

**Department of Microbiology, Molecular Genetics and Immunology**  
**University of Kansas Medical Center**

**Graduate Student Handbook**

This handbook is designed to provide faculty and students with the policies of the department. It contains policies for students once they have joined the Department of Microbiology, Molecular Genetics and Immunology at the University of Kansas Medical Center (KUMC). It also serves as a guide to the program. All policies contained herein are up to date and approved by the Graduate Affairs Committee and Faculty as of December 2023. Questions regarding these policies should be directed to the Graduate Director and Associate Graduate Director.

**I. Student Admission**

The department accepts students by three paths:

- 1) Direct admission to a specific laboratory
- 2) Admission to the department (Department admission students)
- 3) Through the Interdisciplinary Graduate Program in Biomedical Sciences program (IGPBS admits)

**II. Department Admission Student Rotations**

The primary purpose of laboratory rotations is to identify an appropriate mentor for the dissertation research of the Ph.D. candidate. Lab rotations may also serve as a mechanism to learn new techniques or provide other training to complement the proposed dissertation research. Students that are admitted through the departmental admissions program will perform a minimum of two laboratory rotations. Students should contact faculty with whom they would like to rotate. Once identified, the Direct Admit Student Lab Rotation Form should be filled out, approved by appropriate parties, and filed with Graduate Program Administrator. While most students join in August, students may join early and do a rotation during the summer which satisfies one of the required rotations. The rotations can be taken any time during the first year. The length of the rotation is not set and can be adjusted to fit the student's and faculty's schedule but should be a minimum of 6 weeks. Once the minimum number of rotations has been met, students can do additional rotations or discuss joining a laboratory. Once a mutual agreement between the student and faculty is made for the student to join the laboratory, it must be approved by the Graduate Director and the Chair of the Department. This requires filing the Laboratory Decision form with the Graduate Program Administrator.

**III. Department Admission Student First Year Classes**

Students that are admitted through the departmental admissions program or directly to a laboratory will register for Research in Microbiology and the general IGPBS coursework, this includes:

Fall

GSMC 850, Proteins and Metabolism  
GSMC 852, Introduction to Biomedical Research  
GSMC 856, Introduction to Research Ethics  
GSMC 851, Molecular Genetics  
GSMC 857, Biographics  
MICR 835, Research in Microbiology

Spring

GSMC 853, Cellular Structure  
GSMC 854, Cell Communication  
GSMC 855, Introduction to Biomedical Research II  
MICR 835, Research in Microbiology

#### **IV. Departmental Course Requirements**

These requirements apply to all students regardless of the mechanism by which they join the department.

a. Two fundamental courses (taken Fall Semester after IGPBS courses)

- MICR 810 Fundamentals of Immunology
- MICR 811 Molecular Genetics of Bacteria & Phages
- MICR 812 Molecular Virology & Pathogenesis

b. Two advanced courses\*

- Usually, the first course is taken in the Spring Semester after Fundamental Courses
- The second course is generally taken after the Oral Comprehensive Exam

c. Four semesters of MICR 830 Seminar in Microbiology

\*Advanced courses from another department can be included pending approval from the Graduate Director

#### **V. Departmental Participation**

Students are required to attend seminars in the weekly Microbiology Seminar Series and the monthly departmental Work in Progress Series.

#### **VI. Comprehensive Exam**

The Comprehensive Exam consists of a written research proposal developed by the student followed by an oral defense (Oral Comprehensive Exam). As a first step, the student will develop a pre-proposal on any Microbiology or Immunology topic, including their planned or related research.

**Committee Membership.** The Graduate Director must approve the examination committee. The examination committee will consist of at least six members. The chair of the committee must be a faculty with a primary appointment in the department and cannot be the student's mentor. At least three members of the committee must have primary appointments within the department and at least one member must be from outside the department. This allows for at least 5 voting members for the committee. The student's PI is a non-voting member of the committee.

**Timetable.** The first step in the process is the submission of the pre-proposal. The pre-proposal must be submitted to the Comprehensive Exam Committee by July 31 following the student's second year, which generally places the Oral Comprehensive Exam during the Fall semester of their third year. Special permission from the Graduate Affairs Committee is required in advance if a student is unable to submit the pre-proposal by this deadline. Permission must include an explanation for the delay and a proposed timeline for submitting the pre-proposal. The Graduate Affairs Committee will evaluate special circumstances, such as medical leave, or department transfers on a case-by-case basis. The Comprehensive Exam can be taken earlier if so desired if it can be arranged.

**Pre-Proposal.** To begin the process students will write a pre-proposal. This pre-proposal should be limited to two pages, including figures and tables, and a graphical abstract that is no more than 25% of one page. The pre-proposal should contain references which do not contribute to the page limit. Each page should be single-spaced, with a left/right/top/bottom margin of 1/2", and a font size of 11 (Arial). The emphasis of the pre-proposal is to provide sufficient background to frame the hypothesis. This outline should include the specific aims and a brief outline of the experimental strategy. Be sure not to propose too many aims so that each aim can be explored in depth. Two or three specific aims are standard. The student's mentor can offer advice on the content of the aims if requested by the student, but the ideas and proposal must be written by the student and consist of their ideas.

Upon receipt of the pre-proposal, the Comprehensive Exam Committee will determine if the pre-proposal can be developed into a full proposal. An important part of this decision is whether a significant research problem has been identified.

The Committee will meet within **14 calendar days** after submission of the pre-proposal without the student present and make one of the following decisions:

1. Pre-proposal is suitable for development into a full proposal.
2. Pre-proposal is not suitable. The committee requests more detail on the pre-proposal or request a major rewrite of the pre-proposal. The Chair of the committee will summarize the suggestions of the committee and prepare a written statement for the student. The committee is encouraged to submit feedback directly to the student. The student can follow up with the chair of the committee (or other committee members) to discuss the comments. The committee's request must be honored within **14 calendar days** of the request.

When the committee re-reviews a revised or new pre-proposal, the committee can either accept the pre-proposal or allow another 14 calendar days to continue to revise the pre-proposal. If the student is unable to prepare an acceptable pre-proposal, the student may be dismissed from the Ph.D. program.

**Full Proposal.** The student will expand the pre-proposal approved by the committee into a full-length proposal. The full proposal is due within **45 calendar days** of notification that a pre-proposal is acceptable. The proposal should follow the NIH Guidelines for an F31 Fellowship. The proposed research should be capable of being completed by a graduate student in two years. Be sure to consider the expected results and alternative results for each experiment as well as the follow-up experiments for each possible result. Consider alternative approaches in case the first approach fails. An innovation section is not required.

*Recommended lengths for each section:*

- Specific aims: 1 page
- Research strategy: 6 pages total
  - Background and significance
  - Experimental design

When the written proposal is prepared, a copy is distributed to each member of the committee. The committee will discuss the proposal (either in a meeting or via e-mail/teleconference/video conference) to decide whether the proposal is suitable for the oral examination.

Following receipt of the full proposal, the committee will make one of the following decisions within **14 calendar days**:

1. The proposal is suitable. The student may schedule the exam.
2. The proposal requires revision. The committee will offer specific suggestions for the resubmission of the proposal. The chair of the committee will summarize the suggestions of the committee and prepare a written statement to guide the student. The student can follow up with the chair of the committee to discuss the comments. Students have **21 calendar days** from the date of receipt of the suggestions to re-submit the proposal to the committee. The committee will re-convene to evaluate the proposal. If further revisions are necessary, the student will have one more attempt to submit a satisfactory proposal, at the discretion of the committee. Failure to submit a satisfactory proposal may result in dismissal from the Ph.D. program.
3. The proposal is unsuitable. If the proposal is rejected, the student may be dismissed from the Ph.D. program.

**Oral Examination.** When the committee agrees that the proposal is suitable for examination, the student will schedule the Oral Examination. *At this point, (i.e. about 2 weeks before the examination), the Departmental Graduate Studies Director needs to be supplied with (i) the scheduled date of the exam, and (ii) a list of the faculty serving on the examination committee.* This time frame is required by the Graduate Studies Office to complete the required paperwork.

The student will prepare no more than 20 PowerPoint slides without animations. The slides can introduce the biological problem, briefly outline the Specific Aims, and summarize the approaches to answer the aims. The meeting will proceed with the student initiating a presentation of the slides and the Comprehensive Exam Committee will ask questions throughout the exam. The questions from the committee may be general knowledge questions or those based on the proposal, including relevant background material, techniques, and concepts that are relevant to the proposal. If the exam continues

past three hours, the student has the right to terminate the questioning without negative consequence on the committee's decision. After the examination, the student will be excused from the room while the committee deliberates.

The committee will report the following results:

1. Satisfactory: The student passes, needing a simple majority vote.
2. Unsatisfactory:
  - a. The student may be re-examined on the same proposal in no less than 90 days at the discretion of the committee. If necessary, a second re-examination is allowed. The student must pass the re-examination in order to remain in the Ph.D. program.
  - b. Fail the student; the student is dismissed from the Ph.D. program.

**Dismissal from the Ph.D. Program.** Per department dismissal policy, if at any stage, the committee decides that a student shall be dismissed from the Ph.D. program, the student may be allowed to continue to work toward a master's degree if mutually agreed upon by the student and the department.

The student is encouraged to meet with the chair of the examining committee for procedural advice at any time during preparation of the pre-proposal or full proposal.

## **VII. Research Committee**

Students must form a Research Committee. This takes place within a month after the successful completion of the Comprehensive Oral Exam. If the student would like to form their committee sooner, they can in order to have a Research Committee meeting the semester prior to the start of the Comprehensive Exam process. This Committee meets with the students every 6-12 months with the goal of guiding the student, providing feedback on their research, and keeping the student on track.

**Research Committee Membership.** The Research Committee will consist of at least five members. The chair of the committee must have a primary appointment in the department and cannot be the student's mentor. A majority of the committee must have primary appointments within the department and at least one member must be from outside the department. The committee membership must be approved by the Graduate Director.

**Research Committee Meetings.** The Research Committee must meet a minimum of three times, unless waived by the Graduate Director. The first meeting of the committee should occur within 3 months of completion of the Oral Comprehensive Examination. Thereafter, annual meetings of the committee will be held unless the Research Committee members recommend more frequent meetings to evaluate progress, or the student requests a meeting.

To start the meeting, the student should provide a timeline of their graduate career, highlighting major milestones, awards, and meetings attended. In addition, the student should address comments received after the previous meeting. The student should note the progress made since the last committee meeting.

**Permission to Write Meeting.** As the student proceeds through the program, a point will be reached when the Research Committee feels that the student is close to completion. This discussion will occur at a regularly scheduled committee meeting. At this meeting, the Research Committee will give permission for the student to start writing their Dissertation and register for MICR999: Dissertation for Ph.D. in Microbiology. At that meeting, the Research Committee should also outline the experiments, papers, etc. that still must be completed prior to the Dissertation Defense.

## **VIII. Dissertation**

Completing a Ph.D. has two components: a written Dissertation and the Dissertation Defense.

**Dissertation Committee.** The Dissertation Committee should consist of the Research Committee and will meet only when the Research Committee approves the student's intent to defend and permission to register for MICR999. The chair of the Dissertation Committee is the student's mentor.

**Dissertation and Timing.** Students must write a Dissertation in compliance with the rules of the Office of Graduate Studies. The Dissertation must be provided to the Dissertation Committee 7 weeks prior to the

intended Dissertation Defense date. The Dissertation Committee will have 3 weeks to determine if the Dissertation is sufficiently satisfactory to move forward with the oral Dissertation Defense. Individual Dissertation Committee members will provide the student at this time with requested/required changes to the Dissertation which must be addressed prior to the submission to the Graduate Director for approval (this may be finished after the oral Dissertation Defense).

**Dissertation Defense.** Following approval to schedule the oral Dissertation Defense, the student will notify Graduate Program Administrator who will notify the Office of Graduate Studies. The oral Dissertation Defense can be scheduled no less than 4 weeks after notification of approval to schedule.

The oral Dissertation Defense will consist of two parts. First, the student will present a public seminar that conveys the key findings of the Dissertation. After the seminar, the student and Dissertation Committee will meet for a question-and-answer session.

**Dissertation Approval.** After the student makes any corrections to the written Dissertation, they must provide it to any faculty that have requested changes. Each committee member must notify the Graduate Director that they approve the Dissertation before approval can be communicated to the Graduate School.

### **IX. Paper Requirement**

Doctoral candidates are expected to conduct original research, prepare a written dissertation consistent with the guidelines of the Office of Graduate Studies, and defend the dissertation in a final oral examination. In addition, a student must have a minimum of A) one accepted sole first author research publication or B) a submitted sole first author research publication if they have already published a co-first author research publication. While the paper requirements are a minimum, a single paper may not be sufficient.

### **X. Individual Development Plan**

Students and their mentors must fill out and discuss an Individual Development Plan (IDP) annually. A signed copy of the form must be provided to both the student and their mentor. An additional copy should also be provided to Graduate Program Administrator. The current departmental IDP can be found on the department's website.

### **XI. Vacation Time**

Graduate students are permitted 10 days of vacation per calendar year in addition to days in which KUMC is closed. These 10 days reset on January 1<sup>st</sup>. Any vacation time requested that is more than 3 consecutive days must be approved by the student's mentor in writing. The vacation request must be submitted to the mentor at least 2 weeks in advance. Additional time off is at the discretion of the mentor.

### **XII. Paid Parental leave**

Students are subject to the Paid Parental Leave Guidelines of KUMC. See the Office of Graduate Studies website for specific information. The student should communicate with the Office of the Dean of Graduate Studies, the mentor, and the administrative staff of the department about paid parental leave as early as possible before the leave is taken.

### **XIII. Exceptions**

Any request for deviations from the policies listed above should be approved by the Graduate Director, the Graduate Affairs Committee, or Research Committee as listed or as appropriate.

### **XIV. Grievances**

While most concerns can be rectified by advisement from the mentor, at times this is either ineffective or inappropriate. In that case, it is recommended that the student reach out to the Associate Graduate Director, Graduate Director, or Department Chair. If necessary, the Dean of Graduate Studies may need to be contacted. All communications are confidential.