

Drexel University College of Medicine

Microbiology & Immunology

POLICIES AND PROCEDURES-PhD Degree

Director, Microbiology & Immunology Graduate Program
Dr. James M. Burns Jr
Professor of Microbiology and Immunology
Drexel University College of Medicine
Department of Microbiology & Immunology
2900 W. Queen Lane, Rm 132
Philadelphia, PA 19129
TEL: 215-991-8490
jmb53@drexel.edu

Associate Director, Microbiology & Immunology Graduate Program
Dr. Joris Beld
Associate Professor of Microbiology and Immunology
Drexel University College of Medicine
Department of Microbiology & Immunology
245 N 15th St, Rm 17127
Philadelphia, PA 19102
TEL: 267-359-2355
jb3669@drexel.edu

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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 Ph.D., M.D./ Ph.D. and M.S. degrees. 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.

There are five components of requirements to be fulfilled for obtaining a Ph.D. degree:

- Research rotations
- Required and elective courses
- Preliminary and Qualifying Examinations
- Dissertation research proposal
- Research dissertation and defense

In addition, the Department requires a Ph.D. candidate to submit at least one first author data-based manuscript for publication in a peer-reviewed journal and to prepare a second first author data-based manuscript for submission prior to scheduling a Thesis Defense. These data-based papers must be primarily based in data produced by the PhD candidate.

II. BASIC GUIDELINES FOR THE Ph.D. DEGREE

A. CURRICULUM

NOTE: All courses (items 1 to 3) should be completed within the first two years.

1. Required 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 514S	Grant Building (2 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

In consultation with the Advisory Committee (typically the mentor and Program Director at this stage) and according to the area of selected research, the student must select a minimum of 2 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 625S	Advanced Molecular Virology (3 credits)
MIIM 630S	Advanced Molecular Biology (2 credits)

Advanced courses from other programs can be substituted. However, only 1 of the 2 required electives 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 and are expected to present their research findings in the seminar. 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 Club 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)
MIIM 506S	Lab rotation III (4 credits)

Three research rotations 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 areas 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 dissertation research topic

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

Typical rotation schedule:

Lab rotation I: start no later than Oct 1st

Lab rotation II: start no later than Jan 4th

Lab rotation III: start immediately after rotation II

Laboratory rotations are evaluated through a form-stack that includes 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)

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 B 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.

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. Doctoral students must review IDPs with their mentors, thesis committee, and program director every year.

B. ADVISORY COMMITTEES

1. The Program Director will serve as advisor during the first year until a student selects their thesis research laboratory. Research laboratory selection happens after the preliminary exam but must be completed by August 15th. The student/advisor completion form must be completed (also called the financial agreement form).
2. **Mentor**
 - After successful completion of the Preliminary Examination (see below), 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 dissertation committee.
 - A co-mentor can also be selected

- Full time faculty with research prefix or non-tenure track status may serve as co-advisors.
- will be selected by the end of the first academic year; student advisor completion form must be completed (also called financial agreement form)

3. Thesis Committee

- will be comprised of five voting members selected by the student and mentor
- Will be formed by October 1st of the second year
- All members of the committee, with the exception of an external member (outside of the College of Medicine) must be members of the Graduate Faculty
- Three or four of the five voting members must be graduate faculty from Microbiology and Immunology Graduate Program
- The remaining voting member(s) must be outside of the program.
- At least one voting member on the committee must be outside of the College of Medicine – this person will need to be confirmed as described below.
- No more than three members may have their primary appointment in one department
- 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 fill out and sign the committee membership tab in E-forms
- 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 E-form will be completed and submitted for approval to the Program Director.

- First meeting will be completed by December 22nd of the second year of study

C. EXAMINATIONS

1. **Preliminary Examination:** The purpose of the Preliminary Exam is to assess the student's ability to integrate, process and utilize knowledge gained prior to and during the first year of Graduate School. Microbiology and Immunology Graduate Program faculty are involved in preparing and evaluating this exam. The format of the exam and detailed instructions regarding the entire examination process are distributed prior to the start of the examination period. The examination period is approximately 4 weeks and consists of both written and oral components. This exam starts once final grades are calculated, as only students in good academic standing are permitted to take the preliminary exam. The results of the exam are included in the student's permanent file.

Preliminary exam Committee:

A new Preliminary Examination committee is formed every year. The exam committee is composed of faculty members from the program.

Grading of Preliminary exam:

- Pass on Preliminary Exam – qualifies the student to continue to the second year of the Ph.D. program.
 - Failure or Deficiency on Preliminary Exam
 - the student may be asked to retake a part or both parts of the exam
 - if asked to retake one part of the exam, the exam committee will (a) redo part of the exam to correct a deficiency or b) repeat the entire exam
 - the student is permitted a single retake of the Exam, to be scheduled within one month of the original examination.
2. **Qualifying Examination:** This is a mock NIH grant proposal that is defended orally. The purpose of the examination is to assess a student's scientific creativity, ability to design a research project, and oral and written communication skills. The student's Thesis committee administers the exam. All required coursework should be fulfilled prior to the qualifying exam. It is the responsibility of the student, mentor and the chair of the thesis committee to ensure that all required course work is complete prior to setting up the qualifying examination. It is suggested that the student completes the qualifying exam by October 31st of year 3 in the program; the exam must be completed by the mid-point of the student's third year in residence, end of February. These dates align with non-AIDS F award deadlines of Dec 8 and April 8 or HIV F award deadlines of Jan 7 and May 7.

Typical format – project related to student's research project

Written Part (A):

- The written portion **cannot** be a topic that is already written and funded
- The format of the written portion is that of a NIH predoctoral fellowship grant proposal
- the student will submit a 1 page NIH style specific Aims page to the Chair of the Thesis Advisory Committee.
 - This will be 0.5 in margins and Arial 11 point font single spaced
 - It is expected the student will consult with their mentor to ensure the Aims proposed do not overlap with already funded research and align with proposed areas of research the student might conduct in the future
 - The mentor cannot write or edit the Aims page prior to submitting to the chair/committee. Their input is verbal guidance only.
- The Chair will review and if satisfied with the draft will send the specific aims page to the rest of the Thesis Advisory Committee
- The thesis advisory committee must approve the topic and proposal outline within one week of receipt from the student. The committee can:
 - provide approval
 - provide approval with comments
 - require a rewrite
- Upon approval, the student will have 30 days to submit the written version of the proposal to the Committee.
 - The written proposal should follow the style and format of an NIH grant application (1 + 6 page format for a total of 7 pages)
 - It should have a 1 page specific aims page – this is typically an edited version of what was approved by the committee taking into account suggested changes or changes made during the writing process
 - It should have 6 pages of a research strategy which includes at minimum Background/significance, approach, potential problems and alternative solutions sections
 - 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 7 page limit
 - The 7 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 describe studies that can be completed within 3 years
 - The proposal should be submitted electronically, in a word doc and/or pdf format, to the Chair of 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
- No direct faculty or postdoctoral assistance is permitted

- The student will schedule an oral defense of the written proposal within two weeks of submission of the written proposal.

Requests to deviate from the above format or topic selection must be submitted and approved by Thesis Committee and Program Director

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. Although it is preferred that all members of the thesis committee are present for the qualifying exam, the exam can be conducted with a minimum of 4 members present. The mentor and chair of the committee must be part of the 4 members present.

Grading of the qualifying 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 two months.
- 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. After dismissal the student may petition the Program to enter into the Master's program.

D. EVALUATION OF PROGRESS

Overall performance in coursework, on exams, in laboratory rotations, 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 take the Preliminary Examination.*
Pass on Preliminary Exam - qualifies the student to continue to the second year of the Ph.D. program.
Failure or Deficiency on Preliminary Exam - the student is permitted a single retake of the Exam, to be scheduled within one month of the original examination.
Failure on retake of Preliminary Exam - the student must withdraw from the Ph.D. program, and is eligible to apply for the M.S. program, with reapplication to Ph.D. program possible after completion of M.S.

- b. *Students with <3.0 average or who have less than a B in a required course are not eligible to take the Preliminary Exam, except with the permission of the steering committee.*

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

To continue into the third year of the Ph.D. program, students are required to achieve an overall GPA ≥ 3.0 with a B or better in all required and elective courses 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.

3. End of 3rd year

To continue into the fourth year of the Ph.D. program, students are required to achieve an overall GPA ≥ 3.0 with a B or better in all required and elective courses and satisfactory performance in the laboratory. Students must also successfully complete the Qualifying Exam.

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.

4. End of 4th year

To continue into the fifth year of the Ph.D. program, students are required to achieve an overall GPA ≥ 3.0 with a B or better in all required and elective courses and satisfactory performance in the laboratory. Students must have successfully completed the Qualifying Exam.

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.

5. End of 5th year

To continue into the sixth year of the Ph.D. program, students are required to achieve an overall GPA ≥ 3.0 with a B or better in all required and elective courses and satisfactory performance in the laboratory. Students must have successfully completed the Qualifying Exam.

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. DISSERTATION AND DEFENSE

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
- Approval for oral defense is based on the student having submitted a primary first author data paper and having the committee agree that no further experimentation is necessary for graduation (additional experiments can be performed but cannot be necessary)
- 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 email 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 of the written document and public oral defense of the Ph.D. dissertation 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.
- In conjunction with the dissertation, the student must have submitted one manuscript and prepared a second manuscript for publication.
- The student's dissertation committee must approve the dissertation 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. DREXEL UNIVERSITY COLLEGE OF MEDICINE
MICROBIOLOGY AND IMMUNOLOGY**
Typical Graduate Program Schedule for First Year PhD Student
Required Courses

Fall	
<u>IDPT 502S</u>	Learn Early As Professionals (LEAP I)
<u>IDPT 533S</u>	Core Principles in Biochemistry and Cell Biology
<u>MIIM 502S</u>	Micro & Immuno. Journal Club
<u>MIIM 504S</u>	Micro. & Immuno. 1st Rotation (20 hrs/wk)
<u>MIIM 508S</u>	Immunology I
<u>MIIM 512S</u>	Molecular Pathogenesis I (Viral Pathogenesis)
<u>MIIM 606S</u>	Microbiology and Immunology Seminar
Spring	
<u>IDPT 504S</u>	Learn Early And Practice (LEAP II)
<u>MIIM 513S</u>	MOLECULAR PATHOGENESIS II
<u>MIIM 502S</u>	Micro & Immuno. Journal Club
<u>MIIM 505S</u>	Micro. & Immuno. 2nd Rotation (20 hrs/wk)
<u>MIIM 506S</u>	Micro. & Immuno. 3rd Rotation (20 hrs/wk)
<u>MIIM 606S</u>	Microbiology and Immunology Seminar
<u>IDPT 500S</u>	Responsible Conduct of Research
<u>MIIM 517S</u>	Applied Statistics for Biomedical Sciences
Summer	
	Preliminary exam (late May into early June) Written and oral components must be passed
	Choose advisor by August 15th

**DREXEL UNIVERSITY COLLEGE OF MEDICINE
MICROBIOLOGY AND IMMUNOLOGY**
Typical Graduate Program Schedule for Second Year PhD Student
Required and Elective Courses

Required Courses	
<u>MIIM 502S</u>	Micro & Immuno. Journal Club (each semester)
<u>MIIM 514S</u>	Grant Building
<u>MIIM 600S</u>	Micro. & Immuno Thesis Research (each semester)
<u>MIIM 606S</u>	Microbiology and Immunology Seminar (each semester)
Electives	
Choose at least two Advanced Electives for a minimum of four credits	
<u>MIIM 528S</u>	Structural Bioinformatics
<u>MIIM 555S</u>	Molec. Mech. Of Micro. Path
<u>MIIM 607S</u>	IMMUNOLOGY II
<u>MIIM 613S</u>	Emerging Infectious Diseases
<u>MIIM 615S</u>	Experimental Therapeutics
<u>MIIM 620S</u>	Advanced Omics
<u>MIIM 625S</u>	Advanced Molecular Virology
<u>MIIM 630S</u>	Advanced Molecular Biology
General Electives	
<u>IDPT 507S</u>	Teaching Practicum I
<u>IDPT 508S</u>	Teaching Practicum II
<u>IDPT 509S</u>	Teaching Practicum III

**DREXEL UNIVERSITY COLLEGE OF MEDICINE
MICROBIOLOGY AND IMMUNOLOGY**
Typical Graduate Program Schedule for Year 3, 4, 5 PhD Student
Required and Elective Courses

Required Courses	
<u>MIIM 502S</u>	Micro & Immuno. Journal Club (each semester)
<u>MIIM 600S</u>	Micro.& Immuno Thesis Research (each semester)
<u>MIIM 606S</u>	Microbiology and Immunology Seminar (each semester)
General Electives	
<u>IDPT 507S</u>	Teaching Practicum I
<u>IDPT 508S</u>	Teaching Practicum II
<u>IDPT 509S</u>	Teaching Practicum III

Qualifying Exam – written and oral components of mock NIH Grant Proposal must be completed by the mid-point of the student’s third year in residence, end of February.

For subsequent years, the student enrolls in the following courses until permission is granted by the student’s Advisory Committee to enroll in “Dissertation Defense”. This approval must originate from the Chair of the Advisory Committee and sent to the Program Director and the Director of Division of Biomedical Science Programs.

III. GUIDELINES FOR M.D./Ph.D. DEGREE

A. PROGRAM

1. Except where agreed upon by the student and their thesis committee, the MD/PhD program consists of two to four years of graduate work following the third pre-clinical year of medical school. The general schedule for the MD/PhD program is:
 - (1) to complete the first three years of medical school. It is strongly recommended that students complete the rotation during the summers preceding formal enrollment into the Graduate Program
 - (2) complete the required graduate program courses, exams and research during the next two to four years,
 - (3) complete the last year of medical school, finishing and submission of the final dissertation prior to beginning the clinical year 4 rotations.
2. The MD/PhD student completes all of the standard requirements of medical school, and all of the requirements for the Ph.D. degree, with the following exceptions:
 - a. A single two-month lab rotation is required. A second rotation may be arranged if appropriate.
 - b. The same required and elective courses are required as for the Ph.D. degree, except where equivalent courses have been passed during medical school training.
 - MD/PhD students within the Microbiology & Immunology Program are exempt from *Core* Principles in Biochemistry and Cell Biology, Immunology I, and Molecular Pathogenesis I and II.
 - Students must enroll and complete two Advanced Elective courses.
 - c. Selection of the research advisor should be made immediately following the lab rotation(s).
 - d. Teaching is not required but may be arranged if requested by the student and approved by the Advisory Committee.
3. The MD/PhD student upon entry into the graduate program is equivalent to a beginning second PhD year student, and as such will select a thesis committee and take the Qualifying Exam at the end of the first year in the Graduate Program. Committee meetings will be held every six months.
4. 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/>) offers an excellent IDP template and clear instructions on how to construct a strong and useful IDP. Doctoral students must review IDPs with their mentors at least every 6 months.

5. The manuscript preparation requirement and the dissertation preparation and defense guidelines are identical to those of the Ph.D. program. The dissertation must be written and defended before returning for the last year of medical school. In exceptional cases, the dissertation committee, in accord with both the graduate and medical school's guidelines, may grant an extension to this deadline.

Proposed Schedule for MD/PhD Students in 1st Year of Microbiology & Immunology Program (Year 4 of MD/PhD program)

FALL

Journal Club	1 credit	MIIM 502S
Departmental Seminar	1 credit	MIIM 606S
Research	9 credits	MIIM 600S
Advanced Elective	3 credits	MIIM XXXS
Responsible conduct of research	2 credits	IDPT 500S

SPRING

Journal Club	1 credit	MIIM 502S
Departmental Seminar	1 credit	MIIM 606S
Research	9 credits	MIIM 600S
Advanced Elective	3 credits	MIIM XXXS
Grant Building	2 credits	MIIM 514S

**Elective courses chosen with consent by Advisory Committee*

Advanced Electives

Choose at least two Advanced Electives for a minimum of four credits

MIIM 528S	Structural Bioinformatics
MIIM 555S	Molec. Mech. Of Micro. Path
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

General Electives

IDPT 507S	Teaching Practicum I
IDPT 508S	Teaching Practicum II
IDPT 509S	Teaching Practicum III

Total Credits

* Taken each semester until Thesis Defense

** Taken each semester starting in Year two until Thesis Defense

Proposed Schedule for MD/PhD Students in Year 2 and beyond of Microbiology & Immunology Program (Years 5 and beyond of MD/PhD program)

Qualifying Exam – written and oral components of the Mock NIH Grant Proposal due by September 1 of 2nd year in the program (5th year of MD/PhD)

Required Courses	
MIIM 502S	Micro & Immuno Journal Club (each semester)
MIIM 600S	Micro & Immuno Thesis Research (each semester)
MIIM 606S	Microbiology and Immunology Seminar (each semester)
General Electives	
IDPT 507S	Teaching Practicum I
IDPT 508S	Teaching Practicum II
IDPT 509S	Teaching Practicum III

The student enrolls in the courses until permission is granted by the student's thesis Committee to enroll in "Dissertation Defense". This approval must originate from the Chair of the thesis Committee and be sent to the Program Director, the Director of Division of Biomedical Science Programs, and the Director of the MD/PhD Program.

GRADUATE STUDENT VACATION

During graduate training, Ph.D. students under university support may be eligible for up to 10 days of approved leave, in addition to the observance of traditional holidays. In years one and two, all requests must be made to and approved by the program director. In years three and beyond, any leave must be approved by the student's mentor. Any leave beyond two weeks (ten working days) must be approved by the Division of Biomedical Sciences Executive Committee. If a student takes an unapproved leave, their stipend will be suspended until they return.

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 PhD Program Completion Checklist

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 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 (10 min plus 5 questions)
- MIIM 506S 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 (10 min plus 5 questions)
- MIIM 508S Immunology I
- MIIM 512S Molecular Pathogenesis I
- MIIM 513S Molecular Pathogenesis II
- MIIM 517S Applied Statistics for Biomedical Sciences
- MIIM 606S MIIM seminar (each semester)
- Preliminary exam – generally done the week after last day of classes (to ensure eligibility) and ends first week of June – form to be completed/submitted
- Choose thesis research lab/mentor – will be completed by August 15th; student advisor completion form must be completed (also called financial agreement form)
- Complete IDP and review with 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/associate program director

Year 2 (to be completed by Aug 15th)

- MIIM 502S MIIM Journal Club (each semester)
- MIIM 514S Grant Building
- MIIM 600S Thesis research (each semester)
- MIIM 606S MIIM seminar (each semester)
- MIIM XXX Advanced course 1
- MIIM XXX Advanced course 2

- Choose thesis committee (will be completed by October 1st) – Dissertation committee membership form to be completed/submitted

- Have outside committee member confirmed – email program director for confirmation
- Thesis committee meeting 1 (will be completed by December 22nd) – Dissertation committee meeting report form to be completed/submitted
- Thesis committee meeting 2 (will be completed 6 months after meeting 1) – Dissertation committee meeting report form to be completed/submitted
- Complete IDP and review with mentor and 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

Advanced courses (select 2)

- 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

An advanced course from another program may be substituted for 1 of the 2 advanced courses if approved by the steering committee

Year 3 (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)
- Completion of qualifying exam (suggest to complete by Oct 31st but no later than end of Feb, 30th month of program; form to be completed/submitted
 - these dates align with non-AIDS F award deadlines of Dec 8 and April 8 or HIV F award deadlines of Jan 7 and May 7
- Thesis committee meeting 3 (will be completed 6 months after meeting 2) – Dissertation committee meeting report form to be completed/submitted
- Thesis committee meeting 4 (will be completed 6 months after meeting 3) – Dissertation committee meeting report form to be completed/submitted
- Presentation of research in MIIM seminar
- Submit primary manuscript – if ready
- Complete IDP and review with mentor and 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

Year 4 (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 5 (will be completed 6 months after meeting 4) – Dissertation committee meeting report form to be completed/submitted
- Thesis committee meeting 6 (will be completed 6 months after meeting 5) – Dissertation committee meeting report form to be completed/submitted
- Presentation of research in MIIM seminar
- Submit primary manuscript – if ready
- Complete IDP and review with mentor and 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

Year 5 (to be completed by Aug 15th)

- MIIM 502S MIIM Journal Club (each semester, if not registered for defense)
- MIIM 600S Thesis research (each semester, if not registered for defense)
- MIIM 606S MIIM seminar (each semester, if not registered for defense)
- Thesis committee meeting 7 (will be completed 6 months after meeting 6) – Dissertation committee meeting report form to be completed/submitted
- Thesis committee meeting 8 (will be completed 6 months after meeting 7) – Dissertation committee meeting report form to be completed/submitted
- Register for thesis defense
- Submit primary manuscript
- Prepare a second paper for submission
- 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