

DOCTOR OF PHILOSOPHY (PH.D.)

IMPORTANT Note About the Doctor of Philosophy in Microbiology and Immunology Degree

This program is no longer accepting students at this time as this field of study is now a discipline within the new Integrated Biomedical Sciences (IBMS) Program. All information in this section of the Catalog is for the current Microbiology and Immunology students only.

The graduate program in Microbiology focuses on microbial infection, host responses to infection, and other aspects of the immune system in health and disease. The track faculty members apply state-of-the-art experimental approaches, including genomics, proteomics and bioinformatics, as well as other genetic, biochemical, cellular and functional assays to study the regulation, host interactions and pathogenesis of viral, bacterial, fungal, and parasitic infections. In addition to mechanisms of host interactions with microorganisms, responses to allergens, tumor, and self-antigens are also investigated at the molecular, cellular and systemic levels. Students will have the opportunity to gain the broad knowledge and skills necessary for future research careers in many different areas of basic and clinical life sciences, including Microbial Genetics, Physiology and Pathogenesis, Infectious Diseases, Immune Regulation, Vaccinology, Tumor Immunology, Autoimmunity and Allergy.

Microbiology and Immunology Degree Requirements

A minimum of 72 credit hours and a minimum overall GPA of 3.0 is required for the Ph.D. degree. In addition, all doctoral candidates must register for the MICR 7099 Dissertation for at least two semesters in order to graduate. The student is required to demonstrate intellectual command of the subject area of the graduate program and capability to carry out independent and original investigation in the area. The student must successfully defend a dissertation and be recommended by their program COGS for approval of their degree to the Dean of the Graduate School of Biomedical Sciences.

M&I - Plan of Study (Course Curriculum Timeline)

First Year		
Fall		Credit Hours
IBMS 5000	Fundamentals Of Biomedical Sciences	8
IBMS 5008	Lab Rotations	2
Journal Club (any track)		
Attend weekly research seminars (any track once/week)		
Total Credit Hours:		10.0

First Year		
Spring		Credit Hours
MICR 5003	Core Concepts In Microbiology & Immunology	4
MICR 5029	Building Scientific Thinking Skills	2
INTD 6002	Ethics In Research	0.5
IBMS 5008	Lab Rotations	2

MICR 6091	Seminars In Microbiology & Immunology	1
Journal Club (any track)		
Total Credit Hours:		9.5

Second Year		
Fall		Credit Hours
MICR 5090	Acquiring Presentation Skills	1
MICR 5030	Microbiology And Immunology Track Journal Clubs	0.5
MICR 6091	Seminars In Microbiology & Immunology	1
MICR 6097	Research	1-12
Advanced Elective if needed - see department		
Total Credit Hours:		3.5-14.5

Second Year		
Spring		Credit Hours
MICR 5090	Acquiring Presentation Skills	1
MICR 5030	Microbiology And Immunology Track Journal Clubs	0.5
MICR 6091	Seminars In Microbiology & Immunology	1
MICR 6097	Research	1-12
Advanced elective if needed - see department		
Total Credit Hours:		3.5-14.5

Third Year		
Fall		Credit Hours
MICR 5090	Acquiring Presentation Skills	1
MICR 5030	Microbiology And Immunology Track Journal Clubs	0.5
MICR 6091	Seminars In Microbiology & Immunology	1
MICR 6097	Research	1-12
Total Credit Hours:		3.5-14.5

Third Year		
Spring		Credit Hours
MICR 5090	Acquiring Presentation Skills	1
MICR 5030	Microbiology And Immunology Track Journal Clubs	0.5
MICR 6091	Seminars In Microbiology & Immunology	1
MICR 6097	Research	1-12
Total Credit Hours:		3.5-14.5

Fourth Year		
Fall		Credit Hours
MICR 5090	Acquiring Presentation Skills	1
MICR 5030	Microbiology And Immunology Track Journal Clubs	0.5
MICR 6091	Seminars In Microbiology & Immunology	1

Microbiology and Immunology Objectives/ Program Outcomes

1. Students will be able to demonstrate proficiency in core (general) principles of the biomedical sciences and in principles specific to the discipline of microbiology/immunology.
2. The student will be able to conduct biomedical research.
3. Students will be able to demonstrate competence in written and verbal communication.
4. Students will be able to critically read and evaluate the biomedical literature.
5. Students will have a fundamental knowledge of ethics in research.
6. Students will complete dissertation research, and write and successfully defend their dissertation.