Drexel University College of Medicine

Microbiology & Immunology

POLICIES AND PROCEDURES-MS Degree

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I. INTRODUCTION

This booklet:

- describes academic policies and procedures pertaining to graduate studies in the Microbiology and Immunology Graduate Program;
- supplements procedures and general rules of the Division of Biomedical Studies Handbook;
- contains current guidelines that are revised periodically by faculty in the Program.

The Graduate Program offers coursework and research opportunities leading to the M.S. degree, with either a research-based thesis option or a non-thesis option. The goal of the Graduate Program is to provide an intensive research training and classroom experience in order to prepare graduates for significant contributions to their field. Research interests of the faculty members are described elsewhere.

The components of the requirements to be fulfilled for obtaining a M.S. degree are listed below:

Research Thesis Option

Research Rotation
Required Courses
Thesis Proposal Examination
Thesis Research and Defense

Non-thesis Option

Required and Elective Courses
Preliminary Exam
Literature Review and Oral Defense

II. GUIDELINES FOR MASTER OF SCIENCE PROGRAM

M.S. students will have specific research goals, relating to a chosen area of Microbiology and Immunology. There is an increasing demand within biotechnology industries for M.S. level research assistants with expertise in microbiology, immunology, and molecular biology. Students who achieve outstanding performance during the M.S. may apply for advanced standing in the PhD program after completion of the MS degree.

RESEARCH THESIS OPTION

A. CURRICULUM

NOTE: All formal courses (items 1 to 3) will be completed in the first two years

1. Required Core Courses

IDPT-500S	Responsible Conduct of Research (2 credits)
IDPT 502S	LEAP I: Learn Early as Professionals (1 credit)
IDPT 504S	LEAP II: Learn Early and Practice (1 credit)
IDPT 533S	Core Concepts in Biochemistry and Cell Biology (4 credits)

2. Required Program Specific Courses

MIIM-508S	Immunology I (3 credits)
MIIM-512S	Molecular Pathogenesis I (Viral Pathogenesis; 2 credits)
MIIM-513S	Molecular Pathogenesis II (3 credits)
MIIM 517S	Applied Statistics for Biomedical Sciences (2 credits)

Exemption from required courses: To be exempt from a required course, you must obtain the syllabus from a previously completed course that will replace the required course. You then must get approval from the course director of the course you wish to be exempt from. This will be based on your previous grade and syllabus. The syllabus is required to ensure that the previously taken course had comparable content equivalent to the course that will be considered for exemption. Once the Course Director provides approval you must request the exemption from the Program Director. The Program Director will work with the steering committee for approval. The Program Director will provide final approval to the student. In cases where this provides advanced standing with a reduction in time to completion, the Program will consult with the Academic Affairs Committee for approval.

3. Advanced Electives (OPTIONAL)

In consultation with the thesis Committee and according to the area of selected research, the student can select courses from a diverse range of topics that complement the required curriculum and provide relevant, in-depth knowledge.

MIIM 528S	Structural Bioinformatics (2 credits)
MIIM 555S	Molecular Mechanisms of Microbial Pathogenesis (3 credits)

MIIM 607S	Immunology II (3 credits)
MIIM 613S	Emerging Infectious Diseases (2 credits)
MIIM 615S	Experimental Therapeutics (2 credits)
MIIM 620S	Advanced OMICS (3 credits)
MIIM 625S	Advanced Molecular Virology (3 credits)
MIIM 630S	Advanced Molecular Biology (2 credits)

Advanced courses from other programs can be substituted. The substituted course must be approved by the steering committee prior to enrolling in the course. This process is initiated by making a request to the Program Director and justifying the alignment of the course content to their research program.

4. Journal Club and Seminars

MIIM 502S MIIM Journal Club (every semester; 1 credit/semester)
MIIM 606S MIIM seminar (every semester; 1 credit/semester)

Students are required to actively participate in the Program's Seminar sponsored by the Department of Microbiology and Immunology. Students are also required to attend and actively participate in the Program's Journal Club and present once during each semester throughout their graduate program.

Unsatisfactory Performance in Journal Clubs and Seminar

- One unexcused absence is allowed per semester for journal club.
- One unexcused absence is allowed per semester for seminar.
- More than one absence will result in a grade of Unsatisfactory (U).
- The "U" must be remediated to the satisfaction of the program. If not, it will be grounds for dismissal.
- Excused absences can be requested by contacting the course director and do not count against this number

5. Lab Rotations

MIIM 504S	Lab rotation I (4 credits)
MIIM 505S	Lab rotation II (4 credits; optional)

One research rotation must be completed during the first year in consultation with the Program Director and the host faculty in the Microbiology and Immunology Graduate Program. The research area should be chosen to complement the student's long-term research interests. Research rotations should provide an opportunity to:

- Practice scientific logic and experimental design
- Acquire useful technical expertise
- Extend scientific and personal interactions within and between labs
- Explore the possibility for a future thesis research topic

The student must complete 160 hours over an 8 to 10 week period. Students must satisfactorily complete the rotation.

Typical rotation schedule:
Lab rotation I: start no later than Oct 1st
Lab rotation II: start no later than Jan 4th

Laboratory rotations are evaluated through a form-stack that include an intake form, mid-rotation form, mentor evaluation form, and final student evaluation form. These forms need to be filled out, discussed, and signed punctually. In case of major issues, a separate form can be used to communicate this (anonymously) with the program director (or in case the program director is the mentor, the division director).

At the end of each rotation period, the student will present a 15 min presentation (10 min presentation and 5 min of questions) to their peer group and mentors. These will generally occur at the end of the rotation.

Performance in Laboratory Rotations

- Laboratory rotations are graded on a Satisfactory (S) or Unsatisfactory (U) basis.
- A grade of 'S' indicates satisfactory performance considering progress and proficiency in laboratory research, intellectual engagement, commitment, professionalism and the final rotation talk.
- A "U" for a lab rotation is reserved for students that do not meet performance requirements, including attendance of the rotation as stipulated by the program and/or do not present an oral presentation.
- A "U" for a laboratory rotation is grounds for dismissal.

Note:
Forms that need to be completed and submitted to document progression and completion of milestones in the Program will be available through the Graduate School Portal.

https://drexel.edu/medicine/academics/graduate-school/microbiology-immunology/

 Click on the microscope on the lower right-hand margin

During the course of the 2024-2025 Academic Year, the completion and submission of forms will be transitioned to an Electronic Portal. General information on the E-Forms can be found at https://drexel.edu/graduatecollege/forms-policies/forms/. Specific training will be provided to Faculty and Students as the process moves forward.

6. Teaching Experience (Optional in 2nd year)

The ability to teach is essential for some careers in the biomedical sciences. Teaching experience may be fulfilled in a variety of ways, such as teaching assistant for core, “hands on” teaching of medical students or in first year graduate student courses, or other teaching experiences approved by the faculty. Formal course credit may be obtained by registering for Teaching Practicum (IDPT 507S, 508S, 509S). Teaching Practicum may require a significant time commitment. The decision to pursue this option should be made in consultation with the student’s mentor. Additional information regarding the course can be obtained from the Graduate Office.

7. Research

MIIM 600S Thesis research (each semester starting second year; 9 credits/semester)

8. Committee Meetings

Meetings between the student and their Thesis Committee (see section 10 below) serve to provide supportive feedback, as well as objective and critical evaluations of academic and scientific progress throughout Graduate School training. They are an essential part of the mentoring process.

Committee meetings must be held every six months with the first committee meeting held prior to the thesis proposal exam no later than June 15th.

It is the responsibility of each student to convene committee meetings at a mutually convenient time and to provide evidence of such meetings in writing to their program and the Biomedical Graduate Studies office.

9. Individual Development Plans

The Graduate School of Biomedical Sciences and Professional Studies, within Drexel University College of Medicine, requires Individual Development Plans (IDPs) of all graduate students within the School and the College. Although the precise format of the IDP is up to the trainee and their mentor, we suggest that the MyIDP website (http://myidp.sciencecareers.org/) which offers an excellent IDP template and clear instructions on how to construct a strong and useful IDP. Graduate students must review IDPs with their mentors, thesis committee, and program director every year.

10. ADVISORY COMMITTEES

1. The Program Director will serve as advisor during the first year until a student selects their thesis research laboratory. This must be completed by March 31st. A formal email between the student, mentor, and Program Director must be sent to record the selection.

2. Mentor

- After successful completion of the research rotation(s), a research advisor will be selected by the student in conjunction with the Program Director, proposed mentor, and Chair of the department the mentor resides in.
- The faculty member under whom the student elects to conduct dissertation research will be the student's primary research advisor.
- Only tenure track graduate faculty may serve as the student's primary research advisor.
- The primary research advisor cannot serve as the chair of the thesis committee.
- A co-mentor can also be selected. The co-mentor can be a non-tenure track faculty member.
- Full time faculty with research prefix or non-tenure track status may serve as co-advisors.
- will be selected by March 31st; a formal email between the student, mentor, and Program Director must be sent to record the selection

3. Thesis Committee

- will be comprised of three voting members selected by the student and mentor
- Will be formed by May 31st of the first year
- All members of the committee, with the exception of an external member must be members of the Graduate Faculty
- Two voting members must be graduate faculty from the same **program** (not department) as the student's discipline
- The remaining voting member(s) must be outside of the **program** OR outside of the College of Medicine
- Members who are not graduate faculty in the Drexel College of Medicine GSBSPS must be approved by the Division of Biomedical Sciences Programs Executive Committee. For approval, the student must request a CV from the outside member. The student will provide the CV with a brief description of why the member was chosen to the Program Director. The Program Director will coordinate approval of the outside member by the steering committee of the MIIM program and executive committee of the Division.
- Full time faculty with research prefix or non-tenure track status and adjunct graduate faculty within the College of Medicine may serve as thesis committee members
- A list of the prospective committee members must be submitted to the Program Director for approval prior to the initial meeting of the student's committee.
- The chair of the dissertation committee
  - will be elected in the first committee meeting
  - is **not** the dissertation advisor or co-advisor
  - must have the rank of Assistant Professor or higher within the **program**
  - must be a tenure track faculty member within the College of Medicine
  - will avoid other conflicts of interest as specified in the Division of Biomedical Sciences student handbook (i.e. relationships to the students, between members of the committee)

- The committee will assume supervision of the student's graduate education as well as ensure compliance with all graduate program and university policies.
- The committee will meet every 6 months. The committee meeting update form will be completed and provided to the Program Director
- First meeting will be completed by June 15th of the first year of study

C. EXAMINATIONS

MS Thesis Proposal Exam

1. The student must write an MS Thesis Proposal on the research to be completed and present an oral defense of the proposal to the Thesis committee.
2. The exam is to be completed no later than August 15th (end of the first year).
3. The purpose of the examination is to assess students' scientific creativity, critical thinking, ability to design a research project, and oral and written communication skills. The student's Thesis committee administers the exam.

Written Part (A):

- the student will submit a 4 page written document to the thesis committee
  - This will be done no later than July 1st of the first year
  - This document will be given to the thesis committee 10 days prior to the oral presentation (Part B)
- The 4 page written document will include:
  - 2 pages of Introduction and background. This section should include:
    - the public health relevance of the proposed project
    - Review of literature that supports the proposed hypothesis and project and Specific Aims
    - Any unpublished preliminary data from the laboratory or student that supports the proposed hypothesis and Specific Aims
  - 2 pages of the hypothesis and experimental approach
    - The hypothesis should be a one sentence statement that can and will be tested by the experimental approach provided
    - The experimental approach should be formatted into Specific Aims. Each Aim should contain
      - the research question(s) that will be answered
      - A description of the experiments to be performed to answer the. questions. Do not get into details like x number of microliters etc but. Do provide some description of controls etc
      - Expected outcomes if experiments go as planned
      - Potential problems – the most likely thing to go wrong technically or theoretically
  - All literature should be referenced in the text using a number with a Literature Cited section showing full bibliography at the end of the document. The literature cited section does not count against the 4 page limit

- The 4 page limit is strictly enforced
- All pages should be single spaced with 0.5 inch margins and 11 point Arial font
- All figures, tables, graphs, diagrams and charts must appear in the body of the text and are included in the page limits.
- The proposal should outline a realistic research plan that can be completed within 10-12 months.
- The proposal should be submitted electronically, in a word doc format, to the Committee

- During preparation of the proposal, the student is expected to spend at least 50% of their time in the conduct of ongoing research in their laboratory
- Graduate student peer review is recommended
- The student may work with their mentor to initially develop a basic outline for the proposal. Once agreed upon, the student has sole responsibility for writing the detailed document with no additional faculty/post-doctoral input.
- The student will schedule an oral defense of the written proposal within 10 days of submission of the written proposal.

Oral Part (B): At the time of the oral defense, the student will present a brief (20-25 minute) PowerPoint presentation summarizing their intended research project followed by a defense of the project to the Thesis Advisory Committee. This will be completed by August 15th.

Grading of the thesis proposal exam:

- The Thesis Advisory Committee will then pass, pass upon correction of deficiencies, or not pass the student
- If the student passes the exam, the student may continue with their thesis research.
- If either portion of the exam is approved upon correction of deficiencies, the corrected proposal or retake of the oral exam must be submitted within the time frame established by the examining committee. This time should not exceed one month.
- If the exam is not approved, the student must re-submit a revised or new proposal and retake the oral exam within two months.
- If either portion of the exam is disapproved a second time, the student will be dismissed from the program.
- This will be recorded on the committee meeting report form

D. EVALUATION OF PROGRESS

Overall performance in coursework, on exams, in the laboratory rotation(s), and oral presentations will be evaluated every 6 months by the Program Director and/or thesis committee. In addition:

1. End of first year

a. *Students with ≥3.0 GPA, a B in all required courses, and satisfactory rotation performance* will complete the Thesis Proposal Examination.

Students with ≥3.0 GPA, a C or B(-) in one required course, and satisfactory rotation

performance may complete the Thesis Proposal Examination with approval by steering committee.

Pass on Thesis Proposal - qualifies the student to continue to the second year of the Ph.D. program.

Failure or Deficiency on Thesis Proposal - the student is permitted a single retake of the Exam, to be scheduled within one month of the original examination.

Failure on retake of the Thesis Proposal Exam - the student must withdraw from the thesis option and is eligible to apply for the M.S. non-thesis program.

b. *Students with <3.0 average* are not eligible to take the Thesis Proposal Exam, except with the permission of the steering committee. The committee in this request considers satisfactory performance in rotations and the potential for retaking the course(s) with less than a B.

An overall progress report is to be completed at the end of each year in the program. This overall progress report, as well as the IDP, is reviewed by the student's mentor, the Program Director, and the Division Director and submitted to the graduate office.

2. **End of second year**

- Full time M.S. students are expected to complete their program within two years.
- To continue into the third year of the program, students are required to achieve an overall GPA ≥3.0 and be in Good Academic Standing, pass the Thesis Proposal exam, and satisfactory performance in the laboratory.
- An overall progress report is to be completed at the end of each year in the program. This overall progress report, as well as the IDP, is reviewed by the student's mentor, the Program Director, and the Division Director and submitted to the graduate office.

E. THESIS AND DEFENSE

After completion of the MS Thesis Proposal Preliminary Exam, the student will continue with thesis research and complete it in the stipulated time frame of 10-12 months. A suitable objective is the preparation of a publishable research paper.

To be considered and approved for defense, a student must:

- Hold a committee meeting at the end of the semester before or beginning of the semester that the defense will take place in (e.g.. December or January for a Spring defense)
- At the meeting, the committee will assess the student's progress and determine whether approval for the oral defense can be granted
- If granted, the committee chair will fill in the report form and check the box that the student is ready for defense.
- the mentor will confirm this by checking the box and signing the form

- The student will send the completed form copying the program director, committee chair, and mentor that they have been approved for thesis defense
- The program director will then respond with their approval copying the program administrator and Division Director asking for them to register you for thesis defense

Oral and written document:

- The preparation and public oral defense of the M.S. thesis are conducted as outlined in the Office of Biomedical Graduate Studies guidelines.
- Students are strongly encouraged to examine dissertations of recent graduates of the Program for guidelines regarding content and format.
- The Thesis may follow the traditional format or may consist of a research paper submitted or accepted for publication, with any additional material deemed necessary by the Thesis Committee.
- The student's thesis committee must approve the thesis proposal and is responsible for evaluating the dissertation and conducting the oral defense.
- Students in the Microbiology and Immunology Graduate Program must submit their final, completed dissertation to their thesis committee at least two weeks prior to the oral defense date.

F. Continuation to PhD

If a student is interested in applying for advanced standing to enter the PhD program, they should discuss this with the program director as early as possible

Example Semester outline

First Year Fall Semester

IDPT 502S	LEAP I: Learn Early as Professionals I	1 credit
IDPT-533S	Core Concepts in Biochemistry and Cell Biology	4 credits
MIIM-512S	Molecular Pathogenesis I	2 credits
MIIM-508S	Immunology I	3 credits
MIIM-504S	Lab Research Rotation I	4 credits
MIIM-606S	Seminar	1 credit
MIIM-502S	Journal Club	1 credit

First Year Spring Semester

IDPT-500S	Responsible Conduct of Research	2 credits
IDPT 504S	LEAP II: Learn Early and Practice	1 credit
MIIM-513S	Molecular Pathogenesis II	3 credits
MIIM-504S	Lab Research Rotation II	4 credits (optional)
MIIM-606S	Seminar	1 credit
MIIM-502S	Journal Club	1 credit
MIIM-517S	Applied Statistics for Biomedical Sciences	2 credits

Second Year Fall Semester

MIIM-600S	Thesis Research	9 credits
MIIM-606S	Seminar	1 credit
MIIM-502S	Journal Club	1 credit

Second Year Spring Semester

MIIM-600S	Thesis Research	9 credits
MIIM-606S	Seminar	1 credit
MIIM-502S	Journal Club	1 credit

- Students are not required to take advanced electives, however, if they wish to enroll in an advanced elective, they should consult their mentor and the Program Director justifying the need for the course.

Graduate Program in Microbiology & Immunology

Non-Thesis Option

The non-thesis option for a MS degree in Microbiology & Immunology includes the core curriculum and the introductory program-specific curriculum in year 1. In year 2, the student completes elective courses, which may include a research rotation (only 1) and, working with a faculty mentor, writes a literature review on a topic of current scientific interest.

A. Required Courses

IDPT 502S	LEAP. I: Learn Early as Professionals	1 credit
IDPT 504S	LEAP II: Learn Early and Practice	1 credit
IDPT-533S	Core Concepts in Biochemistry and Cell Biology	4 credits
IDPT-500S	Responsible Conduct of Research	2 credits
MIIM-512	Molecular Pathogenesis I	2 credits
MIIM-508	Immunology I	3 credits
MIIM-513	Molecular Pathogenesis II	3 credits
MIIM-517S	Applied Statistics for Biomedical Sciences	2 credits
MIIM-606	Seminar (4 semesters)	4 credits (total)
MIIM-502	Journal Club (4 semesters)	4 credits (total)
IDPT-850	Literature Review	4 credits

Exemption from required courses: To be exempt from a required course, you must obtain the syllabus from a previously completed course that will replace the required course. You then must get approval from the course director of the course you wish to be exempt from. This will be based on your previous grade and syllabus. The syllabus is required to ensure that the previously taken course had comparable content equivalent to the course that will be considered for exemption. Once the Course Director provides approval you must request the exemption from the Program Director. The Program Director will work with the steering committee for approval. The Program Director will provide final approval to the student. In cases where this provides advanced standing with a reduction in time to completion, the Program will consult with the Academic Affairs Committee for approval.

B. Advanced Electives (a minimum of 9 credits is required)

In consultation with the Program Director and according to the area of selected research, the student selects courses from a diverse range of topics that complement the core curriculum and provide relevant, in-depth knowledge.

MIIM-504S	Lab Research Rotation I (4 credits; can only be taken once)
MIIM 528S	Structural Bioinformatics (2 credits)
MIIM 555S	Molecular Mechanisms of Microbial Pathogenesis (3 credits)

MIIM 607S	Immunology II (3 credits)
MIIM 613S	Emerging Infectious Diseases (2 credits)
MIIM 615S	Experimental Therapeutics (2 credits)
MIIM 620S	Advanced OMICS
MIIM 625S	Advanced Molecular Virology (3 credits)
MIIM 630S	Advanced Molecular Biology (2 credits)

Advanced courses from other programs can be substituted. The substituted course must be approved by the steering committee prior to enrolling in the course. This process is initiated by making a request to the Program Director and justifying the alignment of the course content to their research program.

C. Scholarly Paper (Literature Review)

A scholarly paper based on the literature will be completed, with advising from a primary mentor. The paper should be 25-40 double spaced pages (without references). Upon completion, the scholarly paper will be submitted to a Literature review committee consisting of the mentor and two other faculty members. The student is required to address comments from the committee and submit a final report. The topic of the scholarly paper will be presented in a 1-hour lecture format open to all members of the Department. The Literature review Committee will verify successful completion of the scholarly paper based on the written document and oral presentation.

E. Proposed Curriculum:

First Year Fall Semester

IDPT-533S	Core Concepts in Biochemistry and Cell Biology	4 credits
MIIM-502	Journal Club	1 credit
MIIM-508	Immunology I	3 credits
MIIM-512	Molecular Pathogenesis I	2 credits
MIIM-606	Seminar	1 credit

First Year Spring Semester

IDPT-500	Responsible Conduct of Research	2 credits
MIIM-502	Journal Club	1 credit
MIIM-513	Molecular Pathogenesis II	3 credits
MIIM-517	Applied Statistics for Biomedical Sciences	2 credits
MIIM-606	Seminar	1 credit

Second Year Fall Semester

IDPT 502S	LEAP I: Learn Early as Professionals	1 credit
MIIM-502	Journal Club	1 credit
MIIM-504	Lab Research Rotation	4 credits
MIIM-606	Seminar	1 credit

Second Year Spring Semester

IDPT 504S	LEAP II: Learn Early as Professionals	1 credit
IDPT-850	Literature Review	5 credits
MIIM-502	Journal Club	1 credit
MIIM-606	Seminar	1 credit
MIIM-XXX	Advanced Elective	2-3 credits

Students must take a minimum of 9 credits of electives (selected from above)

CODE OF BEHAVIOR

The Graduate Program in Microbiology and Immunology subscribes to the Code of Behavior (presented in its complete form in the Student Handbook) for all of its members. This policy states that professional behavior appropriate to a faculty and students in an academic research setting is expected and required at all times. Admission to and continued participation in the Graduate Program in Microbiology and Immunology is therefore contingent upon following these guidelines.

CODE OF ETHICS

The Graduate Program in Microbiology and Immunology subscribes to the Code of Academic Integrity (presented in its complete form in the Student Handbook) for all its members. This policy states that cheating, plagiarism, forgery, or other forms of academic misconduct are not tolerated at our institution. Admission to and continued participation in the Graduate Program in Microbiology and Immunology is therefore contingent upon the student's understanding of this policy, and their agreement to adhere to its guidelines.

MIIM MS Program Completion Checklist
Updated 08/01/2024

Thesis MS program

Year 1 (to be completed by Aug 15th)

- ☐ IDPT 500S Responsible Conduct of Research
- ☐ IDPT 502S LEAP: Learn Early as Professionals I
- ☐ IDPT 504S LEAP: Learn Early as Professionals II
- ☐ IDPT 533S Core Concepts in Biochemistry and Cell Biology
- ☐ MIIM 502S MIIM Journal Club (each semester)
- ☐ MIIM 504S Lab rotation I (minimum of 160 hours in an 8 to 10 week time frame; start no later than Oct 1) – form to be completed/submitted
- ☐ Rotation 1 talk (10 min plus 5 questions)
- ☐ MIIM 505S (optional) Lab rotation II (minimum of 160 hours in an 8 to 10 week time frame; start Jan 4th) –form to be completed/submitted
- ☐ Rotation 2 talk if 505S is taken (10 min plus 5 questions)
- ☐ MIIM 506S (optional) Lab rotation III (minimum of 160 hours in an 8 to 10 week time frame; start immediately after rotation II) – form to be completed/submitted
- ☐ Rotation 3 talk if 506S is taken (10 min plus 5 questions)
- ☐ MIIM 508S Immunology I
- ☐ MIIM 512S Molecular Pathogenesis I
- ☐ MIIM 513S Molecular Pathogenesis II
- ☐ MIIM 517S Biostatistics
- ☐ MIIM 606S MIIM seminar (each semester)
- ☐ Choose thesis research lab/mentor – will be completed by March 31st; email between mentor, student, program director, must be on file
  Form thesis committee no later than May 31st (Committee membership form must be completed/submitted)
- ☐ First committee meeting no later than June 15th (Recommended: Introduction and Discussion of specific aims for thesis proposal; thesis committee meeting form to be completed/submitted)
- ☐ Specific Aims to be approved by thesis committee no later than July 1st (student will have 30 days to prepare the proposal document)
- ☐ Submit thesis proposal to thesis committee on or before August 1st (two weeks or 10 business days prior to proposal exam date)
- ☐ Thesis proposal exam to be completed no later than August 15th (end of first year) – committee meeting form to be completed/submitted
- ☐ Complete IDP and review with mentor and program director/associate program director (will be completed by August 15th) - Annual Confirmation of Individual Development Plan (IDP) form to be completed/submitted
- ☐ Complete annual review (will be completed by August 15th) – form to be completed/submitted and reviewed with mentor and program director

Year 2 (to be completed by Aug 15th)

- ☐ MIIM 502S MIIM Journal Club (each semester)
- ☐ MIIM 600S Thesis research (each semester)
- ☐ MIIM 606S MIIM seminar (each semester)
- ☐ Thesis committee meeting 2 (will be completed by January 15th) – Dissertation committee meeting report form to be completed/submitted
- ☐ Thesis committee meeting 3 (will be completed by May 15th - thesis committee to decide the timeline for thesis defense) – Dissertation committee meeting report form to be completed/submitted
- ☐ Complete IDP and review with program director/associate program director (will be completed by July 31st) - Annual Confirmation of Individual Development Plan (IDP) form to be completed/submitted
- ☐ Complete annual review (will be completed by July 31st) – form to be completed/submitted and reviewed with mentor and program director/associate program director
- ☐ Register for thesis defense (no later than May for summer defense or August 15 for Fall defense)
- ☐ Notification of Intent to Defend Dissertation form to be completed/submitted
- ☐ Complete written dissertation
- ☐ Defend dissertation (check academic calendar for dates)
- ☐ Dissertation Defense Completion form to be completed/submitted
- ☐ Graduate thesis-dissertation approval form and signature page form to be completed/submitted
- ☐ Graduate program completion form to be completed/submitted

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MS Students are not required to take advanced courses, however, if they are interested in taking an advanced course, they can choose from the following program specific courses with prior permission from the mentor and Program Director.

Advanced courses

MIIM 528S	Structural Bioinformatics
MIIM 555S	Molecular Mechanisms of Microbial Pathogenesis
MIIM 607S	Immunology II
MIIM 613S	Emerging Infectious Diseases
MIIM 615S	Experimental Therapeutics
MIIM 620S	Advanced OMICS
MIIM 625S	Advanced Molecular Virology
MIIM 630S	Advanced Molecular Biology