirements and Critical dates from the UF Graduate School website.

Final term requirements <http://www.graduateschool.ufl.edu/graduation/>

Critical dates and deadlines <http://www.graduateschool.ufl.edu/graduation/>

Dissertation Checklist link <http://www.graduateschool.ufl.edu/graduation/checklists>

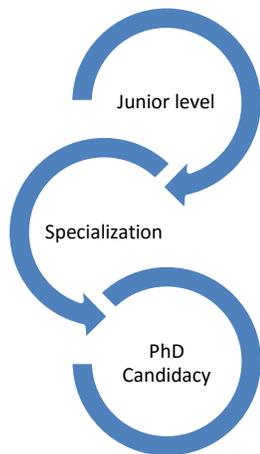
IV. COURSE OF STUDY

PhD Degree

Doctoral study consists of the independent mastery of a field of knowledge and the successful execution of research. For this reason, doctoral students act, in large measure, on their own responsibility, and doctoral programs are more flexible and varied than those leading to other degrees. A minimum of 90 semester hours is required for the doctoral degree. However, it is not unusual for students to complete a larger number of credit hours depending on the topic of concentrated study, the supervisory committee, the dissertation, and the student him/herself.

Requirements of the graduate program are divided into five broad categories: (1) core courses; (2) an independent study component; (3) seminar, journal club, regular research meetings, and individual study/special problem courses; (4) specialty courses; and (5) dissertation hours. A complete written outline of the plan of study must be approved by the internal members of the Supervisory Committee not later than the end of the second year following the student's admission to the program. This plan of study must be reviewed again after students have developed a brief description of research questions and research plan for dissertation and receive final approval by the entire supervisory committee before the start of the fall term of the third year. Students should use the Milestones Form appended to this Manual to document their plan of study.

The program is designed over a 4-year period but individual student progress in meeting the annual milestones may vary. Students complete the core curriculum during the first two years of their training, followed by a preliminary exam after which they will begin to develop their doctoral dissertation. In addition students attend the weekly departmental seminar, a weekly journal club, and take independent study credit to work with faculty on research projects. Research experience is valued as highly as didactic course work, and course schedules are designed to allow independent research work. PhD students are expected to join faculty-led research teams during their first year of training. Besides exposure to grant writing and the research process, the student's participation is expected to result in early completion of small independent research projects and presentation of results at national or international meeting as well as the annual College Research Showcase. Successful graduation requires a formal doctoral dissertation of original independent work that offers a distinct contribution to and advancement of science along with at least 90 credit hours of didactic coursework and independent research. Students have the opportunity to complete research internships in pharmaceutical industry, health service, and government organizations. It is also expected that students seek extramural funding and submit at least one grant proposal. The Milestones Document specifies the typical course of study that is expected for PhD students. A brief summary of the course of study is depicted below.



- Complete core didactic course work
- Prepare article critique for peer-reviewed journal
- Pass preliminary comprehensive exam
- Begin independent research activity with faculty

- Establish supervisory committee
- Present research at professional meeting
- complete specialty course work
- Submit manuscripts to peer-reviewed journal
- Present at COP research showcase
- Pass written qualifying exam
- Defend dissertation proposal
- Write grant proposal

- Complete dissertation
- Submit manuscript of dissertation content
- Defend dissertation

CORE COMPETENCIES - PhD

The PhD degree provides individuals with the credentials to develop and direct clinical research units in universities, pharmaceutical companies and contract research organizations, and government organizations. Successful graduates have a range of technical and disciplinary competencies in research design; measurement; inferential statistics; the communication of research results; the evaluation of research; research ethics; healthcare delivery and the medication use system; the drug product; and behavioral issues surrounding medication use.

Core Curriculum overview for Residential MS and PhD Degree (effective with cohort beginning Fall 2017)

The core courses for the residential MS and PhD degree are selected to establish a common backbone in the training of our students, yet to allow flexibility to pursue the various specialties our department offers. The following core courses are mandatory and should be completed within the first two years of training.

Methods courses:

- Introduction to Pharmacoepidemiology (PHA 6891) (3cr)
- Principles of Pharmacoeconomics (1cr)
- Introduction to POP Research (PHA 6266) (3cr)
- Pharmacoepidemiology and Patient Safety (PHA 6268) (3cr)
- Pharmaceutical Data Analysis in HEOR Settings I (PHA 6935) (3cr)
- Measurement in Pharmacy Research (PHA 6717) (3 cr)
- Epidemiology Writing Circle (PHC 7902) (3cr)
- Grant Writing in Population Health (PHC 7727) (3cr)

Statistics courses:

- Statistical Methods in Research I (STA 6166) (3cr)
- Statistical Methods in Research II (STA 6167) (3cr)
- Data analysis and Interpretation (PHA 6805) (3cr)
- Applied Survival Analysis (PHC 6937) (3cr)
- Categorical Data Methods (STA 5503) (3cr)

Content courses:

- Introduction to US Health Care System (HAS 6114) (3cr)

Specialty courses:

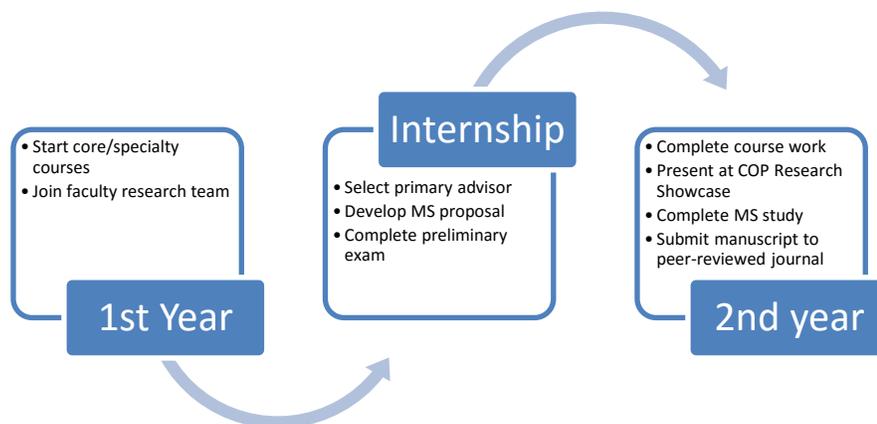
Typically between 4-8 courses (depending on MS or PhD) specific to the chosen specialty are added to the core curriculum. In addition, students take credit for independent study coursework with faculty starting in the second semester of their training, for their dissertation research, seminar and journal club.

Residential MS Degree in POP Research

The residential MS program is designed to be completed over a 2-year period but individual student progress in meeting the annual milestones may vary. Students complete a set of core courses that are shared among all POP specialties as well as specialty-specific courses, totaling a minimum of 36 credit hours of course work. In addition, students attend a weekly departmental seminar, a weekly journal club, and join faculty on ongoing research projects. Research experience is valued as highly as didactic course work, and course schedules are designed to allow independent research work.

The summer semester between the first and second year is dedicated to an internship in government or industry, reflecting students' career interests, although students may choose to use the summer for focused study in residence. The internship is focused on the development of a MS study proposal based on a research question proposed by the internship mentor (e.g., staff member at FDA, pharmaceutical or health service industry) and jointly supervised by UF faculty. Successful graduation requires successful completion of all courses and a manuscript summarizing the MS project accepted by UF graduate faculty that is ready for submission to a peer-reviewed journal.

While the program provides a terminal MS degree, all course work and other scholastic requirements are transferable to the Department's PhD program if a successful graduate wishes to continue his or her studies.



CORE COMPETENCIES – MS in POP Research

This degree program provides individuals with the credentials to serve as entry- or mid-level research associates in contract research organizations, academic and clinical research units, pharmaceutical companies, and government organizations. Typically, these individuals work under limited direction as

part of a multi-disciplinary research group. Examples of such positions include research associates, program managers, and health scientists.

Below are two sets of core competencies to be attained by students in both the PhD and residential MS program. The first set focuses on research competencies and the second set are discipline-specific competencies for Pharmaceutical Outcomes and Policy.

Independent study requirements for PhD and Residential MS Program

During the student's first year, the student is expected to begin to undertake a research project under the supervision of a faculty mentor. The research project is not intended to lock the student into a dissertation or MS Project topic; it is intended to acquaint the student with the research process. Individual study/special problem courses (PHA 6910, PHA 6935, PHA 6936, PHA 6937 PHA 7979) are available to students for the purpose of conducting independent research or examining specific issues or topics in POP research. All registration for independent study requires submission of a form prior to registration, given to the Graduate Secretary, with signatures of the faculty member overseeing the research and a description of goals for the independent study experience

Seminar

Students are expected to participate in Research Seminar during Fall and Spring semesters. The objectives of seminar include: (a) to support graduate student research; (b) exchange ideas; and (c) to provide experiences in discussing ideas with a group. Students are asked to notify the graduate student coordinator or their primary advisor if they cannot attend seminar. When attending seminar students are expected to participate constructively in the discussion of the presented research and to provide feedback to the presenter via the seminar feedback forms. Students are required to take one credit hour for seminar each summer semester.

Online Program Seminar Weekends

All residential PhD students are expected to attend a minimum of two (residential MS students 1) weekend seminars organized by the online program. Online seminars include preparatory readings and examinations, thus early registration is required. Again, students are asked to register for one credit hour in summer following the academic year when the online seminar was completed.

Journal club

Journal club is usually offered every other week with rotating faculty and senior PhD students in charge of selecting an article for discussion. All residential MS and PhD students are expected to attend journal club regularly, but no less than once a month. Students are required to take one credit hour of journal club each summer semester. Failure to attend or actively participate in journal club will result in a low grade.

V. GENERAL POLICIES

Faculty expectations of graduate students

Graduate students should understand and embrace those things that are valued by the department. Below is a list of behavioral expectations that the faculty wishes to transmit to students, and by which the faculty will evaluate students:

1. Developing a sense of purpose consistent with the departmental mission.
2. Demonstrating competence, that competence that is, using resources to achieve one's objectives, goals, and purpose. The demonstration of competence typically is influenced by one's ability to (a) prioritize (i.e., balancing multiple objectives according to purpose); (b) organize; and (c) demonstrate self-discipline.
3. Demonstrating a commitment to ethics in one's professional life (i.e., honesty, candor).
4. Accepting responsibility for, and active involvement in, learning; participating in seminars, journal club, conferences, discussion sessions; conscientiously meeting the duties of a graduate or teaching assistant.
5. Demonstrating an openness to challenge by trying new ideas in seminar/research meetings, taking the risk of being "wrong", and seeking out opportunities for professional growth
6. Demonstrating leadership among fellow students and in student/professional organizations.

Conflicts-of-interest and integrity in graduate study

Conflicts of interest between graduate students and industrial or commercial entities may arise if a graduate student is offered a financial benefit (honorarium, travel expenses, grant, etc.) by an industrial or commercial entity while the Department is conducting research into matters relating to the business of the industrial or commercial entity. Graduate students should avoid even the appearance of impropriety in the acceptance of financial benefits from industrial or commercial entities. The department faculty (through the graduate coordinator) must approve any financial benefit provided to a graduate student from an industrial or commercial entity.

Integrity in graduate work has received considerable attention during the recent years. In 1990, the Graduate School developed guidelines to assist students in maintaining integrity in their work (<http://graduateschool.ufl.edu/personnel-and-policy/mentoring>). The Department adheres to these guidelines. If a student has any questions concerning these matters, please see the graduate coordinator or the department chairman.

The College of Pharmacy has established a social networking policy which is intended to address the posting of certain types of information. The policy is available at <http://www.cop.ufl.edu/education/student-affairs/policies/social-networking-policy/>.

Graduate assistantships

Stipends

It is the general policy of the Department of Pharmaceutical Outcomes and Policy that all students accepted to pursue residential graduate studies receive support in the form of teaching assistantships or show evidence of adequate support from fellowships or other sources. Teaching assistantships are for a one year period only and are subject to renewal based on the student's performance and available resources. Teaching assistantships are generally renewable for four years for PhD students. However, students are **required** to submit at least one application to an external funding agency to support their dissertation research and to provide a stipend for the remainder of the program. Students who are unsuccessful in attracting funding may apply to the Department for funding of their fifth year with a graduate assistantship. In their application students are asked to provide a justification why the department should consider an additional year of funding including for example a review of their progress

and prospect for finishing their PhD in a timely manner, their contribution to the mission of the department, and their effort to find alternative funding sources. Furthermore, if granted a graduate assistantship in the fifth year, the student is expected to contribute to the teaching mission of the department, which implies that the applicant can demonstrate previous excellence in teaching. It is important to note that the magnitude of the stipend may be considerably lower than in the first four years with the idea that it is solely meant to bridge the time until the student is ready to graduate.

In order to reduce the burden of tuition if alternative funding sources are needed, all qualified students are reminded to apply for Florida residency after their first year of study has been completed.

Students on graduate assistantships must register for nine credit hours during fall and spring semesters and six hours during the summer, which is covered by the respective tuition waivers that accompany the assistantships. University fees are the financial responsibility of the student and must be paid by the established deadline. Late payments will result in a late fee.

Vacation

Graduate assistants on state stipends are permitted ten (10) working days of vacation per calendar year to be taken at a time **mutually agreed** to by the student, his/her major advisor and the faculty member supervising graduate or teaching assistantship for that semester. In addition, students are granted the usual state holidays. They are:

Memorial Day	Thanksgiving Day and the day after
Independence Day	Christmas Day
Labor Day	New Years Day
Veterans Day	Martin Luther King Day

Students may be asked to perform research and teaching functions at any other times including the time during semester breaks. However, students, their advisers, and their TA supervisors may agree on independent work during semester breaks that may not require the student's presence on campus. Any leave needs to be communicated to the graduate assistantship supervisor, the principal advisor, and the department chair or graduate program coordinator via the Student Leave Form.

Student Travel

Students are encouraged to attend professional meetings to present their research findings during the graduate program. The University has established procedures for both domestic and international travel for faculty and students associated with attendance at professional meetings. The department also has added procedures for personal and professional travel. All personal and professional travel must be approved by the research advisor and students must also receive approval by their major advisor and, if a GA, by the faculty member to whom she or he is assigned Graduate School during the period of travel. Students are expected to discuss the plan for funding professional travel with their research advisor in advance of submission of an abstract. The following steps must be completed for all travel, whether it is for personal or professional reasons.

1. The Planned Student Leave Form needs to be submitted for all travel at least 10 days before the planned departure date. This affects all travel that
 - a. exceeds a total of three days
 - b. is international

- c. affects a workday defined by the RA/TA assignment (, which might be a weekend day or holiday); note that time periods without classes (e.g. spring break) are still considered work days and the same rules for travel permission forms apply.

The Planned Student leave Form is available from the Graduate Secretary.

2. For professional travel within the United States, students must submit in addition to the Planned Student Leave Form the Travel Authorization Request (TAR), which is also available from the Graduate Secretary, at least 30 days in advance of the departure date.
3. For foreign travel students must submit in addition to the Planned Student Leave Form at least 30 days in advance of the departure date:
 1. Travel Authorization Request
 2. The International Travel Checklist, available on Copshare
 3. Complete the required information for international travel located at <http://www.ufic.ufl.edu/travelregistration.html> and save an electronic version of the TeamAssist Identification Card. This card will be needed in order to complete the following step.
 4. Complete the Deans Office Travel Form : <https://my.cop.ufl.edu> > Forms > HR Forms > Travel Forms > Foreign Travel Form. Note that this form will request information about the source(s) of funding travel. Please discuss with advisor and if University funds will be used in part or in whole, identify which account will be used.

Teaching Assistants and Assignment of Teaching Load

All graduate students, regardless of their source of funding, must demonstrate competence as a teacher. During the first year a student is on a Teaching Assistant (TA) stipend, he/she should take courses and workshops on Teaching offered by the University. A teaching handbook as well as information on workshops available can be found at https://teachingcenter.ufl.edu/ta_development.html. The student's teaching commitments should be treated as an employment responsibility to the Department and the University and take priority over research or other commitments to individual advisors. Teaching assistants are evaluated each semester by faculty and undergraduate students. It is the responsibility of the professor in charge of the course to assure that this evaluation is conducted.

Teaching Skill Set	
First year TAs	<ul style="list-style-type: none"> • Learn to operate teaching technologies (SAKAI, Adobe Connect, iPad, etc.) from the instructional side to make postings, conduct a class, enter grades, generate reports, etc. • Know UF requirements for syllabi, textbook postings, copyright policies and all other policies and procedures for instructors. • Be able to prepare appropriate exam/quiz questions that are reflective of the learning objectives specified for the course.
Second year TAs	<ul style="list-style-type: none"> • Know grading policies and procedures including rubrics, inter-rater reliability and other evaluative techniques • Use knowledge from theory of measurement to evaluate item analysis of a multiple-choice exam. Make recommendations for improvement. • Construct a teaching case complete with learning objectives, grading key and TA/facilitator guide. • Prepare an evidence-based statement of your philosophy of motivating professional students, providing feedback to students, etc.
Third year TAs	<ul style="list-style-type: none"> • Prepare and deliver a lecture for professional students and present a plan for evaluating your performance on this task. • Draft a statement of your teaching philosophy. • Assemble a teaching portfolio that is ready for sharing e.g., with your teaching supervisor or a mentor. Know the occasions when a teaching portfolio will be requested and understand the criteria on which these portfolios are reviewed by your peers and colleagues.

Any student provided with an assistantship or fellowship funded by the State of Florida is required to provide service to the department as a Teaching Assistant for the entire term of the fellowship or assistantship.

Outside Work Policy

The goals of a graduate program are best met when students immerse themselves in coursework and independent study in the discipline. The decision to pursue graduate study requires a full-time commitment. The faculty members of the Department of Pharmaceutical Outcomes and Policy strongly recommend that graduate students not be engaged in outside employment. Students who feel that outside employment is necessary and would not jeopardize their graduate studies are expected to meet with both their advisor and the graduate program director to discuss their situations.

Fellowships

Students are encouraged to apply for national and graduate school fellowships and awards. If a student succeeds in receiving a grant that includes a stipend for living expenses, the student is expected to meet with the graduate program director to discuss its impact on the state supported graduate assistantship. Please provide the graduate program director and Graduate Secretary with a copy of any external fellowship or grant application submitted.

Internships

Internship opportunities can be formally arranged by the department or independently acquired by the student. Formally arranged internships include a research collaboration between the internship site and the Department and are jointly supervised by a designated mentor at the internship site and a POP faculty mentor. These internships focus specifically on the completion of a research question that is of interest to the internship sponsor. Typically, the time of physical presence at the sponsor site is expected to result in a complete research and analysis plan, as well as a full plan to complete data acquisition. Data analysis and report of findings may be completed after the student returns to POP.

All internships must have specific academic objectives defined before beginning the internship and deliverables specified to meet the objectives. Deliverables will include a presentation to faculty and graduate students on the outcomes of the internship.

Typically, internships will be most beneficial to senior students with a focus area defined and a dissertation problem identified. The internship can then be targeted to the focus area and research problem identified.

PhD Program Milestones and Deliverables (Fall 2016 cohort)

Student name:	Year entered:	UFID:
Specialization:		
Research interest:		
Dissertation topic:		

Course Work

Statistics Sequence

Course	Name	Credits	Scheduled for	Grade	Date completed
STA 6166	Statistical Methods in Research I	3	Year 1, fall		
STA 6167	Statistical Methods in Research 2	3	Year 1, spring		
PHC 6937	Applied Survival Analysis	3	Year 2, fall		
STA 5503	Categorical Data Methods	3	Year 2, spring		

Foundation Core Courses

Course	Name	Credits	Scheduled for	Grade	Date completed
PHA 6796	Study Design in POP Research	3	Year 1, fall		
PHA 5276	Critical Appraisal of Pharmacoeconomics	1	Year 1, spring		
HAS 6114	Intro US Health Care System (required for students with little to no exposure)	3	Year 1, fall		
PHA 6266	Introduction to POP Research	3	Year 1, spring		
PHA 6268	Pharmacoepidemiology and Patient Safety	3	Year 1, spring		
PHA 6935	Pharmaceutical Data Analysis in HEOR Settings I	3	Year 1, summer		
PHA 6805	Data Analysis and Interpretation	3	Year 2, fall		
PHC 7902	Epidemiology Writing Circle	3	Year 2, spring		
PHA 6717	Measurement in POP Research	3	Year 2, spring		
PHC 7727	Grant Writing in population health	3	Year 2, summer		

Specialty and supplemental courses (at least 12 hours required)

Course	Name	Credits	Scheduled for	Grade	Date completed

Seminar Series

Students are required to register for seminar each summer semester (PHA 6938, 1 credit hour).

Semester	Activity (attended regularly with only excused absences; presented - provide title)	Date completed
Year 1, fall		
Year 1, spring		
Year 2, fall		
Year 2, spring		
Year 3, fall		
Year 3, spring		
Year 4, fall		
Year 4, spring		
	Online MS weekend seminars (attend at least 2 in the first 3 years, provide topic area)	

Journal Club Series PHA

Students are required to register for journal club each summer semester (1 credit hour).

Semester	Session chaired (provide topic area and co-presenter)	Date completed
Year 1, fall		
Year 1, spring		
Year 2, fall		
Year 2, spring		
Year 3, fall		
Year 3, spring		
Year 4, fall		
Year 4, spring		

Independent Research (should begin in year 1, fall) Note: expected to engage in research activity whether or not one is registered in independent study coursework

Topic, Objectives	Semester	Faculty	Course # (if applicable)	Credits (if applicable)	Date objectives completed
	Yr 1, fall				
	Yr 1, Spr				
	Yr 1, Su				
	Yr 2, fall				
	Yr 2, spr				
	Yr 2, su				
	Yr 3, fall				
	Yr 3, spr				

Other Deliverables

	Scheduled for	Date Completed
Ethics Training (print out certification and provide to office for filing) CITI training https://www.citiprogram.org/Default.asp NIH Training http://phrp.nihtraining.com/users/login.php	Year 1, fall	
Manuscript Review (identify faculty to participate in manuscript review) 2 reviews must be completed before the preliminary exam	Year 1, spring Year 2, spring	
Preliminary Exam	Year 2, summer	
College Research Showcase Submission for poster presentation Submission for oral presentation	Year 2, spring Year 3, spring	
SAS training Complete SAS training in preparation for SAS entry exam in Data Analysis & Interpretation	Year 1, summer	

Presentations (first accepted by end of year 2 and must be presented before qualifying exam)

Title	Venue	Date presented

Manuscripts (Two manuscripts submitted before the qualifying exam with one as first author and second with no requirement for rank in authorship; a third manuscript summarizing a component of the dissertation with you as first author must be submitted to the dissertation committee before the dissertation defense)

Title	Citation	Date accepted

Funding applications for grants or fellowships (at least one application for funding must be submitted before dissertation defense)

Title	Funding agency	Date submitted	Funding decision

Leadership and Service

Title	Organization	Years

Awards & Honors

Title	Organization	Years

Dissertation

	Scheduled for	Date Completed
Visit each graduate faculty to learn about research interests	Year 1, fall	
Take opportunity to discuss specialization and research interests with as many faculty as possible to help refine focus	Year 1	
Present choice for specialization and preliminary research questions / interests to temporary advisor and discuss next steps	Year 1, spring	
Select major advisor	Year 1, summer	
Select internal members of committee	Year 2, spring	
Establish dissertation committee Major professor: Internal member: Internal member:	Year 3, fall	

External member:		
Committee meetings / activities		
1. Review and approve plan of study	Year 2, spring	
2. Review and approve dissertation topic	Year 3, fall	
3. Discuss and schedule written qualifying exam	Year 3	
4. Written qualifying exam	Year 3	
5. Dissertation proposal defense	Year 3	
6. Dissertation defense	Year 4	



PhD Program Milestones and Deliverables (Fall 2017 cohort and beyond)

Student name:	Year entered:	UFID:
Specialization:		
Research interest:		
Dissertation topic:		

Course Work (requires a total of 36 credit hours)

Statistics Sequence

Course	Name	Credits	Scheduled for	Grade	Date completed
STA 6166	Statistical Methods in Research I	3	Year 1, fall		
STA 6167	Statistical Methods in Research 2	3	Year 1, spring		
PHC 6937	Applied Survival Analysis	3	Year 2, fall		
STA 5503	Categorical Data Methods	3	Year 2, spring		

Foundation Core Courses

Course	Name	Credits	Scheduled for	Grade	Date completed
PHA 6891	Introduction to Pharmacoepidemiology	3	Year 1, fall		
PHA XXXX	Principles of Pharmacoeconomics	1	Year 1, fall		
HAS 6114	Intro US Health Care System (required for students with little to no exposure)	3	Year 1, fall		
PHA 6266	Introduction to POP	3	Year 1, spring		
PHA 6268	Pharmacoepidemiology and Patient Safety	3	Year 1, spring		
PHA 6935	Pharmaceutical Data Analysis in HEOR Settings I	3	Year 1, summer		
PHA 6805	Data Analysis and Interpretation	3	Year 2, fall		
PHA 6717	Measurement in POP Research	3	Year 2, spring		

Specialty and supplemental courses

Course	Name	Credits	Scheduled for	Grade	Date completed

Seminar Series

Students may register for seminar in the summer semester of year 1 (PHA 6938, 1 credit hour).

Semester	Activity (attended regularly with only excused absences; if presenting – provide title)	Date completed
Year 1, fall		
Year 1, spring		
Year 2, fall		
Year 2, spring		
	Online MS weekend seminars (attend at least 1; provide date and title)	

Journal Club Series PHA

Students may register for journal club in the summer semester of year 1 (1 credit hour).

Semester	Attendance at least 1/month is required. Session chaired (provide topic area and co-presenter)	Date completed
Year 1, fall		
Year 1, spring		
Year 2, fall		
Year 2, spring		

Independent Research (to complete MS thesis register for at least 1 credit hour in year 2)

Topic, Objectives	Semester	Faculty	Course #	Credits	Date objective completed

Other Deliverables

	Scheduled for	Date Completed
Ethics Training (print out certification and provide to office for filing) CITI training https://www.citiprogram.org/Default.asp	Year 1, fall	

NIH Training http://phrp.nihtraining.com/users/login.php		
Manuscript Review (identify faculty to participate in manuscript review)	Year 1, spring	
College Research Showcase Submission for poster presentation	Year 2, spring	
SAS training Complete SAS training in preparation for SAS entry exam in Data Analysis & Interpretation	Year 1, summer	

Presentations other than College Research Showcase (not mandatory but encouraged)

Title	Venue	Date presented

Manuscripts (manuscript summarizing a component of the thesis with you as first author must be submitted to the committee before thesis defense)

Title	Citation	Date accepted

Funding applications for grants or fellowships (not mandatory but encouraged)

Title	Funding agency	Date submitted	Funding decision

Leadership and Service

Title	Organization	Years

Awards & Honors

Title	Organization	Years

MS Thesis

	Scheduled for	Date Completed
Visit each graduate faculty to learn about research interests	Year 1, fall	
Take opportunity to discuss specialization and research interests with as many faculty as possible to help refine focus	Year 1, fall	
Present choice for specialization and preliminary research questions / interests to temporary advisor and discuss next steps; select final research question by end of the spring term	Year 1, spring	
Select major advisor	Year 1, spring	
Select internship site if applicable and begin discussion of MS thesis	Year 1, spring	
Complete internship if applicable: develop MS thesis background and analysis plan	Year 1, summer	
Select second thesis committee member	Year 2, fall	
Review and approve thesis topic	Year 2, fall	
Submit a paper suitable for submission to a peer-reviewed journal to the thesis committee before the thesis defense.	Year 2, spring	
Defend thesis	Year 2, spring	

Residential MS Program Milestones and Deliverables (Fall 2016 cohort)

Student name:	Year entered:	UFID:
Specialization:		
Research interest:		
Dissertation topic:		

Course Work (requires a total of 36 credit hours)

Statistics Sequence

Course	Name	Credits	Scheduled for	Grade	Date completed
STA 6166	Statistical Methods in Research I	3	Year 1, fall		
STA 6167	Statistical Methods in Research 2	3	Year 1, spring		
PHC 6937	Applied Survival Analysis	3	Year 2, fall		
STA 5503	Categorical Data Methods	3	Year 2, spring		

Foundation Core Courses

Course	Name	Credits	Scheduled for	Grade	Date completed
PHA 6796	Study Design in POP Research	3	Year 1, fall		
PHA 5267	Critical Appraisal in Pharmacoeconomics	1	Year 1, spring		
HAS 6114	Intro US Health Care System (required for students with little to no exposure)	3	Year 1, fall		
PHA 6266	Introduction to POP	3	Year 1, spring		
PHA 6268	Pharmacoepidemiology and Patient Safety	3	Year 1, spring		
PHA 6935	Pharmaceutical Data Analysis in HEOR Settings I	3	Year 1, summer		
PHA 6805	Data Analysis and Interpretation	3	Year 2, fall		
PHA 6717	Measurement in POP Research	3	Year 2, spring		

Specialty and supplemental courses

Course	Name	Credits	Scheduled for	Grade	Date completed

Seminar Series

Students may register for seminar in the summer semester of year 1 (PHA 6938, 1 credit hour).

Semester	Activity (attended regularly with only excused absences; if presenting – provide title)	Date completed
Year 1, fall		
Year 1, spring		
Year 2, fall		
Year 2, spring		
	Online MS weekend seminars (attend at least 1; provide date and title)	

Journal Club Series PHA

Students may register for journal club in the summer semester of year 1 (1 credit hour).

Semester	Attendance at least 1/month is required. Session chaired (provide topic area and co-presenter)	Date completed
Year 1, fall		
Year 1, spring		
Year 2, fall		
Year 2, spring		

Independent Research (to complete MS thesis register for at least 1 credit hour in year 2)

Topic, Objectives	Semester	Faculty	Course #	Credits	Date objective completed

Other Deliverables

	Scheduled for	Date Completed
Ethics Training (print out certification and provide to office for filing) CITI training https://www.citiprogram.org/Default.asp	Year 1, fall	

NIH Training http://phrp.nihtraining.com/users/login.php		
Manuscript Review (identify faculty to participate in manuscript review)	Year 1, spring	
College Research Showcase Submission for poster presentation	Year 2, spring	
SAS training Complete SAS training in preparation for SAS entry exam in Data Analysis & Interpretation	Year 1, summer	

Presentations other than College Research Showcase (not mandatory but encouraged)

Title	Venue	Date presented

Manuscripts (manuscript summarizing a component of the thesis with you as first author must be submitted to the committee before thesis defense)

Title	Citation	Date accepted

Funding applications for grants or fellowships (not mandatory but encouraged)

Title	Funding agency	Date submitted	Funding decision

Leadership and Service

Title	Organization	Years

Awards & Honors

Title	Organization	Years

MS Thesis

	Scheduled for	Date Completed
Visit each graduate faculty to learn about research interests	Year 1, fall	
Take opportunity to discuss specialization and research interests with as many faculty as possible to help refine focus	Year 1, fall	
Present choice for specialization and preliminary research questions / interests to temporary advisor and discuss next steps; select final research question by end of spring term	Year 1, spring	
Select major advisor	Year 1, spring	
Select internship site if applicable and begin discussion of MS thesis	Year 1, spring	
Complete internship if applicable: develop MS thesis background and analysis plan	Year 1, summer	
Select second thesis committee member	Year 2, fall	
Review and approve thesis topic	Year 2, fall	
Submit a paper suitable for submission to a peer-reviewed journal to the thesis committee before the thesis defense	Year 2, spring	
Defend thesis	Year 2, spring	



Residential MS Program Milestones and Deliverables (Fall 2017 cohort and beyond)

Student name:	Year entered:	UFID:
Specialization:		
Research interest:		
Dissertation topic:		

Course Work (requires a total of 36 credit hours)

Statistics Sequence

Course	Name	Credits	Scheduled for	Grade	Date completed
STA 6166	Statistical Methods in Research I	3	Year 1, fall		
STA 6167	Statistical Methods in Research 2	3	Year 1, spring		
PHC 6937	Applied Survival Analysis	3	Year 2, fall		
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Foundation Core Courses

Course	Name	Credits	Scheduled for	Grade	Date completed
PHA 6891	Introduction to Pharmacoepidemiology	3	Year 1, fall		
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PHA 6805	Data Analysis and Interpretation	3	Year 2, fall		
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Specialty and supplemental courses

Course	Name	Credits	Scheduled for	Grade	Date completed

Seminar Series

Students may register for seminar in the summer semester of year 1 (PHA 6938, 1 credit hour).

Semester	Activity (attended regularly with only excused absences; if presenting – provide title)	Date completed
Year 1, fall		
Year 1, spring		
Year 2, fall		
Year 2, spring		
	Online MS weekend seminars (attend at least 1; provide date and title)	

Journal Club Series PHA

Students may register for journal club in the summer semester of year 1 (1 credit hour).

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Year 1, fall		
Year 1, spring		
Year 2, fall		
Year 2, spring		

Independent Research (to complete MS thesis register for at least 1 credit hour in year 2)

Topic, Objectives	Semester	Faculty	Course #	Credits	Date objective completed

Other Deliverables

	Scheduled for	Date Completed
Ethics Training (print out certification and provide to office for filing) CITI training https://www.citiprogram.org/Default.asp	Year 1, fall	

NIH Training http://phrp.nihtraining.com/users/login.php		
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MS Thesis

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Select second thesis committee member	Year 2, fall	
Review and approve thesis topic	Year 2, fall	
Submit a paper suitable for submission to a peer-reviewed journal to the thesis committee before the thesis defense.	Year 2, spring	
Defend thesis	Year 2, spring	