

# HONOURS BSC IN BIOMEDICAL SCIENCE - BIostatISTICS OPTION

Biomedical Science is an interdisciplinary program that focuses on the fundamentals of human structure and function, as well as those of other animals. The first two years provide a background in human anatomy and psychology, in addition to more in-depth knowledge in basic sciences like biology, chemistry, biochemistry, and mathematics. At the end of second year, in addition to courses in biology and biochemistry, students may choose from an array of optional courses and obtain a minor in one of many programs offered, OR they can choose an option within the biomedical sciences (Neuroscience, Cellular and Molecular Medicine, Bioanalytical Science, Medicinal Chemistry or Biostatistics). On graduation, they will be ready for more advanced research training or for admission to a professional program in human health.

Students in the Biomedical Sciences program are also eligible to participate in the Co-Operative Education Programs.

Admission to this program is competitive and higher averages are required.

This program is offered in English and in French.

## Program Requirements

Co-operative education is available with this program.

The French immersion stream is available with this program.

Requirements for this program have been modified. Please consult the 2020-2021 calendars (<http://catalogue.uottawa.ca/en/archives/>) for the previous requirements.

ANP 1105	Human Anatomy and Physiology I	3 Units
ANP 1106	Human Anatomy and Physiology II	3 Units
BIO 1130	Introduction to Organismal Biology	3 Units
BIO 1140	Introduction to Cell Biology	3 Units
CHM 1311	Principles of Chemistry	3 Units
CHM 1321	Organic Chemistry I	3 Units
MAT 1330	Calculus for the Life Sciences I	3 Units
MAT 1332	Calculus for the Life Sciences II	3 Units
MAT 1341	Introduction to Linear Algebra	3 Units
PHY 1321	Principles of Physics I	3 Units
PSY 1101	Introduction to Psychology: Foundations	3 Units
3 course units from:		3 Units
PSY 1102 Introduction to Psychology: Applications		
PSY 2114 Lifespan Psychology		
3 optional course units in English (ENG) at the 1000 or 2000 level, excluding ENG 1112 and ENG 1131		3 Units
BCH 2333	Introduction to Biochemistry	3 Units
BIO 2133	Genetics	3 Units
CHM 2120	Organic Chemistry II	3 Units
MAT 2371	Introduction to Probability	3 Units
MAT 2379	Introduction to Biostatistics	3 Units
PHI 2396	Bioethics	3 Units

BCH 3120	General Intermediary Metabolism	3 Units
BIO 3170	Molecular Biology	3 Units
MAT 3375	Regression Analysis	3 Units
MAT 3377	Sampling and Surveys	3 Units
MAT 3378	Analysis of Experimental Designs	3 Units
3 course units from:		3 Units
BCH 3356 Molecular Biology Laboratory		
BIO 3151 Molecular Biology Laboratory		
One option from the following:		9 Units
<b>Option 1: Honours Project</b>		
BIM 4009 Research Project - Biomedical Science		
<b>Option 2: Honours Project Substitution</b>		
BPS 4127 Advanced Techniques in Biosciences		
and 6 optional course units at the 3000 or 4000 level from the list of optional courses		
BIM 4920	Seminar I Evaluating Science	1.5 Units
BIM 4921	Seminar II Developing and Communicating Science	1.5 Units
3 course units from:		3 Units
BIO 4158 Applied Biostatistics		
MAT 4374 Modern Computational Statistics		
12 optional course units from the list of optional courses		12 Units
3 optional course units at the 3000 or 4000 level offered by the Faculty of Science <sup>1</sup>		3 Units
15 elective course units		15 Units
Total:		120 Units

Note(s)

<sup>1</sup> The course SCI 3101 is considered a science optional course.

## List of Optional Courses

BIM 4316	Modern Bioanalytical Chemistry	3 Units
BIO 3102	Molecular Evolution	3 Units
BIO 3360	Computational Tools for Biological Sciences	3 Units
BPS 3101	Genomics	3 Units
BPS 4104	Bioinformatics Laboratory	3 Units
BPS 4127	Advanced Techniques in Biosciences	3 Units
CHM 2354	Analytical Chemistry	3 Units
MAT 4375	Multivariate Statistical Methods	3 Units
MAT 4377	Topics in Applied Probability	3 Units
MAT 4378	Categorical Data Analysis in Biostatistics	3 Units