Molecular Pharmaceutics and Drug Delivery Division

GUIDE TO GRADUATE STUDY

The University of Texas College of Pharmacy This "Molecular Pharmaceutics and Drug Delivery Division Guide to Graduate Study" is intended to act as an informative supplement and is not intended to supersede University or College of Pharmacy policies on graduate studies.
Table of Contents

1. Introduction
2. Admissions
3. Advising
4. Overview of the Doctor of Philosophy Degree
5. Student Responsibility
6. Registration and Progression
7. Curriculum
8. Division Seminar
9. Supervising Professor
10. Qualifying Exam
11. Dissertation Defense
12. Graduate Forms and Instructions
13. Laboratory Safety and Compliance
14. Acknowledgement
15. Appendices
1. Introduction

The graduate program in Molecular Pharmaceutics and Drug Delivery (MPDD) aims to provide students with both breadth and depth in the discipline, and provide an experience in independent and fundamental research. A student receiving an advanced degree from the College of Pharmacy will be prepared for a career in research and scholarly work in an academic institution, industry, or government.

The “Molecular Pharmaceutics and Drug Delivery Division Guide To Graduate Study” is intended to be an informative supplement to the “College of Pharmacy Guide to Graduate Study”. These guides are not intended to supersede University policy on graduate studies. Parts of the College guide are included here for emphasis and convenience.

Graduate study in the Division of Pharmaceutics is considered a full-time commitment on the part of the student. As such, students are expected to register for classes every semester, including summers.

2. Admissions

In addition to the requirements listed in the College Guide, there are three more specific requirements for admissions to the MPDD Ph.D. Program:

a. A bachelor’s or master’s degree or equivalent in the physical, natural, or biomedical sciences is preferred (e.g. pharmacy, chemistry, biochemistry, engineering or a biological science). Applicants without the appropriate background may need to complete additional coursework during their career within the College or as a condition for admissions. It is highly recommended that prior to or after acceptance to the program, students should complete calculus pre-requisite coursework (see Section 7).

b. Undergraduate laboratory experience (outside of class laboratories) is highly recommended. Applicants with laboratory research experience are generally preferred over those without this experience.

c. The three letters of recommendation should be from individuals who are well acquainted with the applicants’ academic work, character, and research experience. Letters from family friends, relatives, high school teachers and counselors are not useful.

The MPDD faculty reviews all completed applications, but applicants are not guaranteed admission even though they may meet these requirements.

3. Advising
The Graduate Advisor in the COP (Dr. Karen Rascati) has overall responsibility for graduate student recruitment and for the counseling and academic advising of graduate students in the pharmaceutical sciences.

Dr. Hugh Smyth is the Graduate Academic Advisor for MPDD. Specifically, he helps students with course selection and programmatic progress and is available to handle grievances.

The Graduate Coordinator is the contact person for your application to graduate school in the College of Pharmacy. The Graduate Coordinator assists the Graduate and Division Academic Advisors with all administrative duties associated with graduate programs in the College. She is an excellent resource for information about the protocols involved in obtaining the Ph.D. degree, in choosing courses, and for answering other programmatic questions.

The Division Head (Dr. Robert O. Williams III) is available to describe the program to prospective students as well as to handle grievances. Yolanda Camacho is the Division Coordinator for MPDD and she can help you with GRA appointments, tuition, travel, and other logistics.

After a student chooses a Supervising Professor (see Section 9 below), that professor, the student and the Academic Advisor work together in making course selections and ensuring timely progression through the graduate program.

An individual coursework plan should be agreed upon formally in writing between the Supervising Professor, the Student, and the Academic Advisor (Dr. Smyth) when the student first begins the program. This coursework plan will include all required courses and electives that strengthen the student's training and research program (see Section 7 below).

<table>
<thead>
<tr>
<th>Position</th>
<th>Contact</th>
<th>Room</th>
<th>Phone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Advisor</td>
<td>Dr. Karen Rascati</td>
<td>PHR 3.209A</td>
<td>512 471-1637</td>
<td><a href="mailto:krascati@austin.utexas.edu">krascati@austin.utexas.edu</a></td>
</tr>
<tr>
<td>Graduate Coordinator</td>
<td>Char Burke</td>
<td>PHR 4.220</td>
<td>512 471-6590</td>
<td><a href="mailto:Char.Burke@austin.utexas.edu">Char.Burke@austin.utexas.edu</a></td>
</tr>
<tr>
<td>Division Head</td>
<td>Dr. Robert O. Williams III</td>
<td>PHR 4.214B</td>
<td>512 471-4681</td>
<td><a href="mailto:bill.williams@austin.utexas.edu">bill.williams@austin.utexas.edu</a></td>
</tr>
<tr>
<td>Academic Advisor</td>
<td>Dr. Hugh Smyth</td>
<td>PHR 4.214E</td>
<td>512 471-3383</td>
<td><a href="mailto:hugh.smyth@austin.utexas.edu">hugh.smyth@austin.utexas.edu</a></td>
</tr>
</tbody>
</table>

During advising for each semester the graduate student should first meet with their supervising professor regarding coursework and progression in the program (see Appendix D below). Based on the individual coursework progression plan and any proposed modifications to it, a formal meeting with the Graduate Academic Advisor for the division should be requested. Then, the formal class registration paperwork
must still go through the office of the Graduate Advisor. The contact information for the people described above is provided here, and in the College Guide.

4. Overview of the Doctor of Philosophy Degree
Successful progression through the MPDD Ph.D. program involves satisfactory completion of curricular requirements, oral and written communication requirements, laboratory work, qualifying exam and dissertation proposal, the writing of a dissertation, and its defense. These are each described in detail below, and in all cases, are dependent upon approval from the appropriate advisors.

Curricular requirements include satisfactory completion (minimum grade of B) of all courses undertaken. The standard requirements are 18 hours of core MPDD courses, 12 hours of selective courses, including one Calculus course, one Physical Chemistry, one statistics course, and one course from outside the Division from the list that is shown below. However, course requirements may be waived for students with a strong and documented performance in similar courses and who provide evidence that prior course work satisfies completion of required coursework and is approved by the Supervising Professor and Division Graduate Adviser.

Students must participate in the Division seminar series every long semester, which includes presentation of seminars as deemed necessary by their Supervising Professor and Division Graduate Adviser.

Laboratory work requirements include selection of a Supervising Professor, satisfactory progress in the lab at the discretion of the Supervising Professor, completion of Qualifying Exam, entrance into candidacy, and completion of the written dissertation and oral defense.

5. Student Responsibility
The student is held responsible for knowing deadlines, degree requirements and enrolling for courses that fit into the degree program. The student is likewise held responsible for knowing the University regulations with regard to the standard of work required for continuance in the Graduate School.

It is expected that completion of the Ph.D. degree should be no longer than 4-5 years. Students should progress into candidacy within two years.

A checklist of progressions in coursework, lab work, and other milestones must be updated when appropriate and provided to the MPDD Graduate Advisor at each semester prior to the student successfully completing their qualification exam. See Appendix D
6. Registration and Progression

Prior to each semester (fall, spring, summer), students must have their course work approved by first consulting with the Supervising Professor, who works with the student to choose the coursework, with final approval from the Division Graduate Adviser.

Registration and continuation in the Graduate School beyond the first semester is dependent on a number of factors including the following:

- Satisfactory progress in absolving any admission conditions that may have been imposed,
- Maintenance of a 'B' grade point average for all upper-division and graduate courses taken in a given semester,
- Satisfactory completion of all other coursework (e.g., credit/no credit), and
- Satisfactory progress in research as documented above.

Should a graduate student make less than a 3.0 cumulative GPA in a given semester or summer session, the student will be warned by the Office of the Graduate Dean that continuance as a graduate student is in jeopardy (warning status). During the next semester or summer session in which the student is registered, a higher than 3.0 cumulative GPA must be regained or the student will be subject to dismissal at the end of it. During this time of warning status, the Graduate Dean will not permit dropping or withdrawal from courses.

Any grades of “C” even in non-mandatory courses may require remediation or subject the student to dismissal. This event, along with any unsatisfactory outcome of points 1 through 4 above, must be addressed prior to continuation in the next semester, through notification of the Supervising Professor, the Division Graduate Adviser, and the Graduate Coordinator. Grades of D, F, incompletes and no credit may result in dismissal, academic probation, or other remediation. The Division Graduate Adviser must be consulted in these instances.

The graduate student who has been dismissed may be readmitted for further graduate study only by petition to the Graduate Studies Committee of the College. The petition will be approved or disapproved by the Dean of Graduate Studies. Satisfactory completion of coursework and other Division requirements is expected to occur prior to scheduling of the Qualifying Exam. At the discretion of the Supervising Professor together with the Division Graduate Adviser, a student may take the Qualifying Exam prior to completion of one required course. However, this must be approved in advance.

**REVIEW OF PROGRESS**

The faculty will evaluate each student’s progress in the program each Fall and Spring semesters. The evaluation will consider performance on: 1) coursework; 2) projects; and 3) teaching and research assistantships (see Appendix D). Each student will be required to complete a progress report each semester (see Appendix D). Based on these evaluations, the MPDD faculty will rate the student’s progress as either satisfactory or unsatisfactory. These ratings will be used as a tool to: (1) provide constructive feedback (e.g., assignment of new student objectives and a
time for completion) to ensure timely progression in the program; (2) recommend whether or not a student should continue to receive an assistantship; and (3) recommend whether or not a student should continue in the MPDD program.

7. Curriculum
Listed below are the requirements that must be satisfied before a student may apply for doctoral candidacy. Satisfactory completion of at least one course in each of the following: Statistics, Calculus, Physical Chemistry, and an Elective (see below).

NOTE: If a course being used to satisfy a core requirement is not one of the example courses listed for the requirement, then the MPDD Graduate Adviser must approve the substitution. Additionally it should be noted that courses are not offered every semester and are subject to change.

**Required Courses**

| Fall Semesters          | Pick 2 for each fall semester | 1. PGS 382S Advanced Biopharmaceutics (Cui)  
                          |                                | 2. PGS 381H Advanced Pharmaceutical Processing (Zhang)  
                          |                                | 3. PGS 381F/ PGS 381G Product Development /Advanced Manufacturing Pharmacy (Williams/Smyth)  
                          |                                | 4. PGS 383P Advanced Pharmacokinetics (TBD)  |
|-------------------------|-------------------------------|--------------------------------------|
| Spring Semesters        | Pick 2 for each Spring Semester | 1. PGS 382V Pharmaceutical Biotechnology (Croyle)  
                          |                                | 2. PGS 383Q Statistics in Translational Science (or similar)  
                          |                                | 3. PGS 380MAnalytical Methods in Drug Delivery (Ghosh)  
                          |                                | 4. Selective (see list below)  |
| Summer Semesters        | Pick 1 for each summer semester | 1. PGS S380M Adv Pharm: Experimental Design (Croyle)  
                          |                                | 2. PGS 382RRecent Advances in Pharmaceutics (Reviewing and Writing Manuscripts in Pharmaceutical Sciences) (Smyth/Williams)  |

**Pre-Requisites Courses** (incoming students without these courses will need to complete the following courses)

<table>
<thead>
<tr>
<th>Calculus Requirement</th>
<th>M427K</th>
<th>M427L</th>
<th>M368K</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Advanced Calculus I</td>
<td>Advanced Calculus for Applications II</td>
<td>Numerical Mathematics</td>
</tr>
<tr>
<td>Physical Chemistry / Physical Pharmacy requirement</td>
<td>PHM 387M</td>
<td>Physical &amp; Chemical Principles of Drugs (Croyle/Ghosh) or CH353M</td>
<td>Physical Chemistry I for Life Sciences CH354</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>---------</td>
<td>-------------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Pharmaceuticals Foundations</td>
<td>PHM 388M/188M</td>
<td>Pharmaceuticals (Williams/Smyth) And Lab (Zhang)</td>
<td></td>
</tr>
</tbody>
</table>

**Additional MPDD Courses, as required, based on prior training.**

- PGS 180J Advanced Pharmaceutics Lab Problems
- PGS190H Advanced Pharmaceutics Research Conference
- PGS 280J Advanced Pharmaceutics Lab Problems
- PGS 380J Advanced Pharmaceutics Lab Problems
- PGS 380M Entrepreneurship & Health Innovations (Walkow) PHM 387N Biopharmaceutics (Cui)

**Other Required Courses in Pharmaceutical Sciences**

- PGS 487Q Communication Skills for Scientists
- PGS 191Q Pharmacy and its Disciplines

**Examples of Elective Courses Outside Pharmaceutical Sciences (One Required)**

- BME 382J Biopolymers and Drug/Gene Delivery
- BME 382J Advanced Engineering Biomaterials
- BME 387J Topics in Biomedical Engineering
- CHE 384K Applied Kinetics and Chemical Reaction Analysis
- CHE 392 Polymer Science
- CHE 395J Product and Process Development
- CH 381M Advanced Analytical Chemistry
- CH 386J Advanced Organic Chemistry
- PGS 380M Texas Venture Labs Protein Chemistry Analytical Chemistry Genetics Immunology Tumor Biology

**Course Waivers:** Students who have been accepted into the Ph.D. program with previous graduate level course credit, upper course credit or relevant experience
may have some of the required courses waived based upon agreement with the Supervising Professor and the MPDD Graduate Advisor. Both must agree upon this waiver for it to be approved; the default is that the student must take the required course. When appropriate, a professor teaching a comparable course may be consulted for guidance or comparison of syllabus.

**Grades:** Course credit is given per Graduate School guidelines. Every semester hour of C, however, must be balanced by an A, because the degree candidate is required to present an overall average of B at the end of the program of study. However, any grade below a B may result in probationary or disciplinary activity at the discretion of Division Graduate Adviser. In addition, students in the Division of Molecular Pharmaceutics and Drug Delivery must receive a B or better in every required course. Only upper-division and graduate level courses taken while in graduate status at the University of Texas at Austin, or courses reserved-for-graduate-credit taken at UT Austin in the last semester prior to graduation, except Thesis and Dissertation courses (PHR 698AB and 699), are counted in the average. Equivalent courses must be used to offset a 'C' (e.g. a didactic course for a didactic course, etc.)

**Documentation:** A checklist of progressions in coursework, lab work, and other milestones must be updated when appropriate and provided to the Pharmaceutics Academic Advisor at least once per semester during Advising. See Appendix D.

**8. Division Seminar:**

Division seminars are designed to provide a chance for students to learn how to prepare and to present orally information on a chosen topic of Pharmaceutics. A secondary purpose is to disseminate information on topics that may be peripheral to many students' research interests, and to discuss such ideas and concepts in a scientific atmosphere.

Seminars provide an opportunity for faculty to assist students in his or her seminar style, for faculty to judge a student’s ability to think on his/her own, and for students to gain speaking confidence in a friendly environment.

**Requirements of PHR 196S:** During each Fall and Spring semester, all students are required to attend the weekly division seminars (PHR 196S). However, for purposes of course credit, students are required to enroll only during those semesters in which the student will be giving a presentation.

All students are required to present seminars at the discretion of the Supervising Professor during the Division seminar series (196S) (generally once per year). However, all students are required to attend every seminar whether they are presenting or are assigned as a discussant. In some semesters, the student may not have to sign up for the seminar course, and therefore will not receive credit for that semester, but attendance is still required. Over the course of the program it is expected that students will receive at least 4 credits for Division seminar (Note:
Doctoral candidates do not have to enroll in the division seminar but are expected to attend).

9. Supervising Professor

Choosing a Supervising Professor: Incoming graduate students may enter directly into a specific laboratory (typical), or may do rotations (arranged prior to admissions).

Prospective students are encouraged to communicate with potential supervising professors prior to application to the MPDD Division. Faculty may or may not be accepting students due to space and funding.

Students may be co-supervised based on mutual agreement and collaborative research interests.

Early in the graduate career, the student will discuss program interests with members of the graduate faculty. Following the establishment of the supervisor-student relationship, the student and professor will meet to decide upon the student’s didactic and research activities. The supervising professor will direct the student’s work toward the advanced degree. The professor supervises the research work and writing of the thesis, dissertation or report, and assists the student to resolve difficulties as they arise. It is not the responsibility of the supervising professor to remind the student of deadlines specified by the Graduate School. In graduate school, it is expected that each student will develop self-responsibility, maturity of purpose, and an ability to design and plan work activities. Each graduate student exhibits a unique personality, and must be dealt with differently. The supervising professor, in most instances, will direct the beginning M.S. or Ph.D. student rather closely, then gradually pass on more responsibility as the student gains experience and knowledge. At the point of Ph.D. candidacy, the student should be making most of the decisions, writing clearly, planning and executing the work in a way that leads to results of the highest quality and integrity.

In consultation with the Supervising Professor, Division Graduate Adviser, and Division Head, students are permitted to change Supervising Professors during the course of their program, should this enhance their progress toward a degree. Thus, the initial choice, while important, may be changed at any time before the student enters candidacy. Changes after candidacy are possible, but are likely to substantially slow a student’s progress towards a degree.

Documentation: Documentation of all committee meetings must be provided by the Supervising Professor to both the Division Graduate Adviser and the Division Head.

10. Qualifying Exam
Procedure: Students should schedule and complete their qualifying exam within the first 2 years of graduate study. At the beginning of the semester in which qualification examinations will be undertaken, the student should notify the Graduate Coordinator.

Qualifying Exam Committee: An examining committee will be formed, consisting of
- The student’s Supervising Professor
- At least three other faculty members,
  - One of whom must be from outside the Division (selected by student in consultation with his/her Supervisor, the Pharmaceutics Advisor, and with approval of the Division Head).
- At least three members of the committee must be College of Pharmacy faculty, and at least two members must be MPDD faculty.

At the time of committee formation, a memo must be submitted to the MPDD Graduate Advisor and the Division Head. The Supervising Professor serves as the committee chair.

Qualifying Exam Procedures: There are two parts to the exam.

- The first part of the exam is set by each member of the Exam Committee within the Division of Molecular Pharmaceutics and Drug Delivery and takes the form of a written assignment. Typically a student will have 1-2 weeks to complete each written assignment, but this is solely dictated by the faculty giving the examination.

- The second part of the exam is the oral research proposal defense. The examining committee will evaluate the student’s research proposal for creative thought, understanding of the chosen scientific problem, clarity and organization of presentation, critical thinking skills, and thoroughness and accuracy of experimental design. Although no specific amount of time is required for this section of the exam, it is typically one to two hours in length. The written proposal must be submitted to the committee a minimum of two weeks prior to the scheduled exam. Otherwise the exam will be rescheduled.

Outcomes: A student may be allowed to repeat the proposal defense, the general knowledge section, or both, at the discretion of the majority of committee members. However, a student is only allowed one re-examination. The decision for transfer to a terminal master’s program may also be made at this time or at a subsequent meeting. If the qualifying examination is not passed, the examining committee may:
- Recommend that the student be terminated from the graduate program.
- Recommend that the student be allowed to retake the examination(s).
- Require that other action be taken (e.g., prior to retaking the examination, the student may be required to take further coursework for better preparation).
Entrance to candidacy, documentation, and notification: After the qualification examination, the student will formally apply for candidacy. The candidacy application is electronic. The Graduate School receives a copy of the short CV and a letter from any member of the dissertation committee who is not on the faculty at UT-Austin. The Graduate Coordinator will help the student comply with these requirements.

Timetable for Progression to Ph.D. candidacy: The guidelines stated above are intended to keep the students on track to receive their Ph.D. degree within 4 to 5 years after entering the program. The faculty understands that there may be delays for individual students at various steps along the progression to candidacy. However, all students are ultimately responsible for insuring that they are making appropriate progress in their degree program. Students who have not successfully entered Ph.D. candidacy by the end of their 2nd year in graduate school may not be allowed to proceed into candidacy, but may be transferred to a terminal master's degree program if that is deemed appropriate by the student's academic advisors.

All doctoral work is subject to review by the Graduate Studies Committee of the College, if the student has not completed the degree within three years from the date of admission to candidacy. In addition, all work is subject to review by the Graduate Dean.

11. Dissertation Defense

Dissertation Supervisory Committee: The application for candidacy includes specification of the members of the Dissertation Supervisory Committee. The student consults with the Supervising Professor concerning the composition of this committee. The committee ordinarily consists of four to five members (four is the minimum) drawn chiefly from the candidate's major area, and chaired by the student's Supervising Professor. At least one member of the committee must be from outside the Pharmaceutical Sciences Graduate Studies Committee. The committee requires three Pharmaceutical Sciences Graduate Studies Committee members. While there is every expectation that the original research proposal evaluated in the qualifying exam will serve as the blueprint for the student's dissertation research, it is recognized that new findings may require substantial changes. These should be done in consultation with the student's Dissertation Supervisory Committee.

Dissertation Defense: Approximately thirty days before the Defense, the members of the dissertation supervisory committee are provided with copies of the dissertation. When, in the opinion of the committee, the student has completed the dissertation, the final oral examination is scheduled. This is accomplished by submitting the form Request for Final Oral Examination, following the instructions provided by the Graduate Coordinator. The abstract must be approved by the supervisory committee before it is sent to the Office of Graduate Studies. The
abstract will be published in *Dissertation Abstracts, International*. The committee’s
decision to examine a dissertation must be unanimous.

12. **Graduate Forms and Instructions**

Specific due dates, forms and guidelines are available on the OGS website. In
general, it is required that the graduate student:

- Submit the Degree Candidate Application Form in the Office of
  Graduate Studies by the required deadline. This must be done at the
  beginning of each semester the student anticipates possible
  graduation.

- Submit the dissertation and dissertation abstract to the Supervising
  Professor at least sixty days before the final oral exam.

- Submit Request for Final Oral Examination to the Graduate School two
  weeks prior to the date of the exam. See the checklist provided by the
  Graduate Coordinator for more information.

- The following items are submitted to the Office of Graduate studies
  after the final oral exam.
  - One electronic copy of the dissertation (uploaded) that
    includes the Committee Certification Approved Version and
    that conforms to the dissertation guidelines of OGS.
  - Committee Certification of Approved Version (dissertation
    signature page) with original signatures.
  - A copy of your Copyright Tutorial certification email
  - A Statement on Research with Human Participants form
  - A Statement of Research in Restricted Regions form
  - Any requests to Delay Publication

- The Report of Final Oral (gold sheet) must be signed by the Chairman
  of the Graduate Studies Committee and submitted to the Graduate
  School by the Graduate Coordinator.

**Publication of Dissertation**: The candidate is responsible for expenses connected
with preparing the dissertation, although the supervisory professor may provide
assistance in the form of supplies.

**Commencement Exercises and Diploma**: The doctorate is awarded at the
Commencement exercises following the successful completion (on time) of all
requirements of the degree. The diploma is sent within three to six months after
graduation. Degrees are awarded at the end of the Fall and Spring semesters and the
Summer session. Formal Commencement exercises are held only at the end of the Spring semester.

13. Laboratory Safety and Compliance

Safety is of paramount concern in laboratories. Students should constantly guard against injuries from cuts, fires and explosions, and hazardous chemicals. Safety glasses must be worn in the laboratory. Laboratory coats should be worn. Closed shoes are recommended. Sandals and flip flops are forbidden. A sign should be posted when dangerous materials or explosive gases are being employed in a laboratory. Students should review the relevant safety information on the UT website [http://www.utexas.edu/safety/ehs/](http://www.utexas.edu/safety/ehs/). There is a lot of useful information on this website!!! Bookmark it!

All new graduate students are **REQUIRED** to attend several safety orientation courses, which are offered by the UT Office of Environmental Health and Safety. For example, these courses include the following:

- OH 101 Hazard Communication (General)
- OH 201 Laboratory Safety
- OH 202 Hazardous Waste Management
- Fire Extinguisher Use
- OH 207 Biological Safety

Other training may be mandated by the Supervising Professor. If you work with radioactivity, you must take OH301 - basic radiation safety.

Compliance: Students must complete any and all compliance training (training, safety, ethics, etc.) required by the university and the college. As part of this process, students are required to read this entire handbook and certify that they have read, and understand, all of the contents. Students must sign the certification on page ii of this handbook, and turn it into the Academic Advisor at the time of matriculation.

Conflict of Interest: You must complete the following conflict of interest training so that your vast personal wealth and your significant holdings in biotechnology and/or other pharmaceutical companies do not cloud your objectivity in research! After you have completed the training, send the email to Char Burke [https://research.utexas.edu/ors/conflict-of-interest/coi-training/](https://research.utexas.edu/ors/conflict-of-interest/coi-training/)

IRB and IACUC: If students are to work with humans or animals they must complete all appropriate training and be included on the proper protocols before they begin the project.

Students must complete and document all laboratory and university safety requirements in a timely manner. Overall, the student must take personal
responsibility for all lab safety and training. In addition, the student is responsible for reporting any observed safety violations and accidents.

Unsafe conduct can result in dismissal from the program.

14. Checklist

See Appendix A
### Appendix A

#### Course Work Checklist

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGS 380Q</td>
<td>Advanced Pharmaceutical Processing</td>
</tr>
<tr>
<td>PGS 381F /PGS 381G</td>
<td>Product Development /Advanced Manufacturing Pharmacy</td>
</tr>
<tr>
<td>PGS 382S</td>
<td>Advanced Biopharmaceutics</td>
</tr>
<tr>
<td>PGS 382V</td>
<td>Pharmaceutical Biotechnology</td>
</tr>
<tr>
<td>PGS 383P</td>
<td>Advanced Pharmacokinetics</td>
</tr>
<tr>
<td>PGS S380M</td>
<td>Adv Pharm: Experimental Design</td>
</tr>
<tr>
<td>PGS 382R</td>
<td>Recent Advances in Pharmaceutics</td>
</tr>
<tr>
<td>PGS 383Q</td>
<td>Statistics in Translational Science (or similar)</td>
</tr>
<tr>
<td>PGS 380M</td>
<td>Analytical Methods in Drug Delivery (Ghosh)</td>
</tr>
<tr>
<td>PGS 196S</td>
<td>Seminar</td>
</tr>
</tbody>
</table>

(4 Credits required)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculus</td>
<td>(If Required)</td>
</tr>
<tr>
<td>Physical Chemistry</td>
<td>(If Required)</td>
</tr>
<tr>
<td>Pharmaceutics</td>
<td>(If Required)</td>
</tr>
<tr>
<td>Elective Course Outside Pharmaceutical Sciences</td>
<td>(One Required)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication Skills</td>
<td></td>
</tr>
<tr>
<td>Pharmacy and its Disciplines</td>
<td></td>
</tr>
</tbody>
</table>
Appendix B

Semester Offerings (Estimated based on prior years) – MPDD’s goal is for all division graduate students to be admitted into candidacy within 24 months of starting the program.

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGS 381H Advanced Pharmaceutical Processing</td>
<td>PGS 382V Pharmaceutical Biotechnology</td>
<td>PGS 382R Recent Advances in Pharmaceutics</td>
</tr>
<tr>
<td>PGS 381F Product Development</td>
<td>PGS 383Q Statistics in Translational Science</td>
<td>PGS 380M Biologics/MABs/Biosimilars</td>
</tr>
<tr>
<td>PGS 381G Advanced Manufacturing Pharmacy</td>
<td>PGS 196S Seminar</td>
<td>PGS 180J Advanced Pharmaceutics Lab Problems</td>
</tr>
<tr>
<td>PGS 383R Rate Processes in Pharmaceutical Systems</td>
<td>PGS 180J Advanced Pharmaceutics Lab Problems</td>
<td>PGS 280J Advanced Pharmaceutics Lab Problems</td>
</tr>
<tr>
<td>PGS 383P Advanced Pharmacokinetics</td>
<td>PGS 380J Advanced Pharmaceutics Lab Problems</td>
<td>PGS 190H Advanced Pharmaceutics Research Conference</td>
</tr>
<tr>
<td>PGS 196S Seminar</td>
<td>PGS 190H Advanced Pharmaceutics Research Conference</td>
<td>PGS 999W Candidates in Pharmaceutics</td>
</tr>
<tr>
<td>PGS 180J Advanced Pharmaceutics Lab Problems</td>
<td>PGS 999W Candidates in Pharmaceutics</td>
<td>PGS 487Q Communication Skills for Scientists</td>
</tr>
<tr>
<td>PGS 280J Advanced Pharmaceutics Lab Problems</td>
<td>CH 353M Physical Chemistry I for Life Sciences</td>
<td>CH 354 Quantum Chemistry and Spectroscopy</td>
</tr>
<tr>
<td>PGS 190H Advanced Pharmaceutics Research Conference</td>
<td>CHE 392 Polymer Science</td>
<td></td>
</tr>
<tr>
<td>PGS 999W Candidates in Pharmaceutics</td>
<td>CH 353M Physical Chemistry I for Life Sciences</td>
<td></td>
</tr>
<tr>
<td>CH 381M Advanced Analytical Chemistry</td>
<td>CH 386J Advanced Organic Chemistry</td>
<td>CH 392N Physical Chemistry of Macromolecular System</td>
</tr>
<tr>
<td>CH 382J Advanced Engineering Biomaterials</td>
<td></td>
<td>BME 382J Advanced Engineering Biomaterials</td>
</tr>
</tbody>
</table>
Appendix C

Individualized Course Planning Sheet

Student Name:  
Admission Date:  
Primary Supervising Professor(s):  

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
<th>Comments and Remarks</th>
<th>Completion</th>
</tr>
</thead>
</table>
| Fall Year 1       | 1. ______  
                   | 2. ______  
                   | 3. ______  
                   | 4. Seminar       |
| Spring Year 1     | 1. ______  
                   | 2. ______  
                   | 3. ______  
                   | 4. Seminar       |
| Summer Year 1     | 1. ______  |
| Fall Year 2       | 1. ______  
                   | 2. ______  
                   | 3. ______  
                   | 4. Seminar       |
| Spring Year 2     | 1. ______  
                   | 2. ______  
                   | 3. ______  
                   | 4. Seminar       |
| Summer Year 2     | 1. ______  |
|                   | **Complete Qualifying Exam** |
| Fall Year 3       | 1.       |
| Spring Year 3     | 1.       |
| Summer Year 3     | 1.       |

Signed by Student:  
Date:  

Signed by Primary Supervising Professor(s)  
Date:  

Signed by Pharmaceutics Graduate Advisor:  
Date:
## Appendix D

### STUDENT PROGRESSION FORM/COMPLETION DATES. PAGE 1/2

**NAME/ UTEID:**

<table>
<thead>
<tr>
<th>E-mail address</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Home address</td>
<td></td>
</tr>
<tr>
<td>Home or cell phone</td>
<td></td>
</tr>
<tr>
<td>Major Professor</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER</th>
<th>YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Joined Grad School**

**IRB Training Certificate Expiration**

**COI Training Certificate**

**Required if working in a lab:**
- Required Online Courses:
  - a) OH101, Hazard communication
  - b) OH201, Laboratory Safety
  - c) OH202, Hazardous Waste Mngt
  - d) OH207, Biological Safety
  - e) If you work with radioactivity OH 301
  - f) FF205 - Fire Extinguisher Use (1 hour).

**Milestones**

- Finished PhD Coursework
- Passed Qualifying
- Formed PhD Committee
- PhD Proposal Defense
- Dates of PhD committee meetings

**Semester Courses**

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Days/Times</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**GRA/TA/Residency/Fellowship**

<table>
<thead>
<tr>
<th>Supervisor</th>
<th>Days/Times</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please provide information about any employment you have this semester outside of this listings above.
My accomplishments for last semester were (include publications/presentations accepted or published):

My goals for this semester are:
Certification Page

“I certify that I have read, understand, and agree to, the entire contents of this handbook.”

Signature: __________________________ Date: ________________