HONOURS BSC IN BIOMEDICAL SCIENCE - MEDICINAL CHEMISTRY 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 2021-2022 calendars (http://catalogue.uottawa.ca/en/archives/) for the previous requirements

APN 1105 Human Anatomy and Physiology I 3 Units
APN 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
PHY 1321 Principles of Physics I 3 Units
PSY 1101 Introduction to Psychology: Foundations 3 Units
3 course units from:
PSY 1102 Introduction to Psychology: Applications
PSY 2114 Lifespan Psychology
3 course units in English (ENG) at the 1000 or 2000 level, excluding ENG 1112 and ENG 1131
BCH 2333 Introduction to Biochemistry 3 Units
BIO 2133 Genetics 3 Units
CHM 2120 Organic Chemistry II 3 Units
CHM 2123 Laboratory of Organic Chemistry II 3 Units
CHM 2132 Physical Chemistry for the Life Sciences 3 Units

3 course units from:
BCH 3356 Molecular Biology Laboratory
BIO 3151 Molecular Biology Laboratory

One option from the following: 9 Units

Option 1: Honours Project
BIM 4009 Research Project - Biomedical Science

Option 2: Honours Project Substitution
3 course units from:
BIM 4316 Modern Bioanalytical Chemistry
BPS 4126 Synthetic and Medicinal Chemistry Laboratory

and 6 optional course units at the 3000 or 4000 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
CHM 4123 Medicinal Chemistry 3 Units
PHA 4107 Introductory Pharmacology - Drugs and Living Systems 3 Units

3 optional course units from the list of optional courses at the 3000 or 4000 level 3 Units
3 optional course units at the 3000 or 4000 level offered by the Faculty of Science 1 3 Units
15 elective course units 15 Units

Total: 120 Units

Note(s)

1 The course SCI 3101 is considered a science optional course.

List of Optional Courses

BCH 4123 Pathological Biochemistry 3 Units
BIM 4103 Selected Topics in Biomedical Science 3 Units
BIM 4316 Modern Bioanalytical Chemistry 3 Units
BPS 3350 Transition Metal Chemistry 3 Units
BPS 4103 Selected Topics in Biopharmaceutical Science 3 Units
BPS 4105 Human Toxicology and Environmental Health 3 Units
BPS 4121 Biosynthesis and Natural Product Derived Medicines 3 Units

BPS 4126 Synthetic and Medicinal Chemistry Laboratory 3 Units
BPS 4129 Advanced Chemical Biology 3 Units
BPS 4131 Advanced Biopharmaceutical Science 3 Units
CHM 4139 Enzyme Chemistry and Biocatalysis 3 Units

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<tr>
<th>Course Code</th>
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<td>CHM 4141</td>
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<td>CHM 4317</td>
<td>Organometallic Chemistry</td>
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<td>CHM 4319</td>
<td>Bio-Inorganic Chemistry</td>
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<td>CHM 4354</td>
<td>Principles of Instrumental Analysis</td>
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