HONOURS BACHELOR OF SCIENCE IN TRANSLATIONAL AND MOLECULAR MEDICINE AND DOCTORATE OF PHILOSOPHY

Overview

The Bachelor of Science with Honours in Translational and Molecular Medicine (TMM) is a unique collaborative effort between the Faculty of Medicine's researchers and its affiliated institutes. The program integrates theoretical and practical courses with e-learning, offering students an enriching educational environment and exposing them to innovative research throughout their studies. TMM offers the largest number of advanced laboratories for an undergraduate program in Canada. Students are taught by both basic scientists and clinicians, providing them with the skillsets required to perform cutting-edge biomedical research.

Three program options are available: Honours in Translational and Molecular Medicine, Integrated Honours BSc/MSc in Biochemistry, Cellular and Molecular Medicine, Microbiology and Immunology or Neuroscience, and the Integrated BSc/PhD program in the same disciplines.

Admission Requirements

For the Integrated Honours BSc/PhD, all the requirements for admission for the Honours BSc in Translational and Molecular Medicine must be met along with minimum admission average of 8.0 (CGPA) and an admission interview.

Program Requirements

The French immersion stream is available with this program.

Basis of admission: two full years of study in a BSc. (60 units)

Requirements for this program have been modified. Please consult the 2025-2026 calendars (https://catalogue.uottawa.ca/en/archives/) for the previous requirements.

Compulsory Courses		
TMM 3009	Biomedical Research Laboratory	9 Units
TMM 3101	Molecular Biology and Inherited Disorders	3 Units
TMM 3102	Proteins: Structure, Function and Disease	3 Units
TMM 3103	Metabolic Pathways of Human Diseases	3 Units
TMM 3104	Cellular Basis of Disease	3 Units
TMM 4311	Seminars in Translational Molecular Medicine	3 Units
TMM 4906	Life in a Lab I	1.5 Units
TMM 4907	Life in a Lab II	1.5 Units
TMM 4950	Science Communication	3 Units
TMM 5900	Research Project	12 Units
MED 8166	Professionalism and Professional Skills	
Optional Courses:		
6 course units from:		6 Units
PHS 3341	Physiology of Sensation, Regulation Mechanisms, Movement and Reproduction	
PHS 3342	Physiological Regulation of Intake, Distribution, Protection and Elimination	
TMM 3105	Introduction to Immunology	
TMM 3106	Introduction to Neurobiology	
TMM 3107	Introduction to Genomics	
TMM 3108	Introduction to Medical Bioinformatics	
TMM 3111	Phage Hunters: Genome Annotation and Analysis	
TMM 3112	Bioinformatics for Neurodegenerative Disease	
TMM 3300	Selected Topics in Translational and Molecular Medicine	
TMM 3301	Introduction to Inquiry Based Research	
TMM 3302	Current Topics in Precision Medicine	

For the Doctorate in Microbiology and Immunology

Compulsory Courses:		
MIC 5100	Pathogen Interactions and Host	3 Units
MIC 8366	PhD Seminar	3 Units
MIC 9998	Comprehensive Examination	
THD 9999	Doctoral Thesis	
Optional Courses:		
3 units of optional 3 Units courses from biochemistry (BCH), cellular and molecular medicine (CMM), medicine (MED), microbiology and immunology (MIC), clinical science and translational medicine (CTM) or neuroscience (NSC) at the 5000, 6000, 7000 or 8000 level		3 Units
Elective Courses:		
6 elective course units from another faculty		6 Units

[1] PHI 2396 is strongly recommended.

For the Doctorate in Neuroscience

Compulsory courses:		
NSC 8325S	Seminar for PhD Students	3 Units
NSC 9998	Comprehensive Examination (Ph.D.)	
THD 9999	Doctoral Thesis	
Optional courses:		
3 course units from:		3 Units
NSC 5102	Cellular and Molecular Neuroscience	
NSC 5104	Systems Neuroscience	
3 units of optional courses from biochemistry (BCH), cellular and molecular medicine (CMM), medicine (MED), microbiology and immunology (MIC), clinical science and translational medicine (CTM) or neuroscience (NSC) at the 5000, 6000, 7000 or 8000 level		3 Units
Elective courses:		
6 elective course units from another faculty [1]		6 Units

[1] PHI 2396 is strongly recommended.

For the Doctorate in Clinical Science and Translational Medicine

Compulsory Courses:		
CTM 8101	Research Methods and Experimental Design	3 Units
CTM 8102	PhD Seminar	3 Units
CTM 8103	Comprehensive Examination (PhD)	
CTM 8104	PhD Entrustable Professional Activities	
THD 9999	Doctoral Thesis	
Optional Courses:		
3 units of optional courses from biochemistry (BCH), cellular and molecular medicine (CMM), medicine (MED), microbiology and immunology (MIC), clinical science and translational medicine (CTM) or neuroscience (NSC) at the 5000, 6000, 7000 or 8000 level		3 Units
Elective Courses:		
6 elective course units from another faculty [1]		6 Units

[1] PHI 2396 is strongly recommended.

For the Doctorate in Biochemistry

Compulsory Courses:		
BCH 8366	PhD Seminar	3 Units
BCH 9998	Comprehensive-Examination (PhD)	
THD 9999	Doctoral Thesis	
Optional Courses:		
6 optional course units in biochemistry (BCH), cellular and molecular medicine (CMM), medicine (MED), microbiology and immunology (MIC), clinical science and translational medicine (CTM) or neuroscience (NSC) at the 5000, 6000, 7000 or 8000 level		6 Units
Elective Courses:		
6 elective course units from another faculty [1]		6 Units

[1] PHI 2396 is strongly recommended.

For the Doctorate in Cellular and Molecular Medicine

Compulsory Courses:		
CMM 8325S	Seminars II	3 Units
CMM 9998	Comprehensive Examination (PhD)	
THD 9999	Doctoral Thesis	
Optional Courses:		
6 optional course units in biochemistry (BCH), cellular and molecular medicine (CMM), medicine (MED), microbiology and immunology (MIC), clinical science and translational medicine (CTM) or neuroscience (NSC) at the 5000, 6000, 7000 or 8000 level		6 Units
Elective Courses:		
6 elective course units from another faculty [1]		6 Units

[1] PHI 2396 is strongly recommended.