

INFECTIOUS DISEASE AND IMMUNOLOGY (MS)

Through the research-intensive Master of Science Degree in Infectious Disease and Immunology, students will receive rigorous training in the fundamentals of the scientific method, and in practical laboratory skills, by performing a research project under the joint direction of two scientific mentors: a basic scientist and a clinician.

Related Programs

Doctoral

- Biochemistry, Molecular and Cancer Biology (PhD) (<https://catalog.luc.edu/graduate-professional/graduate-school/health-sciences/biomedical-sciences/biochemistry-molecular-biology-phd/>)
- Microbiology and Immunology (PhD) (<https://catalog.luc.edu/graduate-professional/graduate-school/health-sciences/biomedical-sciences/microbiology-immunology-phd/>)

Combined

- Microbiology and Immunology (MD/PhD) (<https://catalog.luc.edu/graduate-professional/dual-degree-programs/microbiology-immunology-md-phd/>)

Curriculum

Required Courses

The Master of Science in Infectious Disease and Immunology requires 30 credit hours and a master's thesis.

Code	Title	Hours
BMSC 402	Statistical Methods for Biomedical Science	3
BMSC 405	Ethics in Biomedical Sciences	1
BMSC 410	Biochemistry and Molecular Biology	4
BMSC 412	Cell Biology	4
BMSC 416	Methods Biomedical Science	1
IDIM 400	Infections and Immunology	3
IDIM 401	Conceptual Bases of Infectious Diseases	2
IDIM 403	Parasitology and Virology	2
IDIM 418	Presentation skills	1
IDIM 492	Research	2
IDIM 501	Seminar	1
IDIM 502	Special Topics in Infectious Disease and Immunology	5
MIIM 503	Current Literature	1
IDIM 595	Thesis Supervision	0
Total Hours		30

Students will participate in the Department of Medicine's Clinical Grand Rounds that are held once a week. Students are expected to attend at least five Grand Rounds seminars, generally in their second year. This requirement allows Master's students to interact with physicians, residents, and medical students.

Research

Students will select a laboratory for research following one to three 6-week rotations during the first semester. Students will select laboratories

for each rotation in consultation with faculty mentors and the program's graduate program director. MS candidates are expected to undertake an independent, original experimental study resulting in a new and significant contribution to knowledge. The research will culminate in the preparation of a thesis and a final oral examination conducted by the student's MS Thesis Committee.

Thesis

By the beginning of the second year (August), in consultation with her/his mentors, students will select a committee (the two mentors plus two other faculty) and submit a written proposal for the master's thesis work. Following approval of the proposal, students continue to carry out the appropriate experiments and develop the written thesis. The thesis is defended orally to the committee by the end of the second year (by the end of July). Students are expected to actively engage in research for the duration of the program, including during semester breaks.

Graduate & Professional Standards and Regulations

Students in graduate and professional programs can find their Academic Policies in Graduate and Professional Academic Standards and Regulations (<https://catalog.luc.edu/academic-standards-regulations/graduate-professional/>) under their school. Any additional University Policies supersede school policies.

Learning Outcomes

Master's students will graduate with the ability to:

- Discuss, develop, conduct and/or supervise research projects that call for broad training in the biomedical sciences and focused training in Infectious Disease and Immunology.
- Provide technical expertise in molecular biology and cellular biology and a variety of other areas, such as biochemistry, immunological techniques, enzyme assays, and cell culture.
- Act as liaison between researchers and clinical faculty and in situations that require familiarity with clinical presentations within the areas of infectious disease and immunology, as well as treatment of infectious disease.
- Incorporate high standards of ethics into research design and execution and data interpretation.
- Demonstrate strong oral presentation skills in the course of dialogues with colleagues, clients, physicians, and research scientists.
- Have thorough knowledge, within the fields of infectious diseases and immunology, of the biomedical research process including project planning, experimental design, and research protocol development. This knowledge will be beneficial to those pursuing careers in health sciences, government or commercial environments.