



DEPARTMENT OF PHARMACEUTICAL CHEMISTRY

## **GRADUATE STUDENT HANDBOOK**

Revised: May 14, 2011

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## PHARMACEUTICAL CHEMISTRY DEPARTMENT FACULTY & STAFF

<b>FACULTY</b>	<b>LOCATION</b>
Audus, Kenneth Professor and Dean	2050D Pharmacy Building
Berkland, Cory Assistant Professor	320E Multidisciplinary Research Building
Borchardt, Ronald T. Summerfield Professor	201A Simons Laboratories
Forrest, Laird Assistant Professor	121B Simons Laboratories
Krise, Jeffrey Assistant Professor	236B Simons Laboratories
Laurence, Jennifer S. Assistant Professor	320F Multidisciplinary Research Building
Lunte, Susan M. Professor	220E Multidisciplinary Research Building
Middaugh, C. Russell Takeru and Aya Higuchi Distinguished Professor	320G Multidisciplinary Research Building
Schöneich, Christian Professor and Chair	236C Simons Laboratories
Siahaan, Teruna Professor	201D Simons Laboratories
Stella, Valentino University Distinguished Professor	121A Simons Laboratories
Stobaugh, John Professor and Associate Dean	136A Simons Laboratories
Tolbert, Thomas Associate Professor	201C Simons Laboratories
Volkin, David Higuchi Distinguished Professor	200B Multidisciplinary Research Building
Wang, Michael Assistant Professor	236A Simons Laboratories

**EMERITUS FACULTY****ROOM**

Schowen, Richard  
Emeritus Professor  
Wilson, George  
Emeritus Professor

—  
3029 Malott Hall

**STAFF**

Nicole Brooks, Administrative Associate Sr.	110 McCollum Laboratories
Karen Hall, Accountant	106 McCollum Laboratories
Nancy Helm, Program Assistant	108 McCollum Laboratories
Ann Heptig, Administrative Associate Sr.	104 McCollum Laboratories

## 1. OVERVIEW OF GRADUATE PROGRAM

The Department Pharmaceutical Chemistry is comprised of nationally and internationally recognized senior faculty as well as junior faculty specializing in diverse areas of research including Physical Pharmacy, Biopharmaceutics (Cellular and Molecular), Nanotechnology, Macromolecular Pharmaceutics (Pharmaceutical Biotechnology), Analytical Sciences (Bioanalysis and Pharmaceutical Analysis), and Pharmacokinetics.

The past successes of the Department that have allowed it to gain its international reputation as a leader in the pharmaceutical chemistry (pharmaceutics) area have rested on the shoulders of former graduate students. Realizing this, the Department continues to emphasize the recruiting and training of graduate students as its number one priority. The graduate program is designed to thoroughly prepare students for productive careers in the private sector, academia, or government agencies. The degree program emphasizes a fundamental grounding in the Physical and Chemical Sciences, plus an extensive research training experience. Within the research experience, the students work closely with their advisors in developing a dissertation of a standard allowing for publication of the results in the leading journals of the topical area.

Required core courses provide a comprehensive background in the physical/chemical sciences. In addition to a core curriculum, students are expected to enroll in elective courses that will allow them to gain specialized theoretical training in areas of pharmaceutical biotechnology or physical/analytical pharmaceutical chemistry. The students are encouraged to explore not only the courses offered within Pharmaceutical Chemistry but also those offered by other departments, including Medicinal Chemistry, Chemistry, Chemical & Petroleum Engineering, and Molecular Biosciences, and others per the students research topic and interests. This broad selection allows students to tailor their education to mesh with their specific areas of scientific research and interests.

## 2. SELECTION OF RESEARCH ADVISOR

Each student must report to a research advisor who is responsible for assigning a dissertation research project and assessing progress in the research-based courses, PHCH 899 (Masters Thesis) and PHCH 999 (Doctoral Dissertation). The research advisor also serves as the chairperson of the student's comprehensive oral examination committee and dissertation defense committee. Upon entering the program, students must attend a series of presentations (PHCH 686) by the faculty that describes their specific research interests. Students are encouraged to make additional visits to several faculty members with whom they are interested in working prior to making their final selections. Students are asked to prioritize these faculty selections as 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> choices using the form on page 7 to indicate this rank order of preferences.

To the extent that it is possible, students will be assigned to a research advisor according to their expressed interest. For reasons of limitations in funding and space, it may not always be possible to honor a student's first choice. Every effort will be made to accommodate a student's interest as closely as possible.

Students may opt to do a rotation in a lab prior to making their final decision. Similarly, students have the freedom to change advisors at any time while in the program. A student should not hesitate to make such a change if it is in his or her best interest and should not be concerned with offending the former advisor. Typically, a change in advisor can be beneficial to the student for many reasons; however, it should also be recognized that the change will likely add a significant delay to the student's overall progress in the program and that the student will be responsible for making up the lost time. As will be discussed in a later section, there are guidelines in place regarding time required for completion of the degree. Changing advisors does not constitute a valid reason for extending the time requirement.

## Advisor Selection Form

To be turned into the Director of Graduate Studies no later than three weeks following the final lecture in PHCH 686. Students will be notified of decisions as soon as possible.

### **Faculty Members\***

Cory Berklund  
Laird Forrest  
Jeffery Krise  
Jennifer Laurence  
Susan Lunte  
Christian Schöneich  
Teruna Siahaan  
David Volkin  
Thomas Tolbet  
Michael Wang

\*Note that some of the members on this list may not be taking students at time of the selection. The faculty members typically announce this during their presentation; however, it is a good idea to confirm this with the faculty member in person prior to including him or her on this list.

### Advisor Preference

First Choice \_\_\_\_\_

Second Choice \_\_\_\_\_

Third Choice \_\_\_\_\_

Student Name \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

### 3. COURSEWORK REQUIREMENTS

The faculty collectively decides on a series of courses that they consider being of fundamental importance for all students regardless of their area of specialization. These are referred to as core courses, which are to be successfully completed by all students enrolled in the program. Additionally, students are required to select from one of two sub-areas of specialization referred to as tracks. These tracks are Pharmaceutical Biotechnology and Physical-Analytical Pharmaceutical Chemistry and have specified course requirements associated with them. The students are additionally required to complete in number of elective courses that are specifically related to their interests and research project. To satisfy the University of Kansas Graduate Studies FLORS requirement, students must enroll in a skills development course of their choosing that will help them with some technical aspect of their research.

It is an expectation for students in the first year of graduate study that three (3) courses are undertaken in the fall and spring semesters. The scientific ethics course (PHCH 804 Issues of Scientific Integrity) and seminar do not count towards this total.

#### A. Entering Background Course Requirements

It is expected that entering students have mathematics capabilities equivalent to having completed the standard sequence in calculus and knowledge equivalent to that obtained from completion of one-semester of physical chemistry emphasizing thermodynamics.

Specifically, equivalents to the following classes should have been taken and that the student can demonstrate competency in these topics. If the student is deficient in any of these areas upon entering the program it is their responsibility to educate themselves.

- 1) CHEM 640 (Biological Physical Chemistry) or CHEM 646 (Introduction to Physical Chemistry)
- 2) MATH 121(Calculus I) MATH 122 (Calculus II)

#### B. Core Courses

All students entering the Ph.D. program in pharmaceutical chemistry are required to take a series of core courses, which are designed to ensure that graduates maintain the department's long-standing reputation for strength in the physical-chemical sciences as they relate to modern research in the Pharmaceutical Chemistry (Pharmaceutics). The department requires that each student take **seven core courses** in which they must receive a grade of B or better in order to be eligible to take the **Core Competency Exam**, which is offered the week after the completion of the spring semester of their first year in the program. These courses are offered every year and must be completed in the first two semesters in the program. These core courses are:



## FALL SEMESTER (YEAR ONE)

### 1. CHEM 740 Principles of Organic Reactions (3 credits)

A consideration of the structural features and driving forces that control the course of chemical reactions. Topics will include acid and base properties of functional groups; qualitative aspects of strain, steric, inductive, resonance, and solvent effects on reactivity; stereochemistry and conformations; an introduction to orbital symmetry control; basic thermodynamic and kinetic concepts; and an overview of some important classes of mechanisms.

### 2. PHCH 804 Issues of Scientific Integrity\* (1 credit)

Lectures and discussion on ethical issues in the conduct of a scientific career, with emphasis on practical topics of special importance in molecular-level research in the chemical, biological, and pharmaceutical sciences. Topics will include the nature of ethics, the scientist in the laboratory, and the scientist as author, grantee, reviewer, employer/ employee, teacher/student, and citizen. Discussions will focus on case histories.

### 3. PHCH 862 Pharmaceutical Equilibria (3 credits)

A course on equilibria in aqueous and non-aqueous systems with emphasis on solutions of interest to pharmaceutical technology. Included are association-dissociation equilibria, complexation, protein binding calculation of species concentrations, estimation of solubility, and ionization constants. Methods for the determination of chemical potentials in solution are presented.

### 4. PHCH 976 Advanced Topics in Biopharmaceutics and Pharmacokinetics I (3 credits)\* \*

A discussion of the concepts, and some clinical applications, of pharmacokinetics, clearance concepts, extravascular dosing, and the use of pharmacokinetics in dosage regimen design and adjustment.

\*Offered on alternate even years

\*\*Note that those graduate students with formal pharmacy training who have completed a similar course are not required to take PHCH 976; however, said students will be responsible for the conceptual content of this course as part of the core examination, particularly calculations and quantitative aspects.

## SPRING SEMESTER (YEAR ONE)

### 5. CHEM 840 Physical Organic Chemistry I (3 credits)

An examination of the methods used to probe the mechanisms of organic reactions and of the chemistry of some important reactive intermediates. Topics will include isotope effects, kinetics, linear free energy relationships, solvent effects, a continuing discussion of orbital symmetry, rearrangements, carbocations, carbanions, carbenes, radicals, excited states, and strained molecules.

### 6. PHCH 920 Chemical Kinetics (2 credits)

A course providing the principles of kinetic data analysis as applied to problems in pharmaceutical chemistry. Topics include the setup and solution of rate equations related to chemical reactions; simplifications and approximations in complex equation systems; isotope, solvent and salt rate effects; and diffusion and activation controlled reactions.

### 7. PHCH 972 Mechanisms of Drug Deterioration and Stabilization (3 credits)

A course dealing with mechanisms and chemical kinetics of drug deterioration and stabilization.

## C. Specialized areas of emphasis (tracks)

Upon successful completion of the core curriculum the students should select the appropriate specialized area of emphasis, or track, offered by the department. Students may select either the Pharmaceutical Biotechnology track or the Physical-Analytical Pharmaceutical Chemistry track. Two courses are required for each track, as indicated below. For students with cross-disciplinary research projects, it may be acceptable to replace a required course from a track with a suitable alternative course. Under such circumstances the student must get consent from his/her advisor and the department graduate studies advisor.

## PHARMACEUTICAL BIOTECHNOLOGY TRACK REQUIRED COURSES

### 1. PHCH 870 Advanced Pharmaceutical Biotechnology (3 credits, offered every other spring semester, even years)

A course designed to emphasize the important facets of recombinant proteins as well as oligonucleotides as pharmaceutical agents. Biophysical methods will be used to analyze the protein structure and stability. Methods of large-scale protein production, isolation, and purification will be covered. Potential chemical and physical degradation processes and strategies for circumventing these degradations will be discussed. Finally, procedures for handling regulatory guidelines (filing NDAs and INDs) for biotechnology products will also be addressed.

**2. PHCH 725 Molecular Cell Biology (3 credits, offered every other spring semester, odd years)**

Fundamental and advanced concepts in cell biology and the molecular interactions responsible for cell function, homeostasis, and disease will be presented. Current analytical methods for examining cells and their molecular components will be discussed. Emphasis will be placed on the chemical and physical properties of individual proteins, nucleic acids, and lipids and their assembly into cellular and subcellular structures.

**PHYSICAL-ANALYTICAL PHARMACEUTICAL CHEMISTRY TRACK REQUIRED COURSES**

**1. PHCH 864 Pharmaceutical Analysis (4 credits, offered every other fall semester, odd years)**

This is an introductory to advanced course on pharmaceutical analysis. Emphasis will be on chromatographic techniques and electrophoresis techniques as reflects the preeminent position that these techniques occupy in the field of pharmaceutical and biomedical analysis. The course additionally addresses the statistical used to validate analytical methods for the determination of drugs in the bulk form, pharmaceutical formulations, biological samples, and other relevant media.

**plus one of the following**

**2. CHEM 826 Mass Spectrometry (3 credits)**

An introduction to mass spectrometry. The various ionization techniques and mass analyzers will be discussed, and many examples of different mass spectrometric applications will be introduced.

**3. PHCH 850 Solid State Stability (2 credits, availability subject to future planning)**

A course designed to provide an understanding of the formulation and stability of drug candidates in the solid state.

#### **D. Electives and FLORS requirements.**

Graduate students are required to take one additional elective course in addition to the previously listed courses. This may be from the additional courses offered by the department of Pharmaceutical Chemistry (see below) or it can be from any other department on campus with prior approval from the student's research advisor.

**1. PHCH 705 Pharmaceutical Chemistry - Writing and Communications Training for Science Graduate Students (3 credits, offered in the spring semester)**

Communicating research proposals and experimental findings is a critical skill for scientists. Successful communication depends on clarity of thought and careful use of language. This course will use class discussions with examples and homework assignments to help prepare the graduate student to successfully communicate in both academia and industry settings. Graded on a satisfactory/unsatisfactory basis.

**2. PHCH 715 Drug Delivery (3 credits, offered every other fall semester, odd years)**

Drug Delivery surveys the latest technology for delivering pharmaceuticals and biologicals to reduce side effects and enhance drug efficacy. The course will review the latest research in this area and examine more classical delivery methods. A qualitative and quantitative understanding of drug delivery practice and theory is the goal.

**3. PHCH 977 Advanced Topics in Biopharmaceutics and Pharmacokinetics II (2 credits, availability subject to future planning)**

A course addressing special topics in biopharmaceutics and pharmacokinetics. Specific topics include complex pharmacokinetic modeling, pharmacokinetic considerations relating to clinical trials of drugs, the influence of drug distribution in cells on their activity, and the influence on macroscopic pharmacokinetic parameters and research relating to novel experimental techniques and strategies pertaining to the delivery of molecules across physiological barriers including the intestinal mucosa and the blood-brain barrier.

In order to successfully complete the didactic component of training in the Department, the student must complete the FLORS requirement. This may be fulfilled by successfully completing an acceptable skills development course. A list of courses that have been previously accepted to fulfill the FLORS requirement is shown below. Other courses may be permissible upon approval of the pharmaceutical chemistry FLORS committee (refer questions to Professor V. Stella, chair of the FLORS committee). After completing the FLORS requirement, please see Nancy Helm to complete the necessary paperwork (i.e., Do-All Form), indicating completion of the requirement.

**Please note that the FLORS requirement cannot be counted as an elective and is to be completed prior to undertaking the comprehensive examination.**

## Examples of Courses Used to Fulfill the FLORS Requirement

- BIOL 672 Gene Expression (3)
- BIOL 688 The Molecular Biology of Cancer (3)
- BIOL 702 Laboratory Practice Radiation Safety Procedures (0.75)
- BIOL 703 Radioisotopes in Radiation Safety in Research (1.25)  
***(Biol 702 and 703 must be taken together)***
- BIOL 704 Research Animal Methods (3)
- BIOL 718 Laboratory in Molecular Biology (3)
- BIOL 756 Cell and Tissue Culture Laboratory (3)
- BIOL 841 Biometry I (5)
- BIOL 918 Modern Biochemical and Biophysical Methods (4)
- CHEM 742 Spectroscopic Identification of Organic Compounds (3)
- CHEM 959 Advanced Topics in Bioanalytical Chemistry (3)
- CHEM 966 Physical Organic Chemistry II (3)
- C&PE 121 Introduction to Computers in Engineering (3)
- MDCH 861 Drug Metabolism (2)
- PHCH 725 Molecular Biology of the Cell (3)

## First Year Curriculum

Fall Semester	Spring Semester
CHEM 740 (3 hrs) Organic Chemistry	CHEM 840 (3 hrs) Phys Org Chem
PHCH 862 (3 hrs) Equilibria	PHCH 920 (2 hrs) Kinetics
PHCH 976 (3 hrs) Pharmacokinetics <sup>1,2</sup>	PHCH (972 (3 hrs) Stability
PHCH 804 (1 hrs) Ethics <sup>3</sup>	

<sup>1</sup>Not required of Pharmacy degree holders who have had a similar course; however the student will be responsible for content at this level for the core examination.

<sup>2</sup>Pharmacy degree holders should take a course in Physical Chemistry if not previously taken. Refer to entering background requirements.

<sup>3</sup>Required at the first opportunity and does not count towards that load of three (3) courses to be undertaken in the fall and spring semesters of the first year.

## Second Year Curriculum

During the fall and spring semesters of the second year of the program, the student should begin to fulfill track electives (refer to previous comments) and must take a course that fulfills the FLORS requirement prior to undertaking the comprehensive exam in May of the second academic year.

### E. Seminar Requirements

**All students are required to attend Pharmaceutical Chemistry Seminar, which is to include those given by any visiting speaker and/or candidates for positions, until completion of their program of study in order to remain in good standing.**

Seminar is normally scheduled on Tuesday from 3:30-4:30 p.m. in Simons Laboratories Auditorium (Rm 100). Variance to this schedule may occur due to special situations, such as visiting speakers and/or interviews, or simply extra-special seminars. All students are expected to attend all of such special events. Formal registration in seminar (PHCH 978) is not required if the maximum number of credit hours required per semester are achieved due to full-filling core, track and/or elective requirements.

If an unavoidable conflict arises, the student should contact the seminar instructor. Students are usually asked to present at least two seminars during their time in the department before graduation, typically, one during the year following completion of their qualifying exam and the second shortly before their final dissertation. Students should discuss their seminar presentations with their advisors. The seminar is typically based on the progress achieved in their research project. Having two students fill one seminar slot is encouraged, particularly for those students presenting for the first time who may have insufficient data for a complete presentation. This is particularly encouraged as the department grows and the competition for seminar slots increases.

The development of communication skills is considered to be an important aspect of graduate training. Accordingly, the ability to present seminars clearly and effectively will be an important aspect of the student's evaluation process.

## **F. Program Progress Forms**

In an effort to aid students in making sure they have completed all of the course requirements, summary sheets for students enrolled in each track is included on the next two pages. Students should keep this summary sheet continuously updated. In addition, a copy of this sheet should be presented to members of the student's dissertation advisory committee at the beginning of each biannual review progress meeting (see below).

**Department of Pharmaceutical Chemistry**  
**Ph.D. COURSEWORK SUMMARY SHEET**  
**PHARMACEUTICAL BIOTECHNOLOGY TRACK**

**STUDENT NAME AND DATE** \_\_\_\_\_

**1. ENTERING COURSEWORK REQUIREMENTS**

Course Name	Date Taken	Grade	Completed at Another Institution?
PHCH 976 Pharmacokinetics			

**2. CORE COURSES**

Course Name	Date Taken	Grade
CHEM 740 Principles of Organic Reactions		
CHEM 742 Physical Organic Chemistry I		
PHCH 801 Issues of Scientific Integrity		
PHCH 862 Pharmaceutical Equilibria		
PHCH 921 Kinetics & Mathematics for Pharmaceutical Scientists		
PHCH 972 Mechanisms of Drug Deterioration and Stabilization		

**3. TRACK COURSES**

Course Name	Date Taken	Grade
PHCH 870 Advanced Pharmaceutical Biotechnology		
PHCH 725 Molecular Cell Biology		
(other)		

**4. ELECTIVE**

Course Name	Date Taken	Grade

**5. FLORS REQUIREMENT**

Course Name	Date Taken	Grade



**Department of Pharmaceutical Chemistry**  
**Ph.D. COURSEWORK SUMMARY SHEET**  
**PHYSICAL-ANALYTICAL PHARMACEUTICAL CHEMISTRY**

STUDENT NAME AND DATE \_\_\_\_\_

**1. ENTERING COURSEWORK REQUIREMENTS**

Course Name	Date Taken	Grade	Completed at Another Institution?
PHCH 976 Pharmacokinetics			

**2. CORE COURSES**

Course Name	Date Taken	Grade
CHEM 740 Principles of Organic Reactions		
CHEM 742 Physical Organic Chemistry I		
PHCH 801 Issues of Scientific Integrity		
PHCH 862 Pharmaceutical Equilibria		
PHCH 921 Kinetics & Mathematics for Pharmaceutical Scientists		
PHCH 972 Mechanisms of Drug Deterioration and Stabilization		

**3. TRACK COURSES**

Course Name	Date Taken	Grade
PHCH 864 Pharmaceutical Analysis		
<i>plus one of the following</i>		
PHCH 850 Solid State Stability and Formulation		
CHEM 826 Mass Spectrometry		
CHEM 966 Physical Organic Chemistry II		
(other)		

**4. ELECTIVE**

Course Name	Date Taken	Grade

**5. FLORS REQUIREMENT**

Course Name	Date Taken	Grade

**Department of Pharmaceutical Chemistry  
Post-Comprehensive Review Form**

**Ph.D. Candidate:**

**Review Date:**

**Dissertation Title:**

**Dissertation Committee Members**

Advisor	Internal #1
Internal #2	Internal #3
External	Additional

**Research Progress Notes**

(Summarize overall goal, key progress points, critical issues impeding progress)

#### 4. COMPREHENSIVE CORE CURRICULUM EXAMINATION

Graduate students entering the program in August, **who have successfully completed the Core Curriculum**, are expected to undertake the core examination at the end of the spring semester. The exam will be offered each May on the Monday immediately following KU graduation.

The Department views the Core Curriculum as an essential component of graduate education. Accordingly, a student receiving a grade below a B in any Core Course will not be eligible to take the Comprehensive Core Curriculum Exam and potentially may be terminated from the graduate program. Only under special circumstances can a student take the Comprehensive Exam with a course grade lower than a B. In such instances the student must be granted permission to do so through a petition to the faculty.

This written examination consists of questions submitted by all members of the faculty, divided into morning and afternoon sessions. The students will be expected to answer several mandatory questions and select from a set of optional questions. The subject matter covered by the examination is largely derived from, but not exclusively limited to, departmental core courses. Shortly after taking this exam the students will be notified of their performance. Those students that fail this exam may be asked to leave the program or placed on a student specific remediation program. Students with borderline satisfactory performance will be given an additional opportunity to meet expectations, which will require undertaking a second core examination in August of the same year. Borderline performance at this time can result in the student being dismissed from the program, given the opportunity to terminate with a Master's degree, or a special remediation action being taken.

#### 5. THE ORAL QUALIFYING EXAMINATION

Prior to undertaking the oral comprehensive exam, the student is required to complete the FLORS requirement.

This exam will be conducted during the students second year of the program, on the Monday - completion (consecutive days as required) immediately following KU graduation. The examination chairperson will be the student's advisor; in addition, the committee will consist of three other faculty members from the department and one committee member from another department. The names and affiliation of the outside member of this committee should be provided to Ms. Helm prior to the exam for completion of the Do-All Form. In addition to the research advisor, the remaining three departmental faculty members will be randomly assigned to serve on the committee. This exam will be composed of a series of oral questions that focus primarily upon the student's research presentation and a **10-page (double-spaced)** prospectus. For the prospectus, create a title page that includes the proposed title of the research, the student's name, the mentor's name and a listing of the oral examination committee members. Organize the prospectus in the following manner and provide a copy to all of your committee members at least two weeks in advance of the exam.

- a. **Specific Aims:** List the broad, long-term objectives and what the specific research proposed in this proposal is intended to accomplish. State the hypotheses to be tested, and/or technique or operation to be improved. **One page limitation.**
- b. **Background and Significance:** Describe the background leading to the proposed research, critically evaluate existing knowledge and limitations of existing approaches and/or technologies, and specifically identify the lack of knowledge and/or limitations which the project is intended to address. State concisely the importance and the scientific and/or technological relevance of the investigation described in the proposal by relating the specific aims to the broad, long term objectives (**four or five pages**).
- c. **Approach:** In this section describe what you have accomplished (preliminary results) and include a very brief description of the methods used. Relate these accomplishments back to your specific aims and how these accomplishments relate to either proving or disproving your hypotheses and/or contribute to the technique or process that you are seeking to advance. Provide a brief outline of your future work based on results to date (**four or five pages**).

In preparing the document, you may seek some guidance from your mentor with respect to the project outline and goals; however, the written portion is to be solely your product. You may, however, consult your graduate student peers on writing and grammar issues.

Prepare the document single-sided and double-spaced with margins of one inch, on top, bottom, and both sides. (The height of the letters must not be smaller than 10 point, the density of character must not be greater than 15 characters per inch, and no more than 6 lines per inch, please!)

The purpose of the oral exam is to examine your ability to formulate a sound research proposal and be knowledgeable about all aspects of it. Those students who pass this examination will be granted a non-thesis M.S. degree and will then be considered a candidate for the Ph.D. degree. Those students not successfully passing this exam will be asked to terminate the program with the M.S. degree (see requirements below).

### **Requirements for Students Receiving the M.S. Degree**

Candidates for the M.S. degree must satisfy the general requirements of the Graduate School as well as fulfill one of the following options.

1. Students who are continuing on toward the Ph.D. degree will receive a non-thesis M.S. degree upon successfully passing the written and oral comprehensive examinations. To officially receive this degree, the student must submit an application for degree. Refer to the Graduate Studies and Research website or contact Karen Gabel in the School of Pharmacy Dean's office (864-3591) for information.
2. Students who will terminate with the M.S. degree must have satisfactorily completed at least one-third of the courses recommended for the Ph.D. degree, presented a thesis

or a research report based on original research, and passed a final oral general examination. In some limited cases, a comprehensive literature review of a specific subject in the broad area of pharmaceutical research may be substituted for a research report based on original research.

## 6. PERFORMANCE REVIEWS & POLICIES

### PROGRAM PROGRESSION AND REVIEW

#### Pre-comprehensive Exam Period

##### *January Review*

###### ***First-year students***

This group is required to meet (10 minutes) with the entire faculty just prior to the start of the spring semester (typically the second week of January). The purpose is to review the student's progress in coursework and discuss the direction of the student's research project. During this times, students are highly encourage to express any concerns he or she may have with any aspect of the program. The student should bring an up-to-date copy of the Ph.D. Coursework Summary Sheet for evaluation purposes.

###### ***Second-year students***

These students will also meet (15 minutes) with the entire faculty during this period to provide an update on coursework and research progress. The second year students should prepare a power point presentation for these meetings. The first slide of the presentation should contain an up-to-date coursework summary sheet. The remaining slides should focus on the research project. It is expected that the presentation include information on the background, hypothesis, preliminary results and future directions of the research project. The total allotted time for the research component of the presentation is 10 minutes maximum. Students should typically use no more than 8 slides.

##### ***Fall Retreat***

###### ***First & Second year students***

During the fall break period, typically a Thursday-Friday period in mid-October, the department holds an annual retreat. Attendance and participation is mandatory for all students. This event is used to host several invited speakers in an area(s) who will provide research presentations in areas of interest or emerging interest that are within the scope of the department's activities. **All students are expected to give a poster presentation of their research project and results.** For students who are in the initial stages of a project a project outline, to include goals and rationale can be the basis of the poster presentation. For students who have progressed further with their research, the poster should provide a similar content, but also include a summary of results, what the implications may be, and a projection of future studies.

## Post-comprehensive Exam Review

After successful completion of the comprehensive exam, the student is charged with selecting a dissertation committee. The committee composition shall include four faculty members in the department (research advisor plus other faculty) plus one faculty from an outside department. Depending on the student's research project, additional faculty external to the Lawrence campus or institution may be added to the dissertation committee. During this periods the student is charged with the completion any track and/or elective requirements.

To ensure timely progress towards completion of the dissertation project, the student will meet with his/her dissertation committee on a continuing basis subsequent to successfully completing the comprehensive examination. The first of such meetings will be conducted as part of, or soon following the annual fall retreat, an event where the student will have made a presentation of their recent research results. The next meeting should be conducted in the following March/April timeframe. At this meeting the student should present to the dissertation committee an update of their research progress and seek input concerning problematic directions of research, in order to keep progressing in a timely fashion. The sequence, the fall meeting during or immediately after the fall retreat and the spring review in the March/April timeframe will continue until the student completes four (4) years in the graduate program. It will be the student's responsibility to organize the dissertation committee for each of these reviews.

At the start of year five (5), the student should plan an August/September dissertation committee meeting, at which time outline should be presented of the remaining experimental work and a timeframe for completion of the dissertation document. The department's goal is for students to complete the program by 4.5 years (54 months), which in most cases would be in the following January timeframe. If it becomes apparent that completion of laboratory research and dissertation preparation will not occur in this timeframe, then the student should meet with the dissertation committee in January and file a petition for additional time to complete all requirements. This additional time should be of no longer than 6-12 months, which would result degree completion within the 5.0-5.5 year timeframe. Dissertations completed within less than or five years will be considered as a highly positive performance.

Under justifiable and extenuating circumstances, which should be rare, it will be possible for an additional extension to allow the student to continue in the program during the 5.5-6.5 year timeframe. This is viewed as an undesirable and rare option, but in some cases required. After 6.5 years in the program, the student will have either completed all requirements for the Ph.D. degree, or be terminated due to lack of good standing.

For students in good standing, according to the requirements and hallmarks noted previously, the department and research mentor will be responsible for the student's stipend, tuition, and health insurance for a period of 4.5 years. For students not finished at this point, but who have successfully petitioned for additional time from the 4.5 - 5.5 year period, support will be continued.

Should the student not complete all requirements for the Ph.D. after 5.5 years, and find it necessary to petition for an additional extension for their program of study, there will be no departmental guarantee of support, with the matter being solely between the research

mentor and the student. Support might be granted during this extended period for the case of the highly committed and motivated students who have understandable reasons for delayed progress. However, for students with clearly demonstrated lack of work ethic or who have failed to develop intellectually, it will most likely be the case that the advisor will choose not to continue support and the students themselves will be responsible for all costs associated with their education (i.e., stipend, tuition, and health insurance).

### Program Progression Table

Program Year	Month	Cumulative Months	Activity
1	Aug	0	program entry
1	Oct	2	fall retreat participation
1	Jan	5	Initial review
1	May	9	core examination
2	Oct	14	fall retreat presentation
2	Jan	17	review coursework and research progress
2	May	21	comprehensive examination
3	Oct	26	fall retreat presentation
3	Mar/Apr	31-32	dissertation committee progress review
4	Oct	38	presentation fall retreat
4	Mar/Apr	43-44	dissertation committee progress review
5	Sept	50	dissertation completion plan
5	Oct	51	fall retreat presentation
5	Jan	54	dissertation defense (4.5 years)
5	Jan	54	extension by petition
5	Jan	66	dissertation defense (5.5 years)
5	Feb	67	2 <sup>nd</sup> extension by petition (5.5 years)
6	Aug	72	dissertation defense (6.0 years)
6	Sept	73	program termination

## Required Academic Performance

Graduate students are expected to receive a grade of B or better in all courses undertaken. A grade of C (or lower) is considered unsatisfactory.

To remain in good standing academically, it is expected that the graduate student will receive only A or B grades for each class taken. According to standards described in the Graduate School Catalog, the student must maintain an overall GPA  $\geq 3.0$  at all times. If a student receives a course grade (or multiple course grades) below a B in a given semester and their cumulative GPA drops below a 3.0, the student is automatically placed on probation by the Graduate School. The Graduate School requires that the student's cumulative GPA to be raised to 3.0 by the end of the next semester of enrollment in order for the student to be taken off probation. If this is not accomplished, continued enrollment of the graduate program is not permitted and future enrollment is prohibited, thus terminating the student from the graduate program. This action may be prevented if the Graduate School approves a petition by the department on behalf of the student to allow continued enrollment, based on evidence the student, given additional time, will be able to raise their overall GPA to the required average.

If the student is successfully reinstated into the program, he or she will receive individual advisement by the departmental faculty as to performance expectations and a specific timeframe to remedy the deficiency. It is to be noted that maintaining a B average, by dropping a course (or courses) to a level of less than a full time load to avoid an unsatisfactory performance, will also place the student in poor academic standing, due to lack of progress. Such situations will be dealt with in the same manner as previously described. The student should bring an up-to-date copy of the Ph.D. Coursework Summary Sheet for evaluation purposes.

## Background Remediation

On occasion students have been admitted to the graduate program with an academic background that requires additional coursework to provide the student with the necessary tools to be successful in the coursework prescribed above. This may or may not be apparent upon entry, but such deficiencies are normally revealed in the first fall semester. Once accepted, the department is committed to providing the strongest opportunity for any student to succeed. Therefore, in such situations, the graduate director, together with the students mentor and the department chairperson will work with the student to develop a remediation curriculum that once successfully completed will place the student in a position to be successful in the required course courses and the various electives required of the track of choice. Should the student not succeed in the remediation effort program termination will be recommended.

## Research Performance

Students' performance in the laboratory is additionally monitored post-prelims by the research advisor. Overtime, as fulltime enrollment dictates, the student will first register for an appropriate amount of master's research with their particular research advisor. Similarly, subsequent to successfully passing the comprehensive examination, the student will enroll in doctoral dissertation credit hours. In each case the number of hours of



enrollment is dependent on whether the student is undertaking other courses and how many hours the student has completed subsequent to the post-comprehensive exam. In all cases, enrollment shall be such that the student is continuously enrolled as a full time student. Masters research credit hours are graded on the following basis: S, satisfactory; F, failure; I, incomplete; WG, withheld grade. In contrast, doctoral dissertation credit hours are assigned grades by the traditional letter-grade format.

It is in the best interest of the student to aggressively pursue their laboratory research and hopefully to rapidly and continually achieve high quality results. However, It is understandable that research progress is not predictable and delays do happen even for the most motivated student. However, it is the Department's responsibility to set deadlines to make sure that projects do not continue on unproductively for extended periods of time. It was from this perspective that the previously mentioned system of post-comprehensive review was envisioned (refer to post-comprehensive exam review section).

### **Doctoral Dissertation Preparation and Defense**

Upon the conclusion of experimental activities, the student will devote full time to the preparation of the doctoral dissertation document. The dissertation will need to comply with that required guidelines according to Graduate Studies (refer to their website). For additional information, the student may confer with Karen Montgomery (Room 2050 Pharmacy; 4-3591, [kgebel@ku.edu](mailto:kgebel@ku.edu). Dean's Suite). Ms. Montgomery will be able to provide the student with a package of material that will inform them of all of the details for writing, formatting, and copying of the thesis. There will also be information including advertisement policies for the thesis defense date, since it is considered a public event.

As noted previously, the doctoral thesis defense committee will consist of the research advisor (committee chairperson) and three other departmental faculty members. The student must identify one faculty member outside the department to serve on this committee. Please note that this committee can be selected by the student and does not need to be the same people that served during the oral qualifying exam, but except under extenuating circumstances should be the same individuals as have been serving on the students dissertation committee that was constituted subsequent to the comprehensive exam. Through discussion with the research advisor and the dissertation committee, a mutually agreed upon date for the defense will be chosen. Once this date is known, the student should immediately contact Karen Gabel in the Dean's office with this information.

### **Overall Evaluation**

In summary it is the goal of the faculty that all students successfully defend their dissertation within the 4.5-5.0 year timeframe. Students who have preformed exceptionally in coursework, made significant intellectual contributions in their research, developed independence and displayed scientific maturity, and have prepared a dissertation of high quality during this timeframe will be considered as outstanding performers.

## 7. ENROLLMENT GUIDELINES (important - must read)

### Definitions regarding graduate student status:

Students in the department who are not receiving financial aid from any source outside the department are considered GRAs (Graduate Research Assistants). Students are not considered GRAs if they receive any funding from an outside source; this includes the Biotechnology Training Grant and all non-departmental fellowships. For example, Self Fellows, PHRMA Fellows, etc. would not be considered GRAs. Any student who receives a foreign government fellowship cannot be considered to be a GRA. However, those students receiving departmental fellowships (i.e., Lindenbaum and Higuchi Fellowships) are qualified for the GRA designation.

All students not considered to be GRAs must enroll as if they are foreign or non-resident students (even if they are Kansas residents). Therefore, all students should use this information to determine their classification since it will have a significant impact on how many credits they must enroll in each semester.

### GRA Appointments (constitutes 50% enrollment)

To be considered full-time, a student must enroll for a total of 6 credits for spring and fall semesters and 3 credits in the summer. In years prior to taking the qualifying exam, students need not enroll in PHCH 899 (Master's Thesis) unless they need additional credits to meet the aforementioned total credit requirements. Students, who have completed the comprehensive exam, will need complete track requirements and electives should any remain at this point, and enroll in PHCH 999 (Doctoral Dissertation) to meet minimum credit requirements. Subsequent to meeting the aforementioned requirements and upon completion of 18 post-comprehensive credit hours, a doctoral student may qualify for a graduate research assistantship by enrolling in just one credit hour of PHCH 999 (Doctoral Dissertation). Students with student loans should check with their lending institution to insure that this is considered full-time enrollment by the Graduate School so that loans can continue to be deferred. Students should contact the director of graduate studies, who will provide a letter confirming the full-time status. In the unlikely event that these efforts fail to satisfy the funding agency, the student will enroll in the same number of credit hours/semester as required prior to the comprehensive examination.

### Any student not qualified as a GRA

To be considered full-time, students must enroll in 9 credit hours for spring and fall semesters and 6 credit hours in the summer. It is not necessary to enroll in either PHCH 899 (Master's Thesis) during the years before prelims nor is it necessary to enroll in PHCH 999 (Doctoral Dissertation) after prelims unless the total number of credits from coursework falls short of the credit limits. For the final semester (one semester only) this requirement may be waived, and the student may register for only 2 credits. However, it may be a requirement of financial aid recipients and foreign students to be enrolled on a full-time basis. Please consider this upon enrollment for the final semester.

## Late enrollment

Students who are late in their enrollment for classes will be responsible for any fees incurred.

## 8. INTERNSHIPS AND INTERNATIONAL STUDY OPPORTUNITIES

In addition to conventional study completed entirely at the department, students can potentially participate in the Takeru Higuchi and Nigel Manning Intersearch Program. This allows students to conduct a portion of their research at the Victorian College of Pharmacy (<http://www.vcp.monash.edu.au/>), which is a part of Monash University located in Melbourne, Australia. Ideally, the students select a surrogate advisor who specializes in an area of research outside that of the primary advisor, thus allowing for more breadth to their overall research project. There are no strict guidelines regarding the length of time for the experience; however, it has generally ranged from a few months to a year.

Any student in the program may participate in an internship at a pharmaceutical company after discussion with the student's research advisor. Participants in these programs have generally found the experiences to be extremely beneficial to their overall experience at KU.

## 9. ADDITIONAL DEPARTMENTAL POLICIES AND GUIDELINES

### a. Outside Student Employment

Students in the department receive a stipend that is very competitive compared to those of our peer institutions. It is only fair that the faculty expect hard work and dedication in return. Also, for a student to make acceptable progress, it is essential that they focus 100% of their efforts on their project. Outside employment not only takes away from time to study for classes and perform research in the lab but is also an additional obligation that interferes with the ability of the student to concentrate on his/her project. Considering the above, outside employment is highly discouraged.

### b. Scientific Meetings

Scientific meeting attendance is not to be taken for granted, i.e., attendance must be earned as a result of research effort. In general, sufficient research progress should be in hand to support a scientific presentation, and the researcher should present a polished abstract to the respective research advisor at least four weeks prior to the abstract submission deadline. Moreover, attendance at scientific meetings is considered an educational, work-related activity; as such, individuals should plan to arrive and leave within the specified period of the meeting and attend a significant percent of the sessions offered.

### c. Vacation and Holidays

The vacation policy of the department applies to all graduate students and post-doctoral fellows of the department in the same manner, regardless of any individual's source of funding (state funds, grants, contract, fellowships or government fellowships (scholarships)).

Each individual student is entitled to two (2) weeks of vacation per year plus the holidays determined by the state. **Spring break, fall break, the periods between the fall and spring semesters and the period between the spring and fall semesters (summer months) are not vacation or holiday periods.** Unless, using a portion of these periods as part of the two week of vacation period, students should always be aggressively initiating their research project during such periods. Due to potential interruption in the planning, conduct and interpretation of laboratory experiments, the student should explicitly discuss any planned absences with their research advisor and follow the established policy established by their individual advisor.

### d. Safety Regulations

Students are required to visit and are responsible for all content contained in the Environmental Health and Safety (EHS) website that pertains to the type of research they plan to conduct (no exceptions). The website address is <http://www.ehs.ku.edu/>. The EHS director is Mike Russell; his phone number and email address are 785-864-2854 and [mjrussell@ku.edu](mailto:mjrussell@ku.edu), respectively. In addition, students may contact Dr. Topp, who is the departmental lab safety officer, if they have questions pertaining to specific departmental polices/procedures that are not covered in the website. **Before any student begins work in the laboratory, it is essential that he or she visit the EHS website and arrange for the proper training.** Training to suit the type of activity that the student plans to perform in the laboratory must be completed. As can be seen on the website, there are special courses required for students planning to work with radioisotopes, highly infectious biological materials, lasers, etc. In addition, it should be noted that before a student ships anything, he/she should go to the website and contact the appropriate person regarding special procedures.

Ignorance of the safety information included on the website is not a valid excuse for making errors that could jeopardize the safety of the student or that of others. In addition, failure to adhere to these safety guidelines can result in very expensive fines that could come directly to the department.

### e. Academic and Scholarly Misconduct

Any student involved in academic or scholarly misconduct will be subjected to disciplinary action or termination from the program. For official institutional definitions, policies and procedures refer to following websites: School of Pharmacy (<http://www.pharm.ku.edu/index.php?page=content:policies>) and the University of Kansas (<http://www.policy.ku.edu/academic.shtml>).

## **f. Special Policies for International Students**

International students will be responsible for an International Student Service fee (i.e., \$15/semester). The department is not allowed to pay this fee.

International Student and Scholar Services (ISSS) now have the responsibility to report that international students have, in fact, enrolled each semester. Please read the guidelines in Appendix I for additional information

## **g. Student Participation in Departmental Activities**

Students have traditionally done an outstanding job in coordinating and/or helping with a variety of departmental activities ranging from “big events” such as coordinating GPEN to “smaller events” such as an ice-cream social. Regardless of the size of the event, student contributions are tremendously valued by the departmental faculty. However, it is clear to us that the distribution of student involvement in these has been tremendously unbalanced; typically, a handful of students take on the bulk of the work while many students do not contribute at all. It is important that the coordination and execution of these events (both big and small) be shared by all students. A partial list of such activities is listed below:

1. Recruiting: Assisting the Director of Graduate Studies and student leader with the process of recruiting new graduate students.
2. Company Visits: Students who have passed their preliminary exams are expected to participate in interviews with industrial representatives during their visits to the department.
3. Summer Undergraduate Research Program (URP): Graduate students should actively participate in the training of URPs as well as participate in all presentations given by them throughout the program.
4. Senior students are strongly encouraged to apply for and participate at the GPEN meeting that is conducted every two years (see Appendix V).

## **h. Equipment and Supplies Policies**

It is expected that all equipment will be treated with respect and it is the student's responsibility to report all malfunctions of shared departmental equipment to Nicole Brooks or to the owner if it belongs to a specific lab. The purpose of this regulation is to assure that the equipment is restored to proper function—not to assess blame. Students should always sign log books (if available) when using equipment and always ask for permission before using any instrument that does not belong to their group.

Likewise, students should never take or borrow reagents or supplies from another laboratory without first getting appropriate permission.

## **10. DEPARTMENTAL SERVICES**

### **a. Ordering**

Research supplies and equipment may be ordered through the accounting office located in room 110 McCollum by seeing Nicole Brooks. Each order form must be signed by the advisor. A departmental order form that can be copied for your convenience is found in Appendix VII. This office will also assist in locating sources of equipment, supplies, and services. All orders will be placed by personnel in the accounting office. NO orders are to be called in or authorized by individuals without prior approval from the accounting office (this includes in-town purchases, i.e., KU Bookstore, Westlake Hardware, etc.).

### **b. Copiers**

The copy machine is located in 104 McCollum Labs. Stationery supplies should not be taken from the offices; these should be ordered. The departmental copier should not be used for making copies of dissertations.

### **c. Laboratory Shipments**

Shipments are received in the hallway adjacent to the loading dock in the Simons building. See Richard Walker for any questions. He is always more than happy to help in whatever way he can. Dry ice can be obtained from the first floor of Simons in the hallway outside the stock room.

### **d. Keys**

Each student is issued a key to the outside doors of Simons Laboratories. Keys can be obtained in 107 McCollum. The student's KU ID will be used to access the departmental laboratories and instrument rooms. These are intended for the individual student's use only, and are not to be loaned to others. Contact Karen Hall for programming of the KU student ID card.

### **e. Access to Journals**

Current issues of several basic science and pharmaceutically related journals are located in the interaction area on the second floor in the Simons building. Bound journals are located throughout Simons and McCollum. Books and journals are not to be removed from their location except for very brief periods to copy materials.

### **f. Phone and Fax**

Laboratory phones are located throughout the building on the laboratory walls, but are for local or toll-free calls only. Long distance telephone calls may be placed from the departmental office (104 McCollum) when they are work related. Calls must be logged in. The fax machine is located in 108 McCollum and the log book must also be signed.

## APPENDIX I

### Advising International Students - Effective January 1, 2003

#### REPORTING ARRIVAL/No SHOWS

New students MUST report to ISSS and check in upon arrival. Failure to report to ISSS could result in the student being reported to the Immigration and Naturalization Service (INS) as a "No Show." ISSS must also notify the INS if a student fails to enroll in subsequent semesters. Students must be enrolled full time by the 20<sup>th</sup> day of classes in order for ISSS to report them as such.

#### MANDATORY FULL TIME ENROLLMENT

**International students are required to continually maintain full-time enrollment** between the 20<sup>th</sup> day of classes and the last day of finals. If an international student drops below full time without approval from ISSS for even one day, KU is required to report this to the INS. The student then loses legal status, and options for regaining legal status are now extremely limited.

#### Definitions of Full-Time Enrollment for Immigration Purposes

##### **GRADUATE STUDENTS**

- Generally 9 hours each fall and spring or
- 50% GRA + 6 hours or
- 40% GRA + 7 hours or
- 30% GRA + 8 hours or
- Any number of hours required by the department for a student who has completed all the required course work and is working on a thesis, dissertation, or equivalent.

##### **SUMMER TERMS**

- Summer enrollment is optional unless it is the student's first or final term.

## EXCEPTIONS TO THE FULL-TIME ENROLLMENT REQUIREMENT

There are a few approvable reasons for an international student to legally drop below full time. In order to legally drop below full time, an international student **must obtain permission from ISSS prior to withdrawing** from the class. If the approval is not obtained prior to dropping below full time, the student must be reported to the government as having dropped below full time.

A student may request permission to drop below full time for the following reasons. In such situations, ISSS will ask for an academic advisor's verification.

- Student's final term
- Initial difficulty with English language
- Initial difficulty with reading requirements
- Unfamiliarity with U.S. teaching methods
- Improper course level placement (including if student is unprepared or in jeopardy of failing)

Students are allowed to drop below full time only one semester per degree for any of the latter four academic reasons listed above.

## "INCOMPLETES"/PASS-FAIL/CREDIT-NO CREDIT

International students should not take "incompletes" in courses that are needed to meet the full-time enrollment requirement. For immigration purposes, receiving an "incomplete" grade in hours needed for full-time enrollment would have the same effect as withdrawing from the course. The student would then have violated legal status and KU would be required to report the student as under-enrolled. The same is true for a grade of "NC" (no credit). Students may count credit/no-credit courses toward full-time enrollment only if they earn credit ("CR") for the course. **NOTE:** grades of "P" and "F" do count toward full time enrollment.

## DISTANCE EDUCATION AND ONLINE COURSES (INCLUDING INDEPENDENT STUDY) LIMITS

Undergraduates and graduates may only count one distance education or on-line course (up to 3 hours) toward full-time enrollment. This includes all independent study courses taken through KU Continuing Education. Approval for any such classes **must be obtained from ISSS before the 20<sup>th</sup> day of classes**. There is no limit to the number of distance education hours taken in addition to full time enrollment. AEC students may not count any distance education or online courses count toward full time enrollment.

In addition to the one class (or 3 hour) limit, international students must complete such courses before the end of the semester for which the credit will be counted toward full-time enrollment. Continuing Education typically allows 9 months to complete a course, but international students must complete the course within the time frame of the semester in which the hours are needed for full-time enrollment.



## CONCURRENT ENROLLMENT ELSEWHERE

International students may take courses at two institutions simultaneously and have the combined enrollment count toward full time enrollment, but **must receive approval to do so from ISSS before the 20<sup>th</sup> day of classes.**

## TOTAL WITHDRAWAL FROM THE UNIVERSITY

If an international student needs to withdraw totally from KU, the student should **notify ISSS prior to dropping all classes.** If ISSS is notified beforehand, the student will be given a 15-day grace period to legally depart the U.S. If ISSS is not notified before the student fully withdraws, the student must leave the U.S. the same day of withdrawal or the student will become illegal.

## POSSIBLE DELAYS DURING TRAVEL OUTSIDE THE U.S.

If an international student travels outside the U.S. and will need a new visa to reenter, security checks will be run. Sometimes security checks clear within a day, but they can also take several months. A few students have waited up to seven months. Students need to understand the time risks involved in applying for a new visa, as nothing can be done to expedite a security check. Things that can trigger a more lengthy check include 1) having a name similar to someone on an alert list, 2) having criminal charges in the past, 3) having a major or research area that is included on the “technology alert list.” These areas are: ceramics; advanced computer/microelectronic technology; aircraft and missile propulsion and vehicular systems; chemical and biotechnology engineering; conventional munitions; high-performance metals and alloys; information security; lasers and directed energy systems; marine technology; materials technology; missile/missile technology; navigation and guidance control; nuclear technology; remote imaging and reconnaissance; robotics; and sensors.

## REPORTING THE COMPLETION DATE OF ALL DEGREE REQUIREMENTS

ISSS is required to report the date a student completes all requirements for a degree. INS does not consider the date a degree was conferred or the date of a graduation ceremony, so ISSS will need to know the specific date the department considers the student to have completed all degree requirements.

INS also requires an estimated date of completion for some types of work permission. ISSS will depend on the department to provide the expected date of completion. In these instances it is better to guess long rather than short. Predicting a completion date that turns out to be premature could be harmful to the student.

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We hope you agree that the enrichment and diversity international students bring to our campus outweighs the additional reporting burdens our government has placed upon us. We appreciate the role you play in helping students.

If you have any questions, please contact International Student and Scholar Services at 864-3617.

## IMPORTANT IMMIGRATION INFORMATION

### Incompletes

Previously ISSS announced that incompletes cannot count toward full-time enrollment for international students. This is still true; however, ISSS has implemented a system that will allow incompletes to be assigned temporarily without harming the student. ISSS has devised a short form that can be completed by the instructor awarding the "I". The form certifies the instructor will award a letter grade by the end of the following semester. Any letter grade (A, B, C, D, F) assigned will count toward full-time enrollment. For more information, please contact Joe Potts at [jpotts@ku.edu](mailto:jpotts@ku.edu) or Lynne Vanahill at [vanahill@ku.edu](mailto:vanahill@ku.edu).

### Awarding an Incomplete (I) to an international student

Federal regulations regarding F-1 and J-1 international students require they be full time each fall and spring semester. An "incomplete" cannot count toward full-time enrollment. Since a student can graduate without ever changing an "incomplete" to a letter grade, and KU is required to report if a student falls below full time, the office of International Student and Scholar Services is asking that the instructor assist the student below by completing this form.

Student's FAMILY name	Given name	KU ID
Course Number	Semester Enrolled	

I hereby certify that I will assign a letter grade for the course listed above for the above-mentioned student by the end of the semester immediately following the semester of enrollment.

Instructor's Signature	Date
Name printed	Phone
Department	E-mail

## APPENDIX II

### Globalization of Pharmaceuticals Education Network (GPEN), Inc.

GPEN, Inc. was founded in 1996 by the Department of Pharmaceutical Chemistry at The University of Kansas (Lawrence, KS) in cooperation with several educational institutions in Europe and Asia. The rationale for creating GPEN, Inc. was based on the fact that pharmaceutical and biotechnology companies, which hire the graduates of these educational institutions, had become highly globalized. Therefore, the founders of GPEN, Inc. felt that graduate students and postdoctoral fellows being trained at their institutions needed increased exposure to science and culture at an international level.

GPEN, Inc. was created for the sole purpose of fostering and facilitating international scientific exchange in the following areas of the pharmaceutical sciences:

- physical pharmacy
- bioanalysis
- animal and human biopharmaceutics, pharmacokinetics, pharmacodynamics, and pharmacogenomics
- cellular and molecular biopharmaceutics
- drug delivery
- drug targeting
- pharmaceutical biotechnology
- pharmaceutical engineering
- materials science
- computational and modeling approaches drug formulation and delivery.

Educational institutions holding membership in GPEN, Inc. have demonstrated research excellence in one or more of these areas of the pharmaceutical sciences. In addition, these institutions have a proven commitment to the training of predoctoral students and postdoctoral fellows for careers in universities, government institutions and pharmaceutical and biotechnology companies.

GPEN, Inc. specifically sponsors biannual meetings designed to foster and facilitate international scientific exchange in the pharmaceutical sciences:

- GPEN, Inc. works closely with host institutions in the organization of international meetings of the faculty, graduate students and postdoctoral fellows from the participating educational institutions. These meetings include two days of scientific presentations by graduate students and postdoctoral fellows and one day of short courses taught by the participating faculty. Selected industrial representatives are invited as observers. To date, GPEN, Inc. has sponsored the following meetings at the indicated universities:

- GPEN1996, The University of Kansas, Lawrence, KS
- GPEN1998, ETH, Switzerland
- GPEN2000, Uppsala University, Uppsala, Sweden

- GPEN2002, University of Michigan, Ann Arbor, MI
- GPEN2004, Kyoto University, Kyoto, Japan
- GPEN2006, The University of Kansas, Lawrence, KS

## **GPEN MEMBER INSTITUTIONS**

### **FULL MEMBERS**

ETH-Zurich  
 Hacettepe University  
 Hebrew University of Jerusalem  
 Katholieke Universiteit Leuven  
 Kyoto University  
 Monash University  
 Phillips University  
 Royal Danish School of Pharmacy  
 Saarland University  
 The University of Basel  
 The University of Colorado  
 The University of Connecticut  
 The University of Florida  
 The University of Kansas  
 The University of Kuopio  
 The University of Leiden  
 The University of Michigan  
 The University of Nebraska  
 The University of North Carolina  
 The University of Otago  
 The University of Queensland  
 The University of Southern California  
 The University of Tokyo  
 The University of Utah  
 Uppsala University  
 Utrecht University

### **ASSOCIATE MEMBERS**

Chulalongkorn University  
 Chungnam National University  
 Kanazawa University  
 Kumamoto University  
 The National University of Singapore  
 Paris-Sud  
 The University of Kentucky  
 The University of London  
 The University of Minnesota  
 The University of Manchester  
 The University of Maryland  
 The University of Washington  
 Setsunan University

### **NEWLY INVITED MEMBERS**

The University of California at San Francisco  
 The University of Geneva  
 The University of Helsinki  
 The University of Manitoba  
 The University of Sao Paulo  
 Purdue University  
 University of Missouri-Kansas City

## APPENDIX III

### Acknowledgement of Understanding & Acceptance of Policies & Obligations of the Department of Pharmaceutical Chemistry

By signing below I attest to have read and understood the contents of this handbook. Please be aware that the contents of the handbook are subject to change and students will be notified accordingly.

Name (printed): \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_