Graduate Program in Experimental and Clinical Pharmacology
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Dear Graduate Student:

Welcome to the graduate program in Experimental and Clinical Pharmacology. We have put together this handbook to answer some of the questions you may have as you begin your life here in the program, in the department, in the college and at the University of Minnesota. It describes important aspects of the program and gives general Graduate School guidelines for completing your degree.

Please feel free to contact Dr. Angela Birnbaum, Interim Director of Graduate Studies, Room 463, 717 Delaware, birnb002@umn.edu, or Carol Ann Dickinson, Associate Administrator, Room 7-153 WDH, dicki002@umn.edu or a faculty member with questions or for assistance.

We will work together to make your graduate experience productive and rewarding.

Again, welcome. We’re happy you are here.

The Experimental and Clinical Pharmacology faculty
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MISSION AND GOALS

The mission of the Department of Experimental and Clinical Pharmacology (ECP) is to discover, disseminate and apply new knowledge related to safe, effective, and economical medication use in patients. Students entering the graduate program in ECP will be trained for careers in industry, academia or health care with the ultimate goal of improving health. Faculty and staff of the department actively engage in the teaching and conduct of experimental and clinical pharmacology and patient outcomes research to identify and promote use of the best therapies. While enrolled in the graduate program in Experimental and Clinical Pharmacology students will strive, with faculty and staff, to advance the science of human pharmacology and therapeutics while maintaining the highest standards of ethics in research and education.

The Graduate Program in Experimental and Clinical Pharmacology (ECP) is maintained within the Department of Experimental and Clinical Pharmacology. The Department Head is Dr. Robert Straka. The Interim Director of Graduate Studies for ECP is Dr. Angela Birnbaum

Graduate Program governance

The Director of Graduate Studies (DGS) is elected by the program graduate faculty and serves as liaison between students in the program and the Graduate School. The responsibilities of the DGS are:

- Assign advisor at program entry
- Sign all Master’s and Doctoral degree programs before they are forwarded to the Graduate School
- Assign a faculty committee to evaluate Ph.D. thesis titles and abstracts and make recommendations for improvement, modification of goals etc. The DGS is also responsible for equitable distribution of faculty appointments to examining committees which may result in modification of some of the suggestions for examining committees submitted by students and their advisors.

NEW STUDENT ORIENTATION:

Graduate School offers a two day orientation in the week prior to the beginning of classes. New Teaching Assistants (TAs) have a half day of orientation and the College of Pharmacy will have a one day orientation for new students in the College’s graduate program. Information will be sent to incoming students sometime in early August. The College of Pharmacy will host a one day orientation during that same week for all new graduate students in the four graduate programs on the Twin Cities campus.

Checklist for New Students

Foreign students: check http://www.isss.umn.edu/new/Checklist.html for detailed information

___ Report to the International Student and Scholars Office as soon as possible for a document check http://www.isss.umn.edu/new/docCheckfall.html. They will review your immigration documents and sign you up for the International Student Orientation Program (ISOP) http://www.isss.umn.edu/new/ISOP.html. This is a requirement mandated by the US Department of Homeland Security. Students will learn how to remove all registration holds such as Boynton Health
Center’s hold and the Minnesota English Center hold. This is necessary in order to register for fall semester courses.

_____ Register and attend Graduate Student Orientation

_____ Go to the Social Security Office to register and receive your social security card.

_____ Go to the Central Payroll office in West Bank Office Building (WBOB) 1300 So 2nd St., or Human Resources in Donhowe Building, 319 5th Ave. S.E. Prior to going to this office, you must complete and return the Human Resource Information form included in this packet to the College of Pharmacy Payroll office, Attn: Joan, 5-130 C Weaver-Densford Hall, 308 Harvard St. SE., Minneapolis, MN 55455.

Please Note: offices will be closed Memorial Day, Independence Day, Labor Day holidays, Thanksgiving, Christmas Day, New Year’s Day and Martin Luther King Day in addition to the University designated holidays which vary each year.

**All New Students**

_____ The U Card is your student ID and is required to register, to use the libraries and to access several additional services. The office is located on lower level of Coffman Union.

_____ Make an appointment to meet with Dr. Birnbaum or your advisor to discuss your fall registration.

_____ Check with the Graduate School to make sure everything is in order and you are clear to register for classes (Room 322 Johnston Hall, East Bank).

_____ You are ready to register. You may register online at http://onestop.umn.edu/registrar/registration/index.html

_____ The department will host a Teaching Assistant (TA) Orientation during your orientation week.

_____ The College will host a meeting for New TAs with the Human Resources Department. Please bring your driver’s license and social security card or a certified copy of your birth certificate, or your US passport along to this meeting.

**Once completed you are officially a graduate student in the Experimental and Clinical Pharmacology Program. Welcome!**

**FINANCIAL AID AND BENEFITS**

Experimental and Clinical Pharmacology has a limited number of research and teaching assistantships and fellowships available for graduate students. Recommendations and assignments are made by the Director of Graduate Studies. Holding an assistantship provides certain benefits including a tuition waiver.
Teaching Assistantship
Generally a first year student will receive a half-time teaching assistantship that obligates a student up to 20 hours per week of work beginning in the fall and continuing through the end of the spring semester in May. This is generally a nine-month appointment and the compensation is taxable. In addition to a stipend, with this 50% appointment the University of Minnesota will provide a full tuition waiver for fall and spring semester. This is offered contingent on your enrollment and current registration as a graduate student. Student fees are the responsibility of the student. Financial support for the continuing years of your study will depend upon your performance and availability of funding. It is the goal of the program to have graduate students move from teaching assistantship to research assistantships supported by faculty research projects.

Responsibilities of a Teaching Assistant may include:
- Assist course instructor in proctoring and grading examinations
- Assist course instructor by conducting small group or review sessions prior to examinations
- Assist course instructor in pre-course preparation including copying handouts, preparing labs, preparing slides
- Assist faculty in literature survey/research efforts
- Attend course at instructor’s request
- Serve as audio/visual technician
- Prepare and present lectures in PharmD required or elective courses under direct supervision of a faculty member

Research Assistantships
Research Assistantships are generally offered to students by faculty advisors through their research funds. Students who accept the offer of a research assistantship must devote full time to the intended research project and graduate education. Research assistants may request and perform teaching related assignments to enrich their graduate educational training.

Fellowships
Students may receive fellowships or scholarships from extramural sources through competitive applications. In accepting these, they are bound by provisions stipulated by the granting agencies and by the University policy on financial assistance and graduate education. Recipients of fellowships or scholarship may request and perform teaching related assignments in addition to their research and didactic training, to further their educational goals.

The University also operates a financial aid office, which is described more fully in the Graduate School Catalog.

Graduate Assistant Health Insurance Plan
Students are eligible for the Graduate Assistant Health Insurance Plan. Information can be found at http://www.shb.umn.edu/twincities/graduate-assistants/graduate-assistant-health-plan.htm.

Vacation, Holiday and Leave of Absence
Each year the University assigns holidays when the University is closed. The University calendar is available online at http://onestop.umn.edu/onestop/calendar.html. There is no vacation time during your 9-month appointment. If you must take time off during the academic year, you may complete the appropriate “leave of absence form” and have it approved by the DGS.
ACADEMICS

Outlined below is the general information you need to design your program, satisfy the rules of the Graduate School, and receive your degree. Additional assistance is available to you from faculty, staff, the Director of Graduate Studies, the graduate program website http://www.pharmacy.umn.edu/ecp/grad/home.html, the Graduate School Office of Student Services (160 Williamson Hall, hours M-F 8:00 – 4:00) and online at the Graduate School website http://www.grad.umn.edu. Make use of all your resources, they are available to help make the process run smoothly.

Advising

Most students will be admitted with an advisor already assigned. If not, Dr. Birnbaum, Director of Graduate Studies, will serve as your advisor during your first year or until you have chosen and been assigned another faculty member. Several outstanding faculty members serve as program advisors. You have one calendar year in which to choose a permanent advisor to supervise your coursework and research.

You will meet eligible faculty members during your first year of study and should inform the Director of Graduate Studies during the second semester of the first year as to who will be your academic advisor. Your advisor should be someone with similar professional and research interests to your own and with whom you feel you can work. Your advisor will work with you in the construction of your plan of study and must approve your proposed program.

Graduate Faculty and their Research Interests

Bjorn Bauer, PhD, Assistant Professor, University of Minnesota Duluth
Angela Birnbaum, PhD, Associate Professor, pharmacometrics, neurology
Richard Brundage, PharmD, PhD, Professor, pharmacometrics
James Cloyd, PharmD, Professor, neuropsychiatric pharmacology, orphan drug research
Esam El-Fakahany, PhD, Professor, neuropharmacology
William Elmquist, PharmD, PhD, Professor, Department of Pharmaceutics, transporters
Carolyn Fairbanks, PhD, Associate Professor, Pharmaceutics, neurology
Judith Garrard, PhD, Professor, School of Public Health, behavioral geriatrics and pharmacoepidemiology
Cynthia Gross, PhD, Professor, quality of life
David Guay, PharmD, Professor, geripsychiatry, pharmacokinetics
Anika Hartz, PhD, Assistant Professor, University of Minnesota, Duluth
Pamala Jacobson, PharmD, Associate Professor, hematopoietic stem cell transplantation research
L’Aurelle Johnson, PhD, Assistant Professor, drug disposition
Nitin Kaila, PhD, Novartis Pharmaceuticals, pharmacometrics
Daniel Keyler, PharmD, Hennepin County Medical Center, Professor, toxicology
Mark Kirstein, PharmD, Associate Professor, oncology
Michael Kotlyar, PharmD, Associate Professor, psychopharmacology
Robert Kriel, MD, Professor, neurology
Jatinder Lamba, PhD, Associate Professor, genomics
Vishal Lamba, Ph.D., Assistant Professor, genomics
Ilo Leppik, MD, Professor, neurology
Ling Li, DVM, PhD, Professor, neurology
CURRICULUM AND REGISTRATION

Students design their program under the guidance of their advisor. Experimental and Clinical Pharmacology (ECP), while broad based in curriculum, has several focus areas available to students such as Clinical Research, Pharmacometrics, Drug Metabolism and Pharmacogenomics. These are used as a guideline for registration in courses other students in your interest area have taken.

Registration
All Graduate School students are required to register in the Graduate School every fall and spring term in order to maintain active status. Registration is available online. Online registration and instructions are available at http://www.onestop.umn.edu/Student.index.html. The Student Services office is located in Fraser Hall.

The minimum number of credits required to graduate is 48 credits with a combination of 24 course credits and 24 thesis (dissertation) credits (required by the graduate school).

The maximum number of credits allowed is a combined total of 72, with 48 course credits and 24 thesis (dissertation credits).

Doctoral dissertation credits (register for ECP 8888) can be taken at any time after admission to the doctoral program but must be approved by the student’s advisor.

Course Schedule
Classes available each semester are listed on the University website http://onestop2.umn.edu/courseinfo/classschedule_selectsubject.jsp?institution=UMNTC. During registration periods you will also be able to see if seats in the course are still available.

Required Courses:
ECP 8100 Seminar (enrollment required for at least 3 semesters attendance required for (6 semesters)
ECP 8230 Principles of Clinical Pharmacology (2 cr)
ECP 8992 Readings (enrollment required for at least 4 semesters, 2 of the semesters are the Translational Sciences Journal Club meeting via ITV with the University of Pittsburgh and the University of North Carolina)
ECP 8888 Thesis Credits – all students are required to register for 24 thesis credits to complete their degree. It is possible for a student to begin registering for their thesis credits as soon as they begin working on their thesis project. Registration for these credits should be closely monitored by the student’s advisor
ECP 8444 FTE registration – may be a necessary registration for students who have completed all of their coursework and their thesis credits but must be registered full-time to complete their research and remain a research assistant.

Suggested Courses for ECP Graduate Students within a Focus Area

A) Clinical Research
PUBH 6320 Fundamentals of Epidemiology (3 cr)
PUBH 6450 Biostatistics I (4 cr)
PUBH 6451 Biostatistics II (4 cr)
PUBH 6806 Principles of Public Health Research (2 cr)
PUBH 7420 Clinical Trials: Design, Implementation, and Analysis.

B) Pharmacometrics
ECP 8400 Pharmacometrics (3cr)
ECP 8410 Population Pharmacokinetic Modeling (2 cr)
ECP 8420 Clinical Trials Simulation (2 cr)

C) Drug Metabolism
ECP 5620 Drug Metabolism and Disposition (3 cr)
BioC 5001 Biochemistry, Molecular and Cellular Biology (5 cr)
MedC 8600 Chemical Aspects of Metabolism and Bioactivism (2 cr)

D) Pharmacogenomics
Phar 6224 Pharmacogenetics
ECP 5630 Drug Metabolism
GCS 3032 Human Genetics
GCD 4034 Molecular Genetics
GCD 8072 Advanced Human Genetics
PubH 6450 Biostatistics I
PubH 6451 Biostatistics II

Additional potential courses for ECP students are listed below
ECP 8200 Research Problems (variable)
ECP 8210 Advanced Clinical Therapeutics (3 cr)
ECP 8900 Advanced Topics (variable)
ECP 8993 Directed Studies (variable
PUBH 6420 Introduction to SAS Programming
PUBH 6450 (3 cr) Descriptive Statistics
STAT 5302 Linear Regression (4 cr)
STAT 5401 Applied Multivariate Analysis (3 cr)
PHAR 6163 Pharmacokinetics (3 cr)
PHM 8150 Pharmacokinetic Research Seminar (1 cr)
PHM 8421 Advanced Pharmacokinetics (4 cr)
BIOC 5527 Modern Structural Biology (4 cr)
BIOL 5003 Genetics (3 cr)
GCD 4151 Molecular Biology of Cancer (3 cr)
PHCL 5100 Pharmacology: Drugs and Disease (3 cr)
PHCL 5111 Pharmacogenomics (3 cr)

Seminar
The ECP Department has a seminar each semester, generally on Wednesdays over the lunch hour from 12:20 – 1:10. Department policy requires that students attend seminar every semester they are in residence as a graduate student. Students are required to present three seminars (during the department seminar) and a final defense public seminar. Students should register for the 8100-seminar course only in the semester they present their seminar each year (3 credits). The importance of attending seminar attendance cannot be over-emphasized.

Readings
Graduate students in Experimental and Clinical Pharmacology will register for Readings ECP 8992 for 3 semesters. Fall semester of a student’s first two years of Readings 8992 will be the Translational Research Journal Club held via Interactive Television with the University of North Carolina and the University of Pittsburgh graduate programs. During spring semester of the 1st year students will enroll in the ECP 8992 course where they will do literature searches for research, write specific aims for a grant and practice the skills of asking and defending scientific questions. During the final two years of the program most students work with their advisor to find a “journal club” in their research area. These may or may not require an official registration and may simply be a meeting of the advisors lab group.

Student Writing Resources

The Graduate School offers support especially for graduate students through the Writing Nexus. Information can be found at http://www.grad.umn.edu/professional-development/writers_nexus/index.html.

The Center for Writing offers assistance by appointment or as a walk-in for all students. You can find more information at http://writing.umn.edu/sws/quickhelp/graduate.html.

Students with English as their second language may have unique writing needs. There are several opportunities if you feel this is an area where you could use some support. We recommend you take early advantage of the help the University offers.

First-Year Writing courses for Non-Native Speakers of English: WRIT 1301

We believe that students with English as their second language have unique writing needs that can best be supported by offering separate sections of Writ 1301: University Writing.

The Writing Center also has a special section for non-native speakers. Information can be found at http://writing.umn.edu/sws/multilingual/index.html
ROAD TO THE PH.D.
Examinations and Requirements of the Graduate School

Ph.D/Ed.D. Degree-Completion Checklist

The following Graduate School requirements are to be completed in the following order. To help you keep track of your degree completion requirements, check off each step when completed, and retain this check list for your reference. For additional information about Graduate School requirements, refer to the current Graduate School Catalog. **Be sure to contact your graduate program office concerning additional, program-specific requirements.**

Step 1: Maintain active student status by registering in the Graduate School every fall and spring term (including the term in which you complete all requirements and clear for your degree.)

Step 2: File your Degree Program form with the Graduate School (316 Johnston)
The Degree Program form is available at:
http://www.grad.umn.edu/students/forms/doctoral/index.html.

- The Graduate School must receive your Degree Program form at least one term prior to the term during which you intend to take your preliminary oral examination.
- Your Degree Program must be approved by the Graduate School for you to be authorized to take your preliminary oral examination.
- Students who have filed a doctoral degree plan should maintain a 3.000 GPA for courses included on the degree plan.

Step 3: Written and Oral Preliminary Examinations

ECP Examinations

The objectives of preliminary written and oral exams are for the Experimental and Clinical Pharmacology (ECP) graduate students to demonstrate basic competency in areas of experimental and clinical pharmacology. These general domains include:

Experimental pharmacotherapeutics
- pharmacokinetics
- pharmacogenetics
- Clinical correlates
- Biostatistics and study design
- Drug metabolism

In addition to general areas, each ECP students should demonstrate competency in their specific area of study. Representative areas of focus include:

- pharmacometrics
- drug metabolism
- infectious diseases/immunology
- neuropharmacology/neuroscience
- oncology
- cardiology
• geriatrics and/or pediatrics
• rare diseases and orphan drugs

These exams are performed in written and oral formats to demonstrate the student’s overall ability to formulate and communicate well-composed and in-depth answers to questions not only directly related to their field of study but also overall clinical pharmacology.

The policies below are intended to provide guidance to ECP graduate faculty and students in preparing for exams. Another intent is to establish a degree of fairness in exams across students. While it is not appropriate to have a quick and easy exam for one student and another student be asked to perform at an exceptionally high level, it is also not possible to have the same exam administered across all students and across multiple years. A flexible balance must be struck.

The time needed to finalize didactic course work can vary considerably across student programs, and it isn’t necessary that each ECP graduate student will have completed their courses prior to taking either the written or oral preliminary examinations. The written preliminary exam should be scheduled when the adviser is comfortable with the student’s level of mastery of the material. This is generally during the student’s second or third year. Following the written exam and by the end of the third year of study the student will prepare and complete their oral preliminary examination.

**Written Preliminary Examination – ECP Policies:**

**Content:**

- The exam should include a minimal of three general domains of ECP
- The scope of the area of focus is up to the faculty preparing the exam, but it should be of significant depth.

**Format**

The format for a given exam is flexible

- It can be written by the student’s committee, by ECP faculty members for a specific student or group of students, or can be abstracted from a pool of questions
- Multiple students can be tested with the same set of exam questions, and can allow the student to choose a subset of questions. e.g., 4 of 6 items.
- Written examination questions can be multi-component questions and test multiple domains
- Examinations can be administered in a classroom over as pre-specified amount of time, as take home exams, or as a combination of in-class and take home sections.
- The students’ class schedule and personal home schedule should be considered in determining time frames for the examination

**Written Preliminary Examination - Graduate School Instructions**

**Complete your Preliminary Written Examination and File Report**, signed by your adviser(s) and Director of Graduate Studies (DGS), with the Graduate School (160 Williamson Hall), [http://policy.umn.edu/Forms/otr/otr199.pdf](http://policy.umn.edu/Forms/otr/otr199.pdf)

- The doctoral preliminary written examination will be graded pass, pass with reservations, or fail in accordance with program standards.
- For students who pass with reservations, conditions to be met must be given in writing to the student within ten working days, including a timeline for completion.
- The signed *Preliminary Written Examination* form must be on file with the Graduate School for you to be authorized to take your preliminary oral examination.
Oral Preliminary Examinations - ECP Policies

The goal of the oral exam is for the student to demonstrate their competencies to their committee as described above, but also to demonstrate a general trait of “research readiness” by defending the design of a hypothesis-drive research experiment related to their field of study.

Format: Typically, an oral presentation is prepared using slides that describe a hypothesis-driven research proposal. This is not intended to be a scientific seminar and as few as 20 slides may be sufficient.

- Some advisers may require a written proposal (3-5 pages; not necessarily NIH style) to be prepared and distributed to the committee a week in advance; the topic of the written proposal need not be restricted to the student’s thesis project.
- A template of the written proposal and/or oral presentation may be developed and provided to the ECP graduate student by the student’s adviser.
- A teleconference can be arranged to allow the inclusion of an off-site committee member
- The full examination process, including committee evaluations, must not exceed 3 hours.

Oral Preliminary Examinations - Graduate School Instructions

Step 4: Assign Oral Preliminary Exam Committee and Schedule your preliminary oral examination date

Step 4A Assigning the committee

- The doctoral preliminary oral committee must consist of at least four members, including the advisor/s. All members of the committee and the candidate must participate in the preliminary oral examination. Committee members and/or the student may participate remotely as long as all conditions for remote participation in the examination are met.
- At least three members (including the advisor) must be from the student's major field.
- At least one member must represent a field outside the major
- If the student has declared a minor, at least one member must represent the minor field.
- Members cannot satisfy the requirement with respect to more than one field.
- Consult with your graduate program to identify the faculty members who will serve on your examining committee. Be sure to review the committee composition requirements for doctoral preliminary oral examination committees
- Determine who will serve as chair of the committee and outside/minor field examiner
- Obtain the internet ID or employee ID number for each member of your committee
- Submit your committee online at [http://www.grad.umn.edu/students/assignprelimcommittee/index.html](http://www.grad.umn.edu/students/assignprelimcommittee/index.html)

Step 4B Oral Exam Requirements

- You must hold active status in the Graduate School at the time of the examination.
- Your Degree Program form must have been approved by the Graduate School
  Note: minors must be declared and approved prior to the preliminary oral examination.
- Your Preliminary Written Examination Report form, indicating that you have passed the examination(s), must be on file with the Graduate School.
Step 4C: Scheduling the Oral Prelim

- The student must schedule the preliminary oral examination with the Graduate School online as soon as a date is set, but no later than one week prior to the examination. This is done online at http://www.grad.umn.edu/students/prelimschedule/index.html.
- Once the student schedules online, a confirmation email will be sent to the student's UMN email account.
- Upon initial review of the student’s record, an email will be sent to the student’s UMN email account regarding any outstanding preliminary oral exam requirements, and how to fulfill those requirements.
- About one week prior to the exam, an email will be sent to the student’s UMN email account confirming authorization of the exam or reminding the student of remaining outstanding requirements.

Please note that the student is responsible for scheduling and confirming the time and place of the examination with all committee members and for following their program’s internal scheduling procedures. In certain health science fields the faculty requires 30 days’ notice of the date of the preliminary oral examination.

Step 4D: Oral Prelim Exam

- The preliminary oral examination is conducted as a closed examination, attended by only the student and the examining committee.
- The oral examination may not take place before examiners have certified that the candidate received a passing grade on the preliminary written examination and that any reservations have been removed.
- The doctoral preliminary oral examination will be graded either pass, pass with reservations, or fail.
- If a student fails the exam, he or she may retake the examination once. All committee members, or all committee members save one must approve this option.
- The second attempt to pass the preliminary oral examination must use the same committee members unless an emergency situation necessitates a substitution.
- If the committee does not approve a retake, or if the student fails the second attempt, the student will be terminated from the program.

Step 5: Return the Preliminary Oral Examination Report form, signed by your committee members, to the Graduate School (316 Johnston) within one business day following your examination.

Step 6: File your Thesis/Project Proposal form with the Graduate School (316 Johnston)

- The Thesis/Project Proposal form is available in 316 Johnston or online.
- Per Graduate School guidelines, the Thesis/Project Proposal form should be submitted the term after passing the preliminary oral examination.
- The Thesis/Project Proposal form must be approved by the Graduate School in order for you to obtain the Graduation Packet (see #7).

Final Oral Exam
Final oral examination committee:

The doctoral final oral committee must consist of at least four members, including the adviser/s. All members of the committee and the candidate must participate in the final oral examination.

- At least three members (including the adviser) must be from the student’s major field.
- At least one member must represent a field outside the major.
- If the student has declared a minor, at least one member must represent the minor field.
- Members cannot satisfy the requirement with respect to more than one field.
- Committee is not required to include the same members who served on the prelim oral committee.

Thesis Reviewers for final oral examination:

- A minimum of 2 major field reviewers and 1 minor/outside reviewer are required. In the case of multiple minors, there must be a reviewer for each minor.
- Adviser/s must serve as reviewers.
- Every designated reviewer on the doctoral dissertation reviewer’s report must certify that the dissertation is ready for defense before the doctoral final oral examination may take place.

Adviser:

- Must represent the major on the preliminary oral and final oral committees.
- May serve as chair for the preliminary oral examination.

Co-adviser (if any):

- May represent the major or the minor/outside field on the preliminary oral and final oral committees.
- May serve as chair for the preliminary oral examination.

Step 7: Obtain your Graduation Packet from the Graduate School (316 Johnston)

- About one semester before your final oral examination, obtain the Graduation Packet in 316 Johnston, or request online at http://www.grad.umn.edu/students/doctoral/index.html

Step 8: Complete the following per your Graduation Packet instructions

Step 8a Schedule Final oral examination with the Graduate School. Scheduling is available http://www.grad.umn.edu/students/finalschedule/index.html.

How it Works

- The student must schedule the Final Oral Examination with the Graduate School online as soon as a date is set, but no later than one week prior to the examination.
- Once the student schedules online, a confirmation email will be sent to the student's UMN email account.
- At least one week prior to the exam, an email will be sent to the student's UMN email account that will include information regarding outstanding requirements and/or the status of the Final Oral Examination form.
Please note that the student is responsible for scheduling and confirming the time and place of the examination with all committee members and for following their program’s internal scheduling procedures. In certain health science fields the faculty requires 30 days' notice of the date of the final oral examination.

**Step 8b** The *Graduate Application for Degree* form must be submitted to the Office of the Registrar by the first business day of the month you intend to graduate.

**Step 8b** Submission of the *Reviewers’ Report* form to the Graduate School (316 Johnston), signed by your reviewers, is among the requirements that must be met prior to release of the *Final Examination Report* form and the Graduate School’s authorization for you to take your final examination.

**Step 9:** Submit the *Final Oral Examination Report form*, signed by your committee, to the Graduate School (316 Johnston)

The signed *Final Oral Examination Report* form must be submitted by the last business day of the month you intend to graduate.

**Step 10:** Submit your completed dissertation/project and ensure that all remaining degree requirements are met.

Your dissertation/project, *submitted online* [instructions found at](http://www.grad.umn.edu/current_students/degree_completion/doctoral/ElectronicDissertationSubmission.html)

*Students who wish to delay the release of the dissertation may request a temporary hold using the Thesis or Dissertation Hold Request form found at, [http://www.grad.umn.edu/current_students/forms/gs20.pdf](http://www.grad.umn.edu/current_students/forms/gs20.pdf).*

If you have questions regarding your Ph.D degree progress and/or degree clearance, please contact:

Graduate Student Services and Progress – [http://www.grad.umn.edu/current_students/Degree_Program_Forms](http://www.grad.umn.edu/current_students/Degree_Program_Forms), Renae Faunce – gscte@umn.edu – 612-625-5833

Preliminary Examinations, Stacia Madsen – gradssp@umn.edu – 612-625-0168

Degree Progress & Final Examinations, Stacia Madsen – gsdoc@umn.edu – 612-625-0168

**The Plan A Master’s requires:** An oral exam consisting of defense of the Plan A thesis.

**The Plan B Master’s requires:** An oral exam consisting of defense of the Plan B papers.

Copies of the forms required by the graduate school can be found at: [http://www.grad.umn.edu/current_students/forms/doctoral.html](http://www.grad.umn.edu/current_students/forms/doctoral.html)
RESEARCH

In the Ph.D. program a brief, written doctoral dissertation proposal must be presented to the student’s doctoral committee prior to the preliminary oral examination. The student should be prepared to defend the proposal at this examination. The proposal should include a research hypothesis, a statement of significance, background materials, and a current bibliography, possible methodology to be used or developed, and anticipated results. Specific details regarding proposed format, length, and level of detail should be developed with the student’s advisor.

In general, the advisor is responsible for approving the definition of projects, determining relative worth in satisfying the entire requirement and specifying for the student the manner in which evidence of satisfactory completion is to be presented to the examining committee.

Most students are admitted into the Ph.D program. However, an M.S. is available in ECP.

For the M.S. Plan A with thesis, the student should explore and discuss the research topic possibilities with your faculty advisor as well as other faculty members. You should look beyond the courses and attend seminars and read pertinent journals so a wise decision as to the thesis topic is possible. The final examination required for the Plan A is an oral defense of the thesis research.

For the M.S. Plan B program, the general Graduate School requirement is that “Students must demonstrate familiarity with the tools of research or scholarship in the field, the ability to work independently, and the ability to present the results of investigation effectively.” Students should work with their advisor and faculty to develop their program.

Manuscripts
It is expected that students will publish their works in professional and/scientific literature based on their research activities in the department. This is good for both the student and the reputation of the department and is positive recognition of the faculty member collaborator’s efforts.

Human Subjects in Research Information
You will be required by the University to complete HIPAA training, human subjects or animals in research training and a health and safety program for dealing with hazardous chemicals training. You can find more information at the University of Minnesota IRB website.
http://www.research.umn.edu/subjects/index.cfm

The Graduate School also requires graduate programs to conduct training of responsible conduct of research in a systematic and rigorous manner. Students in ECP will discuss ethics in research in many of their courses. More information from the graduate school on responsible conduct of research can be found at http://www.grad.umn.edu/Ethics/index.html

Students at the University of Minnesota who conduct any research using human subjects (even if the subject’s data has been collected under IRM approval) are required to submit their research proposal to the University of Minnesota Institutional Review Board (IRB) for approval prior to conducting their study. This applies to projects conducted inside or outside the University. For research conducted outside of the University, you still need IRB approval from the University even if approval has been obtained from an external agency. You also must seek approval if you are using existing datasets and are not collecting any additional data. In these cases, it is still necessary to complete the IRB
application using the “expedited review” process. This process requires less time for approval, but the form must still be completed.

No contacts with potential or actual study participants, including recruitment, or other research may occur until final IRB approval has been obtained. You should plan to complete the application at least 2 months before you want to collect new data or analyze existing data because the IRB Committee only meets 1-2 times/month and they often request revisions to applications before final approval.

SUPPORTING ACTIVITIES/FACILITIES

Offices
The department of Experimental and Clinical Pharmacology is housed in four University buildings: Weaver-Densford Hall (departmental offices), 717 Delaware, McGuire Translational Research Facility (MTFR), and Mayo. You will share an office with at least one other student. The department will provide a desk and chair, file drawer, and wastebasket along with a shared office telephone. Some other supplies and equipment are available through the program office. Any problems regarding the office or maintenance should be discussed with the program office or director of graduate studies. If you are here after normal University hours and discover a mechanical problem such as leaking water, call Facilities Management at 624-2900.

Telephones
Telephones are available for departmental activities and students' academic needs. You are reminded to be courteous about telephone usage and are encouraged to take messages for officemates. No long distance calls on the student office phones.

Mail delivery and pickup
You are assigned a mailbox in room 7-170 Weaver-Densford Hall. US mail is delivered to the building once a day, usually after the noon hour, and is sorted into student and faculty mailboxes or will be delivered to 717 Delaware or the MTRF building for distribution. Do feel free to use your University department address for professional publications, correspondence, etc. Campus mail is delivered to the building once a day with the US mail. Special delivery of packages is generally in late afternoon.

Photocopying
You are responsible for the cost and labor of any photocopying connected with your academic work.

Supplies
Supplies and equipment needed for TA responsibilities such as grading will be provided, as available, by the department. Basic supplies for your offices such as printer cartridges, paper for the printer, staplers etc. can also be supplied by the department, please let the main office know of supply needs for your office and they will order them for you.

Office hours
The Experimental and Clinical Pharmacology department office in room 7-115 WDH is open from 7:30 - a.m. to 4:00 p.m. The Graduate Program office is located in 7-153 WDH. If you have specific questions or the need for discussion it is advisable to schedule a time to meet. Carol Ann Dickinson’s phone is 612-626-8419.
Security
Unfortunately, there have been periods when items have disappeared from University offices. We strongly recommend that you lock your door whenever you leave your office and keep your keys with you at all times. Don't leave expensive or valuable items on top of your desk or within sight of outside hallways. There is no insurance through the University for losses, and the University will not accept responsibility for loss of personal property.

Smoking policy
The University does not permit smoking in any inside areas. A few smoking areas are designated outside the building.

University Library facilities
The Bio-Medical Library supports the teaching, research, and service programs of the University of Minnesota Health Sciences schools on the Minneapolis campus. The collection includes over 350,000 cataloged volumes and current serial subscriptions of approximately 4,000. The Bio-Medical Library is the number one lender of materials among Health Sciences libraries nationally. The Bio-Medical Library holdings, along with the holdings of the other University Libraries, are available online through the LUMINA (Libraries of the University of Minnesota Network Access) system. Bio-Medical Library holdings currently available in machine-readable format include 1960-present and 30,000 pre-1920 holdings constituting the Wangensteen Historical Collection of Medicine and Biology.

In partnership with Health Sciences Computer Services, the Bio-Medical Library has developed a locally mounted Medline database named MinneMEDLINE (Minnesota Medline). It consists of the full Medline file, including abstracts, for a four-year period. The Bio-Medical Library offers an extensive array of credit and not-for-credit courses on health sciences information management and evaluation. A database search service provides on-demand bibliographies from a large variety of bibliographic and non-bibliographic databases.

Interdisciplinary activities
There is a growing awareness of the breadth of many health problems and of the resulting need for a coordinated, multifaceted approach to their solution. Examples include chronic disease intervention, geriatric services, and organization of health delivery systems.

Special interdisciplinary courses are occasionally announced. Such courses are often of temporary existence because they deal with specific and transitory topics. Students from Dentistry, Medicine, Nursing, Pharmacy, Public Health, and other health science areas participate. These courses should be considered when topics and timing are appropriate. Seminars and other opportunities are posted near the elevators and online at the AHC calendar.
Equal Opportunity Statement:

The University of Minnesota is an Equal opportunity educator and employer

Inquiries regarding compliance may be directed to Director, Office of Equal Opportunity and Affirmative Action, 419 Morrill Hall, 100 Church Street SE, University of Minnesota, Minneapolis, MN 55455 612-624-9547 or to the Director of the Office of Civil Rights, Department of Education, Washington, DC 20202, or to the Director of the Office of Federal Contract Compliance Programs, Department of Labor, Washington, DC 20210.