

PATHOLOGY M.S.

All students must meet the Requirements for the Master's Degree

OVERVIEW

The Department of Pathology offers both a thesis and non-thesis based Master of Science degree. The thesis-based M.S. is a course and research-based program, with 24 credits in coursework, and a minimum of 6 credits of research culminating in a written thesis and defense. It is available to all applicants. A non-thesis M.S. requires 30 credits in coursework but does not require a thesis or thesis defense. The non-thesis M.S. is available only to University of Vermont medical students in the Vermont Integrated Curriculum (VIC). Research interests in the Department of Pathology are diverse, with special emphasis on Environmental Pathology, Pulmonary Diseases, and Cardiovascular Molecular Epidemiology.

SPECIFIC REQUIREMENTS

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Students should apply for admission into the M.S. in pathology program by June 1. Admission into this program requires the following:

Thesis Track

- Satisfactory undergraduate or graduate coursework in chemistry, organic chemistry, and the biological sciences
- Satisfactory scores on the Graduate Record Examination (GRE) general exam or the Medical College Admission Test (MCAT); candidates with at least 2 years of clinical or other scientific laboratory experience will be considered without GRE or MCAT scores
- Completion of the UVM Graduate College application
- 3 letters of recommendation that attest to the student's intellectual maturity, oral and verbal communication skills, and their aptitude for studies towards an advanced degree in this area

Non-Thesis Track

UVM medical students are eligible for selection to the program after the completion of the Foundations portion of the VIC.

- A detailed letter of intent and curriculum vitae are required for application.
- A grade of 80 or better in Nutrition, Metabolism and the Gastrointestinal Systems (NMGI).
- A grade of 80 or better in the Foundations of Clinical Science (FoCS) OR the combination of: Cardiovascular, Respiratory and Renal (CRR), Human Development and Reproductive Health (HDRH), Medical Neuroscience (MedNeuro) and Connections courses in Foundations.
- Completion of the UVM Graduate College application.

Chosen applicants will be interviewed by selected faculty members. Preference will be given to students with outstanding academic records who are highly motivated.

Program Learning Outcomes for Students in Both Tracks

- Obtain, analyze and evaluate information from a variety of sources
- Synthesize and apply knowledge to solve problems in ethical ways
- Evaluate the credibility and validity of research methods and clinical testing
- Defend the rigor, or lack of, when evaluating an experimental design including the inclusion or exclusion of crucial biological variables (e.g., sex, age, weight)
- Recognize vital biologic or chemical resources used in both research studies and clinical decision making for patients
- Identify effective communication strategies and engage in effective communication practices as team players
- Serve as an advocate for rigor and reproducibility when faced with proposed research questions
- Reflect on experiences and identify areas of improvement as life-long learners

Minimum Degree Requirements

A minimum of 30 credits, with at least 6 at the 6000-level and a minimum GPA of 3.00 are required for a M.S. in pathology, at least 6 credits of coursework must be at the 6000-level plus successful completion of an oral presentation at Pathology Grand Rounds covering a capstone or paper research project for non-thesis track students, or successful defense of a research thesis for thesis track students. Students must also meet the Graduate College requirements for the Master's Degree.

Requirement Description		Credits
Non-Thesis Track (Core curriculum - 30 credit hrs)		
PATH 6300	Pathology Rotations (Repeated for 24 credits total)	3-9
PATH 6000	Biomedical Research Design	1
PATH 6080	Pathology Journal Club	1
PATH 6090	Pathology Grand Rounds	1
PATH 6100	Genomic Med & Cytogenetics	2
NSCI 6270	Resp Conduct in Biomed Rsch	1
Additional approved courses		8

Requirement Description		Credits
Thesis Track (Core curriculum- Minimum 30 credit hours)		
BIOC 6001	General Biochemistry I	3
CLBI 6010	Cell Biology	3

CLBI 6020	Science Communication	2
NSCI 6270	Resp Conduct in Biomed Rsch	1
PATH 6000	Biomedical Research Design	1
PATH 6070	Molecular Pathology	3
PATH 6080	Pathology Journal Club	1
PATH 6090	Pathology Grand Rounds	1
PATH 6280	Techniques in Microscopy	3
PATH 6300	Pathology Rotations	3-9
PATH 6310	Pathology Clinical Practice	1
PATH 6391	Master's Thesis Research	6-15
Additional approved elective courses		Up to 8

Comprehensive Examination

The comprehensive examination is fulfilled in the non-thesis track through a graded grand rounds presentation covering a capstone or a paper research project. Preparation and defense of a thesis proposal fulfills the comprehensive examination for the thesis track.

Requirements for Advancement to Candidacy for the Degree of Master of Science

Completion of core curriculum and passing the comprehensive examination.