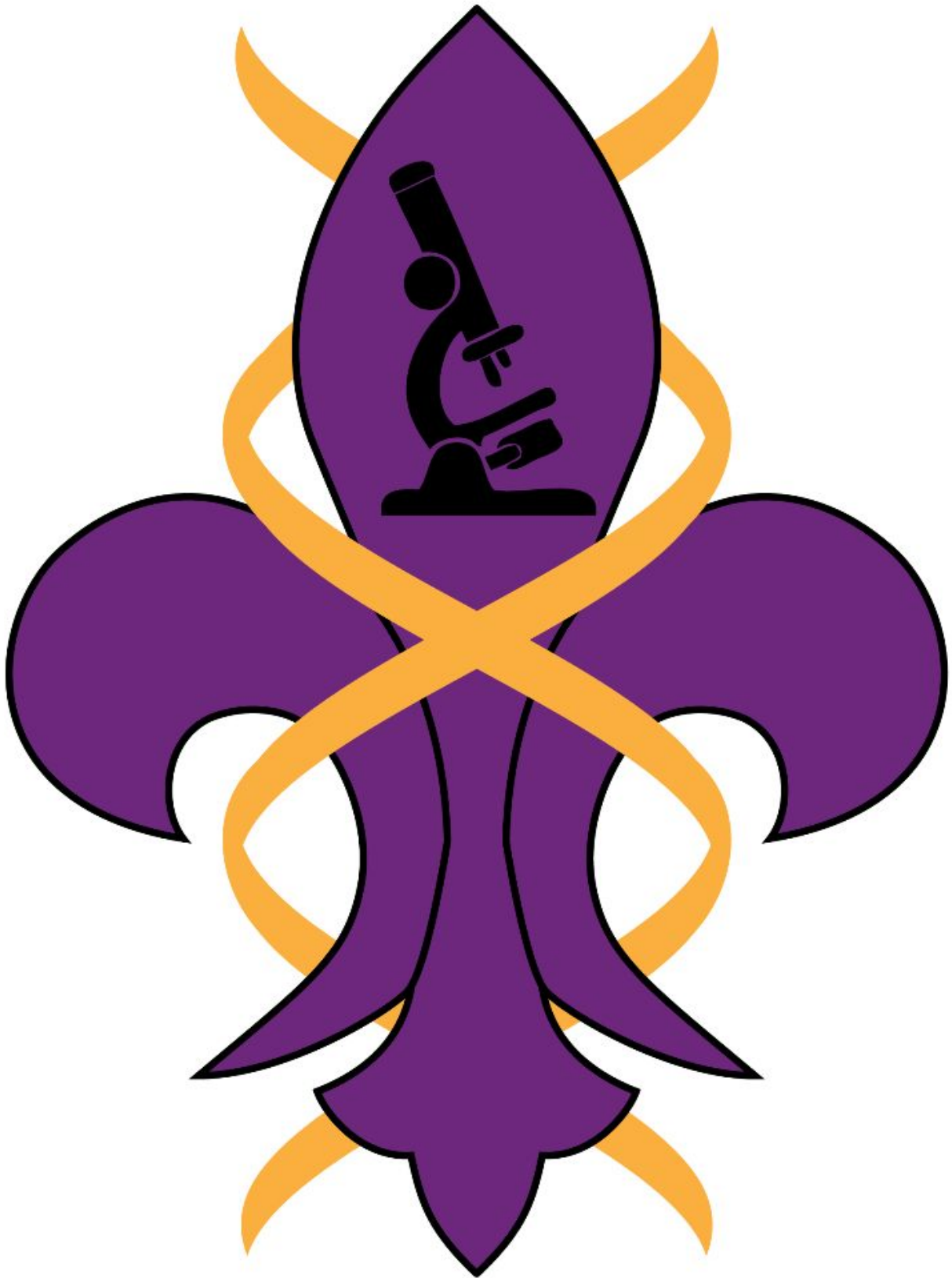


Department of Microbiology, Immunology, and Parasitology

Graduate Student Manual



**TABLE OF CONTENTS**

I.	Department personnel		
	A. Departmental Administration	.....	3
	B. Departmental Faculty	.....	3
II.	Graduate Student Requirements		
	A. Coursework	.....	5
	B. Assessment	.....	6
	C. Laboratory Rotations	.....	6
	D. Dissertation Committee	.....	7
	E. Seminar/Journal Club	.....	8
	F. Qualifying Examination	.....	9
	G. Preliminary Examination	.....	9
	H. Manuscripts	.....	9
	I. Final Examination	.....	9
III.	Graduate Student Checklist	.....	11
IV.	Appendices		
	1. Course Requirements and Sample Curriculum - PhD students	.....	13
	2. Course Requirements and Sample Curriculum - MD/PhD & IDP students	....	15
	3. Qualifying Exam Instructions	.....	17
	4. Preliminary Exam Instructions	.....	18
	Rotation Forms Part I and Part II - Sample		
	Dissertation Committee Form - Sample		

**I. Departmental Administration****Dr. Alistair Ramsay**

Department Head  
[aramsa@lsuhsc.edu](mailto:aramsa@lsuhsc.edu)  
 (504) 568-8324

**Dr. Angela Amedee**

Graduate Student Coordinator  
[aamede@lsuhsc.edu](mailto:aamede@lsuhsc.edu)  
 (504) 568-5608

**Doug Johnston, PhD**

Graduate Student Coordinator  
[djoh13@lsuhsc.edu](mailto:djoh13@lsuhsc.edu)  
 (504) 568-4071

**Dr. Joy Sturtevant**

Graduate Student Coordinator  
[jsturt@lsuhsc.edu](mailto:jsturt@lsuhsc.edu)  
 (504) 568-6116

**Jonna Ellis**

Department Business Manager  
[Jelli1@lsuhsc.edu](mailto:Jelli1@lsuhsc.edu)  
 (504) 568-6113

**Tammy Waltz**

Department Coordinator  
[twaltz@lsuhsc.edu](mailto:twaltz@lsuhsc.edu)  
 (504) 568-4064

**II. Departmental Faculty****Primary Appointment in MIP****Ashok Aiyar, PhD**

Associate Professor  
[aaiyar@lsuhsc.edu](mailto:aaiyar@lsuhsc.edu)  
 (504) 568-4072

**Angela Martin Amedee, PhD**

Professor  
[aamede@lsuhsc.edu](mailto:aamede@lsuhsc.edu)  
 (504) 568-5608

**Jennifer Cameron, PhD**

Research Assistant Professor  
[Jcame2@lsuhsc.edu](mailto:Jcame2@lsuhsc.edu)  
 (504) 568-2196

**Timothy P. Foster, PhD**

Associate Professor  
[tfoste@lsuhsc.edu](mailto:tfoste@lsuhsc.edu)  
 (504) 568-4075

**Jeffery A. Hobden, PhD**

Associate Professor  
[jhobde@lsuhsc.edu](mailto:jhobde@lsuhsc.edu)  
 (504) 568-4077

**Doug Johnston, PhD**

Research Assistant Professor  
[djoh13@lsuhsc.edu](mailto:djoh13@lsuhsc.edu)  
 (504) 568-4071

**Ben Kelly, PhD**

Associate Professor  
[bkell2@lsuhsc.edu](mailto:bkell2@lsuhsc.edu)  
 (504) 568-6115

**Pamela A. Kozlowski, PhD**

Associate Professor  
[pkozlo@lsuhsc.edu](mailto:pkozlo@lsuhsc.edu)  
 (504) 568-6956

**Meng Luo, PhD**

Research Instructor  
[mluo2@lsuhsc.edu](mailto:mluo2@lsuhsc.edu)  
 (504) 568-3336

**Alison J. Quayle, PhD**

Professor  
[aquayl@lsuhsc.edu](mailto:aquayl@lsuhsc.edu)  
 (504) 568-4070

**Alistair J. Ramsay, PhD**

G. John Buddingh Professor and Head  
[aramsa@lsuhsc.edu](mailto:aramsa@lsuhsc.edu)  
 (504) 568-8324

**Li Shen, MD, PhD**

Associate Professor  
[lshen@lsuhsc.edu](mailto:lshen@lsuhsc.edu)  
 (504) 568-4076

**Joy Sturtevant, PhD**

Associate Professor  
[jsturt@lsuhsc.edu](mailto:jsturt@lsuhsc.edu)  
 (504) 568-6116

**Christopher Taylor, PhD**

Associate Professor  
[Ctay15@lsuhsc.edu](mailto:Ctay15@lsuhsc.edu)  
 (504) 568-4065

**Guoshun Wang, DVM, PhD**

Professor  
[gwang@lsuhsc.edu](mailto:gwang@lsuhsc.edu)  
 (504) 568-7908

**Ping Wang, PhD**

Professor, Pediatrics & MIP  
[pwang@lsuhsc.edu](mailto:pwang@lsuhsc.edu)  
 (504) 568-2446

**Hong Xin, MD, PhD**

Associate Professor, Pediatrics & MIP  
[hxin@lsuhsc.edu](mailto:hxin@lsuhsc.edu)  
 (504) 568-8121

**Arnold H. Zea, PhD**

Research Associate Professor  
[azea@lsuhsc.edu](mailto:azea@lsuhsc.edu)  
 (504) 599-0906

**Joint/Adjunct Faculty**

**Luis Del Valle, MD**

Associate Professor of Pathology and MIP  
S. Stanley Scott Cancer Center  
[ldelva@lsuhsc.edu](mailto:ldelva@lsuhsc.edu)  
(504) 568-2279

**Paul Fidel, Jr., PhD**

Professor of Oral & Craniofacial Biology  
and MIP  
LSU School of Dentistry  
[pfidel@lsuhsc.edu](mailto:pfidel@lsuhsc.edu)  
(504) 941-8425

**Julio E. Figueroa, MD**

Professor of Medicine and MIP  
[jfigue@lsuhsc.edu](mailto:jfigue@lsuhsc.edu)  
(504) 599-1457

**Michael Hagensee, MD, PhD**

Professor of Medicine and MIP  
[mhagen@lsuhsc.edu](mailto:mhagen@lsuhsc.edu)  
(504) 210-3324

**Mairi C. Noverr, PhD**

Professor of Prosthodontics  
and MIP  
LSU School of Dentistry  
[mnover@lsuhsc.edu](mailto:mnover@lsuhsc.edu)  
(504) 941-8055

**Francesca Peruzzi, PhD**

Associate Professor of Medicine and MIP  
S. Stanley Scott Cancer Center  
[fperuz@lsuhsc.edu](mailto:fperuz@lsuhsc.edu)  
(504) 210-2978

**Om Prakash, PhD**

Adjunct Associate Professor of MIP  
S. Stanley Scott Cancer Center  
[opraka@lsuhsc.edu](mailto:opraka@lsuhsc.edu)  
(504) 568-5755

**Krzysztof Reiss, MD**

Professor of Medicine and MIP  
S. Stanley Scott Cancer Center  
[kreiss@lsuhsc.edu](mailto:kreiss@lsuhsc.edu)  
(504) 210-2977

**Judd E. Shellito, MD**

Lowenstein Professor of Medicine  
Pulmonary and Critical Care Medicine  
Professor, MIP  
[jshell@lsuhsc.edu](mailto:jshell@lsuhsc.edu)  
(504) 568-4634

**David Welsh, MD**

Associate Professor of Medicine and MIP  
Pulmonary and Critical Care Medicine  
[dwelsh@lsuhsc.edu](mailto:dwelsh@lsuhsc.edu)  
(504) 568-4634

**Ze Zhang "Tom" Wen, PhD**

Associate Professor of Comprehensive Dentistry  
and Biomaterials and MIP  
LSU School of Dentistry  
[zwen@lsuhsc.edu](mailto:zwen@lsuhsc.edu)  
(504) 941-8465

**DEPARTMENT OF MICROBIOLOGY, IMMUNOLOGY, AND PARASITOLOGY**

**Outline of Graduate Student Requirements**

	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4/5</b>
<b>Coursework</b>	+	+		
<b>Rotations</b>	+			
<b>Seminar</b>	+	+	+	+
<b>Analysis of Research Lit/Journal Club</b>	+	+	+	+
<b>Dissertation Research</b>	+	+	+	+
<b>Dissertation Committee Selection</b>		+		
<b>Dissertation Committee Meetings</b>		+	+	+
<b>Qualifying Exam</b>		+		
<b>Preliminary Exam</b>			+	
<b>Final Examination</b>				+

**A. COURSEWORK**

**YEAR 1:**

**FALL**

INTER 111	Biochemistry
INTER 121	Cell Molecular Biology A
INTER 122	Cell Molecular Biology B
MICRO 224	Introduction to Microbial Pathogenesis
MICRO 228	Lab Rotations in Microbiology
MICRO 229	Analysis of Research Literature
MICRO 298	Seminar in Microbiology
INTER 220	Ethics in Biomedical Sciences

**SPRING**

MICRO 225	Advanced Medical Bacteriology
MICRO 276	Gen & Molecular Virology
MICRO 296	Fundamentals in Immunology
MICRO 228	Lab Rotations in Microbiology
MICRO 229	Analysis of Research Literature
MICRO 298	Seminar in Microbiology

**SUMMER**

MICRO 300	Thesis Research
-----------	-----------------

**YEAR 2****FALL**

MICRO 231	Molecular Biology of Eukaryote Pathogens
MICRO 250	Advanced Microbial Pathogenesis
MICRO 229	Analysis of Research Literature
MICRO 298	Seminar in Microbiology

INTER 260	Responsible Conduct in Research
-----------	---------------------------------

**SPRING**

MICRO 229	Analysis of Research Literature
MICRO 298	Seminar in Microbiology

More detailed explanations of coursework requirements and sample curricula for registration are shown in **Appendices 1 and 2**.

Students must complete at least 60 credits; 30 credits graded. Students can receive a maximum of 15 credits for thesis research (MICRO 300/400), 4 credits each for Analysis of Research Literature (MICRO 229) and Seminar in Microbiology (MICRO 298).

**B. ASSESSMENT**

**Coursework Assessment:** Students may be dismissed from the program if:

- Their grade point average is below 3.0 at the end of any semester
- They receive two grades below 'B'

**Additional Assessments:**

- In addition to coursework, students will be assessed during lab rotations, seminars, journal clubs, biannual committee meetings, and qualifying and preliminary examinations. These assessments will document research abilities, critical thinking and work ethic.
- Failure to make satisfactory progress in any of these areas, in the view of the mentor, may be grounds for dismissal. If this situation arises, it will be discussed first with the Department Head.

**C. LABORATORY ROTATIONS****Year 1**

During the first year students will participate in three lab rotations each of approximately 11 weeks duration:

- September – mid November
- Mid November – mid February
- Mid February - May
- Specific dates will be set each year

**Minimal Expectations of Students During Rotation**

- 20+ hours a week for rotation, including after hours and weekends as necessary
- Students must respect the schedule arranged for them by their rotation supervisor
- Written reports from the rotation supervisor will be required at the commencement and conclusion of each rotation on forms provided.

- When the student enters the laboratory, the mentor and student will agree on and complete “Rotation Form I” describing reasonable goals for the rotation. (See back of manual for rotation forms). The form will then be submitted to [mipgrad@lsuhsc.edu](mailto:mipgrad@lsuhsc.edu).
- At end of the rotation: the mentor and student will agree on accomplishments and techniques achieved by the student and to what level the goals were reached.
- At the end of the rotation: the mentor will complete “Rotation Form II” and submit this to [mipgrad@lsuhsc.edu](mailto:mipgrad@lsuhsc.edu). The form will be placed in the student file.
- Students will receive a grade of satisfactory or unsatisfactory for each rotation.
- Students can be dismissed from the program due to unsatisfactory performance in lab rotations.
- Students will finalize a lab/mentor for their PhD study before June 1 in their first year.
- Students will work full time on their dissertation project during the summer between year 1 and 2.

## **D. COMMITTEE MEETINGS**

### **YEAR 2**

#### **DISSERTATION COMMITTEE**

- At the beginning of the second year of graduate study, the student and mentor will select a Dissertation Committee.
- The membership of the Committee must be approved by the Department Head.
- The Committee will comprise at least 5 Graduate Faculty Members of LSUHSC including:
  - A. At least 3 LSUHSC-MIP Graduate Faculty including mentor,
  - B. At least 1 non-MIP LSUHSC Graduate Faculty (note A + B must equal at least 5).
 The addition of a faculty member external to LSUHSC is encouraged.
- The completed Dissertation Committee form is submitted to [mipgrad@lsuhsc.edu](mailto:mipgrad@lsuhsc.edu) (see back of manual for this form).

#### **COMMITTEE MEETINGS**

- At the beginning of the second year of graduate study, the student and mentor will select a dissertation committee.
- At the first committee meeting, the committee will elect a chairperson (not the mentor), who is responsible for the conduct of committee meetings and finalization of meeting reports.
- Committee meetings will be held at least once every 6 months.
  - Regular committee meetings are held for the duration of the student’s membership of the MIP graduate program, including after the preliminary exam.
  - The student is responsible for setting the time and location of each meeting, preferably via a Doodle poll or direct contact with committee members.
  - MIP graduate students present a research seminar each year - ideally, one of the 6-monthly committee meetings is scheduled for directly after the seminar.
- The student must provide a report to all committee members **at least 3 days before each committee meeting**, including:
  - a ‘specific aims-style’ document of one page in length, including a short introduction of the subject area; the significance of project, and the specific aims of project. This document should be in NIH style, but can be less formal, e.g. can be in bulleted form.

- a 1 to 2-page progress report describing the work accomplished since the previous meeting. This must address each of the 6-month goals stated in the previous committee report and should NOT be replaced by a copy of any powerpoint/seminar presentation.
  - goals for the next 6-month period.
- As soon as possible **after each committee meeting**, a report will be prepared, including an assessment of:
    - the level of understanding of the project and methodologies as reflected by the ability of the student to present and discuss all aspects of the work.
    - satisfactory completion of 6-month goals (or appropriate effort being made).
    - goals and expectations for next 6-month period.
    - the potential of the work for publication.

The preparation of the committee meeting report is coordinated by the committee chair. The report is finalized after agreement of the committee and is discussed with the student and mentor. Copies of the report are emailed to the student, the mentor and mipgrad@lsuhsc.edu

### YEARS 2 – 5

- Committee meetings should occur at least every 6 months.
- Written requirements of the student prior to each meeting, and meeting reports, are as above.

If the committee believes that the student is not making appropriate effort towards the defined 6-month goals at two consecutive committee meetings, then this may represent sufficient reason for dismissal of the student from the program. If this situation arises, it will be discussed first with the Department Head.

### E. SEMINAR/JOURNAL CLUB

#### ALL YEARS

##### **Seminar**

- **Attendance at MIP departmental seminars and dissertation defense seminars is mandatory for all MIP graduate students.**
- Each student is required to present work in progress at the departmental seminar series once during each calendar year of enrollment.
  - Year 1 students will present work from a rotation, typically near the end of the Spring semester.
- Dissertation Committee meetings should ideally be scheduled for immediately after the seminar and should include discussion of the seminar presentation with the student.

##### **Graduate Journal Club (MICRO 229)**

- All students are required to attend and participate in the *Analysis of Research Literature* course (MICRO 229) in every semester that it is offered throughout their PhD studies. This course comprises journal club presentations and discussion.
- Students are also encouraged to participate in a 'discipline-based' journal club within the department if not engaged in this activity during regular meetings of their own laboratory.
- Participation in Analysis of Research Literature course and journal clubs will be discussed at dissertation committee meetings.



## **F. QUALIFYING EXAMINATION**

### **YEAR 2**

- Students will take the qualifying exam before the end of year 2. The qualifying exam and instructions are described in detail in **Appendix 3**.
- At the completion of the oral examination, the Qualifying Examination Committee will discuss student performance and determine if the student passed or failed.
- If the student passes, he/she receives approval to continue with his/her Ph.D. research project.
- If the student fails, the committee may provide the option to retake the exam. If the committee does not provide the option to retake the exam, the student may continue in the program to obtain a MS degree (Masters in Biomedical Science). The option to re-take the exam after the completion of a MS degree may be provided after further discussion with the mentor, department head, and committee.

## **G. PRELIMINARY EXAMINATION**

### **YEAR 3**

- According to Graduate School policy, the student must pass the preliminary exam at least one academic year (3 consecutive semesters) before the final defense examination.
- Students are required to take the preliminary exam by the end of their 3<sup>rd</sup> year.
- The preliminary exam and instructions are described in more detail in **Appendix 4**.
- A completed, typed 'REQUEST FOR PRELIMINARY EXAMINATION FORM' should be sent to the Graduate School at least 2 weeks prior to the examination date.
- A report of the outcome of the preliminary exam is written up by the Committee Chair, distributed to committee members for comment, and the final draft then sent to [mipgrad@lsuhsc.edu](mailto:mipgrad@lsuhsc.edu) and filed in the student records.
- A completed 'REPORT OF PRELIMINARY EXAMINATION FORM' must be sent to the Dean of the School of Graduate Studies following completion of the committee's recommendation.

### **YEAR 4**

- Register for MICRO 299 (Grant Proposal in Microbiology) in the semester after the preliminary examination is completed.

## **H. MANUSCRIPTS**

### **YEARS 3-5**

- Outlines of manuscripts to be submitted for publication should be discussed at committee meetings.
- It is desirable that a manuscript for publication in a peer-reviewed journal and pertaining to dissertation work is in draft form (or submitted) by the time of the preliminary examination.
- Acceptance for publication of a minimum of one manuscript pertaining directly to the dissertation work in a peer-reviewed journal is required for graduation.
- Exceptions are possible with the permission of the Department Head. These include:
  - Manuscript submission delayed by patent application.
  - Article submitted and reviewed, but requires revision.
  - In such instances, the student must submit a draft manuscript to the dissertation committee.

**I. FINAL EXAMINATION****YEAR 4/5**

- Guidelines for writing the dissertation can be found at:  
<http://graduatestudies.lsuhsu.edu/DissertationGuidelines.pdf>
- A completed 'REQUEST FOR DISSERTATION DEFENSE FORM' and a copy of the Dissertation Abstract must be received by the Graduate School at least two weeks prior to the defense date.
- Copies of the Dissertation must also be circulated to the dissertation committee at least two weeks prior to the defense date.
- A seminar on the contents of the dissertation (public defense) will be presented at the time of the dissertation defense.
- The seminar must be publicized at least two weeks prior to the examination date with the scheduled time and location.
- The committee will conduct the examination based on the contents of the dissertation and matters pertaining to the dissertation and will then decide by vote if the student has passed. Two or more negative votes will constitute a basis for failure of the examination.
- If the committee determines that the student has passed the examination, but that corrections to the dissertation are necessary, the student is given a limited amount of time to make these corrections. Committee members may agree to leave final approval of corrections to the major professor, or may require to see the corrected dissertation.
- The major professor and student will have the DISSERTATION FINAL EXAMINATION REPORT Form ready for committee members to sign upon completion of the final examination. Committee members will sign this form to indicate pass or failure of the exam at the meeting. However, the Department Head will sign this form only after notification that final corrections, if any, have been made to the satisfaction of the committee and/or major professor.

## MIP GRADUATE STUDENT CHECKLIST

### YEAR 1: SUMMARY CHECKLIST

- Complete coursework and maintain  $\geq 3.0$  average
- Complete 3–4 lab rotations with satisfactory review from faculty
- Choose a laboratory for PhD research program
- Present a MIP seminar based on work in progress
- **FORM CHECKLIST for Student Record folders**
  - Lab rotation I Part I and Part II
  - Lab rotation II Part I and Part II
  - Lab rotation III Part I and Part II
  - Lab rotation IV Part I and Part II (optional)
  - Seminar critique
  - Selection of mentor

### YEAR 2: SUMMARY CHECKLIST

- Complete coursework and maintain  $\geq 3.0$  average
- Finalize dissertation committee
- Pass qualifying exam
- Presentation of seminar in MIP
- Presentation at MIP journal club
- Commence committee meetings
- **FORM CHECKLIST for Student Record folder**
  - Dissertation Committee member list
  - Report/summary of qualifying exam by qualifying committee chair
  - Report of 1<sup>st</sup> committee meeting
  - Seminar critique

### YEAR 3: SUMMARY CHECKLIST

- Dissertation Committee meeting at least once every 6 months
- Preliminary examination
- Presentation of seminar in MIP
- Presentation at MIP journal club
- **FORM CHECKLIST for Student Record Folder**
  - Summary report of result of preliminary exam by mentor for committee and student
  - Report of committee meeting year 3 (1)
  - Report of committee meeting year 3 (2)
  - Seminar critique
- **FORM CHECKLIST for School of Graduate Studies**
  - Request for exam form two weeks before exam
  - Report of Preliminary Examination signed by committee

## YEARS 4/5: SUMMARY CHECKLIST

- Dissertation Committee meeting at least once every 6 months
- Presentation of seminar in MIP each year
- Presentation at MIP journal club each year
- Submission of at least one manuscript to peer reviewed journal
- **FORM CHECKLIST for Student's Record Folder**
  - Report of committee meeting year 4 (1)
  - Report of committee meeting year 4 (2)
  - Report of committee meeting year 5 (1)
  - Report of committee meeting year 5 (2)
  - Seminar critique year 4
  - Seminar critique year 5
- **FORM CHECKLIST for DISSERTATION DEFENSE**
  - Request for Dissertation Defense and Abstract to School of Graduate Studies two weeks prior to defense
  - Dissertation Seminar Title, location publicly advertised school-wide two weeks prior to defense
  - Dissertation distributed to committee two weeks prior to defense
  - Dissertation completion (pass) paperwork submitted to School of Graduate Studies;
  - Submit corrected dissertation to School of Graduate Studies

**APPENDIX 1: Course Requirements and Sample Curriculum for MIP Department PhD Students**

Course Title	Course Number	Number of Credits	Graded	Additional Notes
Biochemistry	INTER 111	4	4	
Cell and Molecular Biology A	INTER 121	3	3	
Cell and Molecular Biology B	INTER 122	3	3	
Ethics in Biomedical Sciences	INTER 220	1‡		
Responsible Conduct in Research	INTER 260	1‡		
Laboratory Rotations in Microbiology	MICRO 228	6‡		
Intro to Microbial Pathogenesis	MICRO 224	3	3	Minimum grade of B is required
Fundamentals in Immunology	MICRO 296	3	3	
Advanced Medical Bacteriology	MICRO 225	3	3	
Mol Biol Pathogenic Eukaryotes	MICRO 231	3	3	
General and Molecular Virology	MICRO 276	3	3	
Adv Microbial Pathogenesis*	MICRO 250	0-3	0-3	At least <b>3 graded</b> credits from these are required.
Selected Topics in Microbiology†	MICRO 281	0-6	0-6	
Approved Electives		0-3	0-3	
Research Proposal in Microbiology†	MICRO 299	3	3	If sufficient graded credits, can be P/F
Seminar in Microbiology	MICRO 298	4‡		Only 4 credits go toward graduation; students must attend every semester
Analysis of Research Literature	MICRO 229	4‡		Up to 4 credits are possible; students must attend every semester
Thesis and Dissertation Research	MICRO 300 and 400	15‡		Only 15 credits go toward graduation
60 credits required for graduation		<b>62-70</b>	<b>31-40†</b>	30 graded credits are required

\* In some years these courses may not be offered. MICRO 250 is a required course when offered in student's second year in the department.

† Selected Topics may be offered as graded or pass/fail.

‡ Non-graded; maximum number of credits that can be received

## Suggested electives:

INTER 143 Experimental Design and Analysis	2 credits	March 30 – May 9 (T,Th)
INTER 141 Genetics	2 credits	Jan 3 – Feb 9 (T,Th)
INTER 142 Pharmacology	2 credits	Feb 14 – March 28 (T, Th)
BIO 6100 Biostatistical methods	4 credits	
BIOCH 299 Professional Skills-Graduate Students	1 credit	Spring (not graded)

**SAMPLE CURRICULUM FOR REGISTRATION FOR MIP GRADUATE PROGRAM (Ph.D.)****Fall – year 1 (15 credits; 12 credits letter grade)**

INTER 111	Biochemistry	4 credits	Grade
INTER 121	Cell & Mol Biol A	3 credits	Grade
INTER 122	Cell & Mol Biol B	3 credits	Grade
MICRO 224	Introduction to Microbial Pathogenesis	3 credits	Grade
MICRO 228	Laboratory Rotations	1 credits	Pass/Fail
INTER 220	Ethics in Biomedical Sciences	1 credit	Pass/Fail

**Satisfactory progress:** GPA  $\geq$  3.0; >B in MICRO 224 and satisfactory review from laboratory rotation

**Spring – year 1 (12 credits; 9 credits letter grade)**

MICRO 225	Advanced Medical Bacteriology	3 credits	Grade
MICRO 276	Gen & Molecular Virology	3 credits	Grade
MICRO 296	Fundamentals in Immunology	3 credits	Grade
MICRO 228	Lab Rotations in Microbiology	3 credits	Pass/Fail

**Satisfactory progress:** GPA  $\geq$  3.0;  $\geq$  B in MICRO courses and satisfactory reviews from laboratory rotations

**Summer –year 1 (6 credits;)**

MICRO 300	Thesis research	6 credits	Pass/Fail
-----------	-----------------	-----------	-----------

**Fall – year 2 (9 credits; 6 credits letter grade)**

MICRO 231	Mol Biol Eukaryotic Pathogens	3 credits	Grade
MICRO 250	Advanced Microbial Pathogenesis	3 credits	Grade
INTER 260	Responsible Conduct in Research	1 credits	Pass/Fail
MICRO 298	Seminar in Microbiology	1 credit	Pass/Fail
MICRO 299	Analysis of Research Literature	1 credit	Pass/Fail

**Satisfactory progress:** GPA  $\geq$  3.0; and satisfactory progress in research laboratory

**Students must select a graduate research committee****Spring - year 2 (9 credits)**

MICRO 229	Analysis of Research Literature	1 credit	Pass/ Fail
MICRO 298	Seminar in Microbiology	1 credit	Pass/Fail
MICRO 300	Thesis research	7 credits	Pass/Fail

**Summer- year 2 (6 credits)**

MICRO 300	Thesis research	1-6 credits	Pass/Fail
-----------	-----------------	-------------	-----------

**Students must take the Qualifying Examination by the end of their second year of Graduate Studies.**

**Satisfactory progress:** GPA  $\geq$  3.0; passing of the Qualifying Examination and demonstration of successful progress as determined through committee meetings.

**In subsequent years, students will register for 9 credits / semester. They will be required to participate in MIP seminar and Analysis of Research Literature every semester.**

**APPENDIX 2: Course Requirements for entering MD/PhD and IDP Students**

Course Title	Course Number	Number of Credits	Graded	Additional Notes
Ethics in Biomedical Sciences	INTER 220	1‡		
Responsible Conduct in Research	INTER 260	1‡		
Intro to Microbial Pathogenesis	MICRO 224	3	3	Minimum grade of B is required
Fundamentals in Immunology	MICRO 296	3	3	
Advanced Medical Bacteriology	MICRO 225	3	3	
Mol Biol Pathogenic Eukaryotes	MICRO 231	3	3	
General and Molecular Virology	MICRO 276	3	3	
Adv Microbial Pathogenesis*	MICRO 250	0-3	0-3	Number of <b>graded</b> credits from these courses depends on how many credits were transferred from medical curriculum.
Selected Topics in Microbiology*†	MICRO 281	0-6	0-6	
Approved Electives		0-3	0-3	
Research Proposal in Microbiology	MICRO 299	3	3	
Seminar in Microbiology	MICRO 298	4‡		Only 4 credits go toward graduation; students must attend every semester
Analysis of Research Literature	MICRO 229	4‡		Up to 4 credits are possible; students must attend every semester
Thesis and Dissertation Research	MICRO 300 and 400	15‡		Only 15 credits go toward graduation
60 credits required for graduation		<b>46-55</b>	<b>21-30†</b>	30 graded credits are required

\* In some years these courses may not be offered; MICRO 250 is a required course when offered in student's second year in department.

† Selected Topics may be offered as graded or pass/fail.

‡ Non-graded; maximum number of credits that can be received

## Suggested electives:

BIO 6100 Biostatistical methods	4 credits	
BIOCH 299 Professional Skills-Graduate Students	1 credit	Spring (not graded)

**SAMPLE CURRICULUM FOR REGISTRATION FOR MIP PROGRAM (M.D./Ph.D.)****Summer –year 1 (6 credits;)**

MICRO 300	Thesis research	6 credits	Pass/Fail
-----------	-----------------	-----------	-----------

**Fall – year 1 (9 credits; 1 credits letter grade)**

INTER 220	Ethics in Biomedical Sciences	1 credit	Pass/Fail
MICRO 224	Introduction to Microbial Pathogenesis	3 credits	Grade
MICRO 298	Seminar in Microbiology	1 credit	Pass/Fail
MICRO 300	Thesis Research	4 credits	Pass/Fail

**Satisfactory progress:** GPA  $\geq$  3.0; >B in MICRO 224 and satisfactory progress in research laboratory

**Spring – year 1 (9 credits; 8 credits letter grade)**

MICRO 225	Advanced Medical Bacteriology	3 credits	Grade
-----------	-------------------------------	-----------	-------

MICRO 276	Gen & Molecular Virology	3 credits	Grade
MICRO 296	Fundamentals in Immunology	3 credits	Grade

**Satisfactory progress:** GPA  $\geq$  3.0;  $\geq$  B in MICRO courses and satisfactory progress in research laboratory

**Students must select a graduate research committee**

**Summer –year 2 (6 credits;)**

MICRO 300	Thesis research	6 credits	Pass/Fail
-----------	-----------------	-----------	-----------

**Fall – year 2 (9 credits; 3 credits letter grade)**

MICRO 231	Mol Biol Eukaryotic Pathogens	3 credits	Grade
MICRO 250	Advanced Microbial Pathogenesis	3 credits	Grade
INTER 260	Responsible Conduct in Research	1 credits	Pass/Fail
MICRO 299	Analysis of Research Literature	1 credit	Pass/Fail
MICRO 298	Seminar in Microbiology	1 credit	Pass/Fail

**Satisfactory progress:** GPA  $\geq$  3.0; and satisfactory progress in research laboratory

**Spring - year 2 (9 credits)**

MICRO 229	Analysis of Research Literature	1 credit	Pass/ Fail
MICRO 400	Thesis research	7 credits	Pass/Fail

**Summer- year 3 (6 credits)**

MICRO 400	Thesis research	1-6 credits	Pass/Fail
-----------	-----------------	-------------	-----------

**Students must take the Qualifying Examination by the end of their second year of Graduate Studies.**

**Satisfactory progress: GPA  $\geq$  3.0; passing of the Qualifying Examination and demonstration of successful progress as determined through committee meetings.**

**In subsequent years, students will register for 9 credits / semester. They will be required to participate in MIP seminar and Analysis of Research Literature every semester.**



**APPENDIX 3: Qualifying Exam instructions**

The qualifying exam will consist of two parts. Part A will consist of 4 questions given over 4 half days. Part B will be an oral defense of the student's answers to Part A within 2 weeks of completion of Part A. The exam must be completed by the conclusion of the summer semester of the second year.

**Part A. The questions.**

1. The qualifying committee will prepare 4 questions per student. These will come from general areas covered in the required coursework: Virology, Immunology, Medical Bacteriology, Molecular Biology/Eukaryotic Pathogens.
2. Over 4 days the student will be given one question each day and have 4 hours to respond to it. The student will have full access to books, journals and the internet. This portion of the exam is OPEN BOOK. However, students may not solicit help from elsewhere.

**PART A. Evaluation.**

1. Each response will be read by two committee members.
2. The qualifying committee member who wrote the question will read and critique the response. The critique can be written on a separate page or written legibly in the margins of the student's response.
3. The second committee member will act as a reader and will complete a separate shorter review.
4. Written critiques must be received no later than 1 week prior to oral examination.
5. No committee member will be responsible for the primary critique for more than one question per student.
6. A committee member will not be responsible for the critiques if they are the student's mentor.
7. The chair of the committee will be responsible for assigning primary and reader (unless he/she is the student's mentor; in which case another committee member will act as chair).

**PART B. Oral portion.**

1. This portion of the exam must be taken within 2 weeks of completion of Part A.
2. This portion of the exam will last no longer than 4 hours and will consist of the student's oral defense of their response and/or changes in their response based on critiques.
3. The mentor of the student will be present but cannot participate either verbally or otherwise.
4. The committee will ask questions in reference to the original question in which the student will have to orally defend his/her original response – or defend changes in response based on the critique.

**PART B. Evaluation.**

1. The qualifying committee members will evaluate the student's performance and determine if the student passed or failed.
  - a. The mentor does not generally participate in the final vote, but may clarify matters concerning the student.
  - b. In the unlikely event that the committee does not come to an agreement, the matter will be discussed with the Department Head.
2. If the student passes, he/she becomes a candidate for the Ph.D. degree.
  - a. The committee may ask the student to rewrite an answer to confirm that the student understands the nature of critiques raised during the oral portion of the exam.
3. If the student fails:
  - a. He/she may be given the option to retake the exam. This may occur if the committee feels the student for some reason did not perform to his/her best ability or there were extenuating circumstances.
  - b. If the student is not given the option to retake the exam, he/she may be given the option to obtain a MS degree.

**APPENDIX 4: Preliminary Exam instructions**

## LOGISTICS

- The preliminary examination should be taken before the end of the third year of graduate studies. The focus of the examination is on a proposal prepared by the student and based on their dissertation project (see details of required format and grading information below).
- The student will arrange a time and date with the committee. A DOODLE poll is recommended and a reservation for at least three hours is suggested. Once the exam is scheduled, the student should reserve a conference room.
- Note also that the preliminary exam must be passed at least one academic year (ie. 3 consecutive semesters) before graduation.
- The research proposal must be circulated to the Dissertation Committee at least two weeks prior to the examination date.
- The completed, typed REQUEST FOR PRELIMINARY EXAMINATION FORM must be sent to the Graduate School at least two weeks prior to the examination date.

## FORMAT

- **The proposal is to be presented in NIH RO1 grant format: containing the following elements: Specific Aims; Abstract; Research Plan (no longer than 12 pages); Vertebrate Animals (if necessary), Human Subjects (if necessary) and References.**
  - While the proposal should be prepared in R01 format, it should primarily reflect the student's dissertation project. It need not, therefore, be written as a formal funding application rigidly embodying a proposed five-year research plan.
  - Description of experiments and sub-aims already completed should be included, either as preliminary results within the description of an Aim in the Research Plan, or (if an Aim is essentially completed) as a progress report.
  - If the student already has a publication directly related to the proposed thesis work, this can be included as an addendum.
  - Alternative grant formats (eg. an F30 or R21 application) should not be substituted for the above.
- The Specific Aims page may be viewed and edited by the mentor. The mentor may also view and provide feedback on an outline of the Research Plan. However, the mentor should not extensively edit drafts of the Research Plan.
- If the committee believes that the submitted proposal is incomplete or otherwise unsatisfactory, then the preliminary examination should be postponed. The committee chair will write a memo stating why the proposal is unsatisfactory and outline how it should be revised.
- Examples of RO1 format grants and suggestions for formulating can be found at the following website: <http://www.niaid.nih.gov/researchfunding/grant/pages/appsamples.aspx>

## EXAM

- The student should prepare a Powerpoint presentation that includes Specific Aims, the major points of the proposal, and key data.
- **While the submitted proposal will be discussed, the exam will be graded on the oral /powerpoint presentation and related discussion.**
- The student may be questioned on any area of microbiology and related fields.
- The projected goals will normally be discussed.
- The results of the Preliminary Examination will be determined by a vote of the committee as follows:
  - Pass - student becomes a candidate for the Ph.D. degree.
  - Fail - two dissenting votes constitutes a basis for failure. The committee will discuss the following options.
    - Failure – no re-examination. The student may have the option to complete a Master’s Degree.
    - Failure – re-examination. This should generally take place within six months of the first Preliminary Exam. The committee will decide on the format:
      - The student may be asked to rewrite the entire proposal, or particular sections, prior to the oral examination.
      - The student may be asked to write a progress report prior to an oral examination.
- A FOLLOW UP REPORT OF PRELIMINARY EXAMINATION FORM (typed) must be signed by all committee members and the Department Head and sent to the Dean of the School of Graduate Studies.
- The committee chair will write a summary of the preliminary examination and submit to [mipgrad@lsuhsc.edu](mailto:mipgrad@lsuhsc.edu)
- The student should register for course credit (Microbiology 299, 3 hours credit) for this proposal **in the semester after** passing the exam
  - The highest grade that the student can obtain for the course in the event of a re-write and/or re-examination is a ‘B’.



Print Form

# MIP ROTATION

Student Name  Rotation Dates

Mentor Name

**PART I- At BEGINNING of rotation, fill out and submit**  
Please fill out the form, save as new pdf, and then send as an attachment by email to [mipgrad@lsuhsc.edu](mailto:mipgrad@lsuhsc.edu)

Prior to the student beginning his/her rotation; please discuss the goals of the rotation and outline expectations below.

What are the main expectations for this student during this rotation?

What are the main techniques to be mastered (if applicable)?



Print Form

# MIP ROTATION

Student Name  Rotation Dates

Mentor Name

**PART II - Upon COMPLETION of rotation, fill out and submit**  
Please fill out the form, save as a new pdf and send as an attachment by email to [mipgrad@lsuhsc.edu](mailto:mipgrad@lsuhsc.edu)

**The mentor and student should discuss whether student met expectations and if there are areas that the student should focus on in future rotations.**

Did the student meet the expectations of the rotation?

Any significant strengths of student?

Any significant weaknesses of student?

Print Form



# MIP DISSERTATION COMMITTEE FORM

During the first semester of their second year, dissertation committees should be selected for MIP Ph.D. students. The student should choose a committee in consultation with mentor. This proposed committee is submitted to the Department Head for approval. Please fill out the form below, save as a new pdf and send as an attachment by email to mipgrad@lsuhsc.edu. Any troubles with this form - please contact Joy Sturtevant.

The Committee will comprise at least 5 Graduate Faculty Members of LSUHSC including:  
 A. At least 3 LSUHSC-MIP Graduate Faculty (including the mentor), and  
 B. At least 1 non-MIP LSUHSC Graduate faculty (note A+ B must equal at least 5).  
 You are encouraged to add a faculty member external to LSUHSC.

Member	Name	Department*	UNIV/INSTITUTE**
Student		MIP	LSUHSC-Grad Studies
Mentor		MIP	
Graduate Faculty		MIP	
Graduate Faculty		MIP	
Graduate Faculty			
Graduate Faculty			
Graduate Faculty			

\* Department = primary assignment in graduate school

\*\*UNIV/Institute= where faculty member is located e.g. LSUHSC, DS (Dental School) RIC (Children's), TULANE, etc.

Please check the appropriate boxes to indicate that both mentor and student have agreed upon this committee After form is complete - please submit to the department by clicking on "SUBMIT by EMAIL button above or to mipgrad@lsuhsc.edu. If you have any questions about this form then please contact Joy Sturtevant.

MENTOR

Ph.D. Student

MIP DEPARTMENT CHAIR