



www.uwo.ca/sci ▶ Western Science Centre 191 ▶ 519-661-2111 x87337

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Academic Counselling

Science and Basic Medical Sciences

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www.uwo.ca/sci/counselling

Visit our website for current counselling schedule and hours – under Advising Services.

Admission Requirements for Medical Sciences First Entry:

Six Grade 12U and/or M level courses including:

- ▶ English (ENG4U)
- ▶ Calculus and Vectors (MCV4U)
- ▶ Biology (SBI4U)
- ▶ Chemistry (SCH4U)
- ▶ Although Western offers first year Physics courses that do not require secondary school Physics as a prerequisite, it is strongly recommended that students complete Grade 12U Physics (SPH4U)

Admission Requirements for Science:

Six Grade 12U and/or M level courses including:

- ▶ English (ENG4U)
- ▶ Calculus and Vectors (MCV4U)
- ▶ Two of: Advanced Functions (MHF4U); Biology (SBI4U); Chemistry (SCH4U); Computer and Information Science (ICS4U); Earth and Space Science (SES4U); Math of Data Management (MDM4U); Physics (SPH4U)

Note: Grade 12U Biology is required for Biology 1001A, 1002B, 1201A and 1202B; and Grade 12U Chemistry is required for Chemistry 1301A/B and 1302A/B. Please check the prerequisite courses required for your preferred modules (areas of study) to ensure you have the appropriate background.

Three-Year, Four-Year and Honors Degrees

General admission, progression and graduation requirements for the modules, and the 3-year, 4-year, and 4-year honors degrees, are listed in the Academic Information section.

Degrees Offered

- ▶ Bachelor of Arts (BA): 3-year and 4-year; 4-year Honors
- ▶ Bachelor of Science (BSc): 3-year and 4-year; 4-year Honors
- ▶ Bachelor of Science (Foods and Nutrition) [BSc(FN)]: 4-year; 4-year Honors - see Brescia University College
- ▶ Bachelor of Medical Sciences (BMSc): 4-year; 4-year Honors
- ▶ BMSc (Honors Specialization in Interdisciplinary Medical Sciences or Biochemistry) combined with HBA (Business Administration): 5-year program
- ▶ BSc Honors combined with HBA (Business Administration): 5-year program
- ▶ Diploma in Computer Science
- ▶ Diploma in Game Science Development

Graduate Degrees

- ▶ Master of Arts (MA)
- ▶ Master of Science (MSc)
- ▶ Doctor of Philosophy (PhD)
- ▶ Master of Environment & Sustainability (MES)
- ▶ Master's in Management of Applied Science (MMASc)

Science/BMSc Internship Program

The Science/BMSc Internship Program aims to provide an 8-16 month practical science-related experience in an employment setting. All students enrolled in the 3rd year of a 4-year undergraduate Science or Basic Medical Sciences Honors Specialization, Specialization, or in a Major and Major combination (where at least one of the Majors is in Science or Basic Medical Sciences), are eligible to enrol in the Science/BMSc Internship Program, if they satisfy the eligibility requirements.

Integrated Science (WISc)

Western's Integrated Science program (WISc) is a first-entry, four-year program offered by the Faculty of Science. WISc combines unique Integrated Science courses with traditional discipline-specific courses. Year-2 WISc students will enrol in an Integrated Science Honors Specialization module administered jointly by the Faculty of Science and individual Science departments. Students who complete WISc will graduate with an "Honors Bachelor of Science in Integrated Science with (a specific discipline from the Faculty of Science)."

Combined Science/HBA Program

The completion of these combined degrees takes five academic years. Students apply for the combined degree program during the HBA 1st year, typically their third year of University. To be eligible for consideration for admission to this program, students must complete: a full first year (5.0 courses), including all the principal courses with the appropriate marks required for admission to an Honors Specialization offered by the Faculty of Science; a second year (5.0 courses), including 4.0 courses of their Honors Specialization module with a minimum average mark of 70 % and no mark less than 60 % in these modular courses, and Business Administration 2257 with a minimum mark of 70 %. Because entrance to the program is competitive and limited, students must achieve a minimum two-year (10.0 course) average of 80%. Demonstrated participation in extracurricular and/or community activities, leadership, and work experience are also taken into consideration.

Students applying to the Richard Ivey School of Business Advanced Entry Opportunity (AEO) are also eligible to be considered for the combined degree program.

APPLIED MATHEMATICS www.apmaths.uwo.ca ▶ Middlesex College 255 ▶ 519-661-3649

In Applied Mathematics, we use mathematical and numerical methods in a diverse mix of fields. We focus on computational biology and materials physics, computer software tools for mathematical modelling, dynamical systems, mathematical biology, science computation, as well as theoretical physics.

| MODULE | PREREQUISITE COURSES |
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| Honors Specialization in Applied Mathematics | Completion of first-year requirements with no failures. Students must have an average of at least 70% in 3.0 principal courses, including either Calculus 1000A/B or 1500A/B, and either Calculus 1301A/B or 1501A/B plus 2.0 additional courses, with no mark in these principal courses below 60%. Mathematics 1600A/B or Applied Mathematics 1411A/B with a mark of at least 60%, is normally taken in year 1. If not taken in year 1, it must be completed in the first term of year 2. Applied Mathematics 1999F/G, while not required, will be useful to students in this module. |
| Honors Specialization in Mathematical Sciences | Completion of first-year requirements with no failures. Students must have an average of at least 70% in 3.0 principal courses, including either Calculus 1000A/B, 1500A/B, and either Calculus 1301A/B or 1501A/B plus 2.0 additional courses, with no mark in these principal courses below 60%. Students who take Calculus 1301A/B must have a mark of at least 85% in the course. Mathematics 1600A/B or Applied Mathematics 1411A/B with a mark of at least 60%, is normally taken in year 1. If not taken in year 1, it must be taken in first term of year 2. Statistical Sciences 1023A/B is recommended. |
| Major in Applied Mathematics Major in Applied Mathematical Methods Specialization in Applied Mathematics Minor in Applied Mathematics Minor in Mathematical and Numerical Methods | Completion of first-year requirements including either Calculus 1000A/B, 1500A/B, and either Calculus 1301A/B or 1501A/B with a mark of at least 60% in each. Mathematics 1600A/B, or Applied Mathematics 1411A/B, with a mark of at least 60%, if not taken in year 1, must be taken before the second term of year 2. Applied Mathematics 1999F/G, while not required, may be useful for students in these modules. |
| Major in Theoretical Physics | Completion of first-year requirements, including either Calculus 1000A/B, 1500A/B; and Calculus 1301A/B or 1501A/B with a mark of at least 60% for each. Either Physics 1301A/B, 1401A/B or 1501A/B and either Physics 1302A/B, 1402A/B or 1502A/B with an average mark of at least 60% in the two half courses. Mathematics 1600A/B, or Applied Mathematics 1411A/B, with a mark of at least 60%. If not taken in year 1, it may also be taken in first term of year 2. This module must be taken in conjunction with a Minor or Major in Applied Mathematics; a Major in Applied Mathematics is suggested. The Major in Theoretical Physics cannot normally be completed in three years. |
| Major in Scientific Computing and Numerical Methods | Completion of first-year requirements, including either Calculus 1000A/B, 1500A/B, and either Calculus 1301A/B or 1501A/B with a mark of at least 60% in each. Computer Science 1025A/B or 1026A/B and Computer Science 1027A/B with at least 60% in each. Mathematics 1600A/B, or Applied Mathematics 1411A/B, with a mark of at least 60%, if not taken in year 1, must be taken before the second term of year 2. Applied Mathematics 1999F/G, while not required, will be useful for students in this module. |

Note: Applied Mathematics 1413 (with a mark of at least 60%) may be substituted for the 1.0 Calculus requirement.

BIOINFORMATICS

Middlesex College 355 ▶ 519-661-3566

Utilize the power of computers to investigate solutions to a vast range of molecular biology problems. Students with interests in computer science, the biosciences, chemistry and mathematics are encouraged to consider this area of study. See Computer Science.

BIOLOGY

www.uwo.ca/biology ▶ North Campus Building 301 ▶ 519-850-2542

Western's Biology programs offer the opportunity for students to study aspects of life from molecular, cellular, organismal, community and global perspectives. Throughout the Biology program, students acquire not only an understanding of the concepts of Biology, but also skill sets that will serve them well for life after university. We provide hands-on lab experience in most courses and our innovative lab-only course emphasizes student input into experimental design. Students learn a variety of modern techniques and the basics of scientific communication. The success of this course has inspired the development of similar lab-only courses at the third year level in cell biology, genetics and physiology. Throughout the undergraduate program, there are opportunities for students to take their studies to the field, as Biology at Western offers a variety of field courses across North America and the World. During their fourth year of study, students have course options to work closely with faculty members on research projects giving them ample lab and field work experiences during the academic year.

| MODULE | PREREQUISITE COURSES |
|--|---|
| Honors Specialization in Biology Honors Specialization in Genetics Honors Specialization in Biodiversity and Conservation | Completion of first year requirements with no failures. Students must have an average of at least 70% in 3.0 principal courses, including: Biology 1001A or 1201A and 1002B or 1202B; Chemistry 1301A/B and 1302A/B; plus 1.0 additional course, with no mark in any of these principal courses below 60%. Physics 1028A/B or 1301A/B or 1501A/B; 1.0 course from the Mathematics list for Biology modules*. If not completed in first year, the Mathematics requirement must be completed by the end of second year. |
| Honors Specialization in Animal Behaviour (BSc) | Completion of first year requirements with no failures. Students must have an average of at least 70% in 3.0 principal courses, including Biology 1001A or 1201A and Biology 1002B or 1202B; Chemistry 1301A/B and 1302A/B; Psychology 1000; plus 1.0 additional course, with no mark in these principal courses below 60%. 0.5 course from: Physics 1028A/B, 1301A/B or 1501A/B; 1.0 course from the Mathematics list for Biology modules*. If not completed in first year, the Mathematics requirement must be completed by the end of second year. |

| MODULE | PREREQUISITE COURSES |
|---|--|
| Honors Specialization in Genetics and Biochemistry | Completion of first year requirements with no failures. Students must have an average of at least 70% in 4.0 principal courses with no mark in these principal courses below 60%. 1.0 course from: Biology 1001A or 1201A and Biology 1002B or 1202B; Chemistry 1301A/B and 1302A/B; 1.0 course from the Mathematics list for Biology modules*; Physics 1028A/B or 1301A/B or 1501A/B and Physics 1029A/B or 1302A/B or 1502A/B. |
| Honors Specialization in Integrated Science with Biology Honors Specialization in Integrated Science with Genetics | Completion of first year requirements with no failures. Students must complete the following courses with an average of at least 70%, with no individual course mark below 60%: 0.5 course: Integrated Science 1000Z; 0.5 course: Calculus 1000A/B or 1500A/B; 1.0 course: Chemistry 1301A/B, Physics 1301A/B or 1501A/B; 0.5 course: Biology 1001A 2.0 course: Integrated Science 1001X. |
| Major in Biology Major in Genetics Specialization in Biology | Completion of first year requirements with no failures in each of Biology 1001A or 1201A and Biology 1002B or 1202B, with a minimum mark of 60% in each; Chemistry 1301A/B and 1302A/B. Physics 1028A/B or 1301A/B or 1501A/B. 1.0 course from the Mathematics list for Biology modules*. If not completed in first year, the Mathematics requirement must be completed by the end of second year. |
| Major in Ecosystem Health | Completion of first year requirements, including Biology 1001A or 1201A and Biology 1002B or 1202B, with a minimum mark of 60% in each; Chemistry 1301A/B and 1302A/B. Physics 1028A/B or 1301A/B or 1501A/B. 1.0 course from the Mathematics list for Biology modules*. Earth Sciences 1088F/G and Environmental Science 1021F/G are highly recommended. |
| Minor in Biology Minor in Genetics | Biology 1001A or 1201A and Biology 1002B or 1202B with a mark of at least 60% in each; Chemistry 1301A/B and 1302A/B. |

* Mathematics list for Biology modules: Applied Mathematics 1201A/B, Calculus 1000A/B, or 1500A/B, Calculus 1301A/B or 1501A/B, Mathematics 1225A/B, 1228A/B, 1229A/B, 1600A/B, Statistical Sciences 1024A/B.

CHEMISTRY

www.uwo.ca/chem ▶ Chemistry Building 119 ▶ 519-661-2166

Chemistry is the study of the structure, composition and properties of materials and the changes that materials undergo. Chemistry is a central science that overlaps and integrates with other science disciplines such as biology, physics, and mathematics. Learn about the basic principles of chemistry—from individual atoms to massive chemical plants, from batteries to bio-chemicals, from pharmaceuticals to engine oil.

| MODULE | PREREQUISITE COURSES |
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| Honors Specialization in Chemistry | Completion of first year requirements with no failures. Students must have an average of at least 70% in 3.0 principal courses, with no mark less than 60% in any course, including: Chemistry 1301A/B and 1302A/B; Physics 1028A/B or 1301A/B or 1501A/B and Physics 1029A/B or 1302A/B or 1502A/B; 1.0 course from: Calculus 1000A/B, 1500A/B and one of Applied Mathematics 1201A/B, Applied Mathematics 1413, Calculus 1301A/B, 1501A/B, Mathematics 1225A/B, 1229A/B or 1600A/B. |
| Honors Specialization in Biochemistry and Chemistry | Completion of first year requirements with no failures. Students must have an average of at least 70% in 3.0 principal courses with no mark less than 60% in any course, including: Chemistry 1301A/B and 1302A/B; Biology 1001A and 1002B; 1.0 course from: Calculus 1000A/B or 1500A/B; and one of Applied Mathematics 1201A/B, Applied Mathematics 1413, Calculus 1301A/B, 1501A/B, Mathematics 1225A/B, 1229A/B or 1600A/B (with an average in the two of at least 60%). 1.0 course from: (Physics 1028A/B or 1301A/B or 1501A/B) and (Physics 1029A/B or 1302A/B or 1502A/B), (This 1.0 course is required but is not considered to be a principal course). Note: Biology 1201A with a minimum mark of 70% can be used to replace Biology 1001A, and Biology 1202B with a minimum mark of 70% can be used to replace Biology 1002B. |
| Honors Specialization in Chemical Biology | Offered only within a BSc (Honors) degree. See Biochemistry department listing. |
| Honors Specialization in Integrated Science with Chemistry | Completion of first year requirements with no failures. Students must complete the following courses with an average of at least 70%, with no individual course mark below 60%: 0.5 course: Integrated Science 1000Z; 0.5 course: Calculus 1000A/B or 1500A/B; 1.0 course: Chemistry 1301A/B, Physics 1301A/B or 1501A/B; 2.0 course: Integrated Science 1001X. |
| Major in Chemistry Specialization in Chemistry | Completion of first year requirements including the following 3.0 courses with no mark less than 60%: Chemistry 1301A/B and 1302A/B; Physics 1028A/B or 1301A/B or 1501A/B and Physics 1029A/B or 1302A/B or 1502A/B; 1.0 course from: Calculus 1000A/B or 1500A/B and one of Applied Mathematics 1201A/B, Applied Mathematics 1413, Calculus 1301A/B, 1501A/B, Mathematics 1225A/B, 1229A/B or 1600A/B. |
| Minor in Chemistry | Completion of first year requirements including the following 2.0 courses with no mark less than 60% in any course: 1.0 course from: Chemistry 1301A/B and 1302A/B; 1.0 course from Calculus 1000A/B or 1500A/B; and one of Applied Mathematics 1201A/B, 1413, Calculus 1301A/B, 1501A/B, Mathematics 1225A/B, 1229A/B or 1600A/B. This minor cannot be taken in combination with any other module offered by the Department of Chemistry. |
| Minor in Advanced Chemistry | Available only to those students who will complete one of the following modules: Honors Specialization in Chemistry, Honors Specialization in Biochemistry and Chemistry or Specialization in Chemistry. (See these modules for the prerequisite courses for each.) |

COMPUTER SCIENCE

www.csd.uwo.ca ▶ Middlesex College 355 ▶ 519-661-3566

A Computer Science degree is one of the most employable degrees you can earn. This exciting discipline will open doors, allowing you to have an impact on real world problems. Western's interdisciplinary studies let you combine Computer Science with other areas that interest you - even with degrees in Business, Engineering, Music or Fine Arts. We also offer specialized programs in Information Systems, Bioinformatics and Gaming. Computer Science is a rapidly evolving field; with a Computer Science degree, you can make a difference. If you are creative, logical and enjoy design, then Computer Science is for you.

| MODULE | PREREQUISITE COURSES |
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| Honors Specialization in Computer Science Honors Specialization in Information Systems | Completion of first year requirements with no failures. Students must have an average of at least 70% with no mark less than 60% in 3.0 principal courses including: Computer Science 1025A/B or 1026A/B or Engineering Science 1036A/B; Computer Science 1027A/B or 1037A/B (with a mark of at least 65%); 1.0 course from: Applied Mathematics 1201A/B, 1413, Calculus 1000A/B, 1301A/B, 1500A/B, 1501A/B, or Mathematics 1600A/B. |
| Honors Specialization in Medical Health Informatics | See Pathology Department listing. Offered only within a BSc (Honors) degree. |
| Honors Specialization in Bioinformatics | Completion of first year requirements with no failures. Students must have an average of at least 70% in 4.0 principal courses, with no mark below 60%, including: Biology 1001A and 1002B; Chemistry 1301A/B and 1302A/B; Computer Science 1025A/B or 1026A/B or Engineering Science 1036A/B; Computer Science 1027A/B or 1037A/B, in either case with a mark of at least 65%; 1.0 course from: Applied Mathematics 1201A/B, 1413, Calculus 1000A/B, 1301A/B, 1500A/B, 1501A/B, Mathematics 1600A/B. Note: Biology 1201A with a mark of at least 70% may be used in place of Biology 1001A, and Biology 1202B with a mark of at least 70% may be used in place of Biology 1002B. |
| Honors Specialization in Integrated Science with Computer Science | Completion of first year requirements with no failures. Students must complete the following courses with an average of at least 70%, with no individual course mark below 60%: 0.5 course: Integrated Science 1000Z; 0.5 course: Calculus 1000A/B or 1500A/B; 1.0 course: Chemistry 1301A/B, Physics 1301A/B or 1501A/B; 2.0 course: Integrated Science 1001X. |
| Major in Computer Science Specialization in Computer Science Minor in Computer Science | Completion of first year requirements including the following courses, each with a mark of at least 60%: Computer Science 1025A/B or 1026A/B or Engineering Science 1036A/B; Computer Science 1027A/B or 1037A/B (with a mark of at least 65%); plus 1.0 course from: Applied Mathematics 1201A/B, 1413, Calculus 1000A/B, 1301A/B, 1500A/B, 1501A/B, or Mathematics 1600A/B. |
| Minor in Applications of Computer Science Minor in Software Engineering | Registration in either the Honors Specialization in Computer Science or the Specialization in Computer Science. |
| Minor in Computer Algebra | Completion of first year requirements including Mathematics 1600A/B, (Calculus 1000A/B, 1500A/B) and (Calculus 1301A/B or 1501A/B), in each case with a mark of at least 60%, plus registration in the Honors Specialization in Computer Science. |
| Minor in Computer Hardware Design | Registration in the Major, Specialization, or Honors Specialization in Computer Science. |
| Minor in High Performance Computing | Completion of first year requirements, including 1.0 course with a mark of at least 60% from: Applied Mathematics 1201A/B, 1413, Calculus 1000A/B, 1301A/B, 1500A/B, 1501A/B, or Mathematics 1600A/B. |
| Minor in Game Development | Registration in either the Honors Specialization, the Major, or the Specialization in Computer Science; and Mathematics 1600A/B or permission of the Department. |
| Minor in Theoretical Computer Science | Registration in the Honors Specialization in Computer Science. |

EARTH SCIENCES

www.uwo.ca/earth ▶ Biological and Geological Sciences 1026 ▶ 519-661-3187

Earth is a dynamic planet with processes and products that are not yet fully understood. Discover the concepts of continents breaking apart, ocean floors regenerating, earthquake destruction, the formation of gold and diamonds, or a meteor's impact carrying enough energy to sterilize the planet. Western's Earth Sciences programs emphasize solid Earth geology, geophysics, environmental geoscience, and planetary science and space exploration. Our professional programs offer students the opportunity to fulfill the course requirements for professional registration as set by the Association of Professional Geoscientists of Ontario (APGO) and the Canadian Council of Professional Geoscientists (CCPG). Our undergraduates acquire extensive field experience in Canada and abroad, as well as hands-on laboratory experience in a friendly, collaborative atmosphere.

| MODULE | PREREQUISITE COURSES |
|---|---|
| Honors Geophysics Program (For Professional Registration) Honors Geology Program (For Professional Registration) Honors Environmental Geoscience Program (For Professional Registration) | Completion of first-year requirements with no failures. Students must have an average of at least 70% in 3.0 principle courses, including: Chemistry 1301A/B and 1302A/B with an average of at least 60%; Physics 1028A/B, 1301A/B, 1401A/B or 1501A/B and Physics 1029A/B, 1302A/B, 1402A/B or 1502A/B with an average of at least 60%; Calculus 1000A/B, 1500A/B, or Mathematics 1225A/B, Earth Sciences 1022A/B, 1023A/B, 1070A/B, 1081A/B, or 1083F/G, with no mark below 60%. 1.0 course from Applied Mathematics 1201A/B, Biology 1001A, 1002B, 1201A, 1202B, Calculus 1301A/B, 1501A/B, Computer Science 1025A/B, 1026A/B, 1027A/B, Mathematics 1228A/B, 1229A/B, 1600A/B, Statistical Sciences 1023A/B, 1024A/B, this requirement must be completed by the end of second year. 1.0 course from category A or category B. Note: The Professional Geophysics Program requires Calculus 1000A/B or 1500A/B and, if taken, a minimum average of 80% in Physics 1028A/B and Physics 1029A/B. |

| MODULE | PREREQUISITE COURSES |
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| Honors Specialization in Geology | Completion of first-year requirements with no failures. Students must have an average of at least 70% in the 3.0 principal courses, including: 0.5 course: Chemistry 1301A/B with a minimum mark of 60%. 1.5 courses from: Earth Sciences 1022A/B, 1023A/B, 1070A/B, 1081A/B, 1083F/G, Biology 1001A, 1002B, 1201A, 1202B, Chemistry 1302A/B, Physics 1028A/B, 1029A/B, 1301A/B, 1302A/B, 1501A/B, 1502A/B. A minimum mark of 60% in each course is required. 1.0 additional course from: Calculus 1000A/B, 1500A/B, or Mathematics 1225A/B; and one of Applied Mathematics 1201A/B, Calculus 1301A/B, 1501A/B, Mathematics 1228A/B, 1229A/B, 1600A/B, Statistical Sciences 1024A/B. An average in the two courses of at least 60% is required. This requirement must be completed by the end of second year. |
| Honors Specialization in Geophysics | Completion of first-year requirements with no failures. Students must have an average of at least 70% and no mark less than 60% in the 3.0 principal courses, including: 1.0 course: Calculus 1000A/B, 1500A/B; and one of Calculus 1301A/B, 1501A/B, Applied Mathematics 1413. 1.0 course from: (Physics 1301A/B or 1501A/B) and (Physics 1302A/B or 1502A/B); or Physics 1028A/B and 1029A/B with an average of at least 80%. 1.0 course from: Earth Sciences 1022A/B, 1023A/B, 1070A/B, 1081A/B, 1083F/G, Chemistry 1301A/B, 1302A/B, Mathematics 1600A/B. Note: At least a 0.5 course in Earth Sciences is recommended in first year. If not taken in first year, Mathematics 1600A/B must be completed before the beginning of third year. |
| Honors Specialization in Geology and Biology | Completion of first-year requirements with no failures. Students must have an average of at least 70% in 3.0 principal courses, with a minimum of 60% in each, including: Biology 1001A or 1201A and 1002B or 1202B; Chemistry 1301A/B and 1302A/B; Plus 1.0 additional course from: Calculus 1000A/B, 1500A/B, and one of Applied Mathematics 1201A/B, Calculus 1301A/B, 1501A/B, Mathematics 1600A/B, Statistical Sciences 1024A/B; or Mathematics 1225A/B and 1229A/B. This requirement must be completed by the end of second year. |
| Honors Specialization in Environmental Geoscience | Completion of first-year requirements with no failures. Students must have a minimum average of at least 70% in 3.0 principal courses, with a minimum of 60%, including: Biology 1001A or 1201A and 1002B or 1202B; Chemistry 1301A/B and 1302A/B; 0.5 course from: Calculus 1000A/B, 1500A/B, or Mathematics 1225A/B; 0.5 course from: Applied Mathematics 1201A/B, Calculus 1301A/B, 1501A/B, Mathematics 1228A/B, 1229A/B, 1600A/B, Statistical Sciences 1024A/B. |
| Honors Specialization in Integrated Science with Earth Science | Completion of first year requirements with no failures. Students must complete the following courses with an average of at least 70%, with no individual course mark below 60%: 0.5 course: Integrated Science 1000Z; 0.5 course: Calculus 1000A/B or 1500A/B; 1.0 course: Chemistry 1301A/B, Physics 1301A/B or 1501A/B; 2.0 course: Integrated Science 1001X. |
| Major in Geology Minor in Geology Minor in Planetary Science and Space Exploration | Completion of 5.0 first-year courses. |
| Specialization in Geology | Completion of first-year requirements, including the following 3.0 courses: Chemistry 1301A/B with a minimum mark of 60%; 1.5 courses from: Earth Sciences 1022A/B, 1023A/B, 1070A/B, 1081A/B, 1083F/G, Chemistry 1302A/B, Physics 1028A/B, 1029A/B, 1301A/B, 1302A/B, 1501A/B, 1502A/B, Biology 1001A, 1002B, 1201A, 1202B. A minimum mark of 60% in each course is required. 1.0 additional course from: Calculus 1000A/B, 1500A/B, or Mathematics 1225A/B; and one of Applied Mathematics 1201A/B, Calculus 1301A/B, 1501A/B, Mathematics 1228A/B, 1229A/B, 1600A/B, Statistical Sciences 1023A/B or 1024A/B. An average in the two courses of at least 60% is required. This requirement must be completed by the end of second year. |
| Specialization in Geophysics | Completion of first-year requirements. Students must have a minimum of 60% in each of the 3.0 principal courses taken, including: Calculus 1000A/B, 1500A/B; and one of Calculus 1301A/B, 1501A/B, Applied Mathematics 1413. Physics 1301A/B or 1501A/B and Physics 1302A/B or 1502A/B, or Physics 1028A/B and 1029A/B with an average of at least 80%; 1.0 course from Earth Sciences 1022A/B, 1023A/B, 1070A/B, 1081A/B, 1083F/G, Chemistry 1024A/B, 1301A/B, 1302A/B, Mathematics 1600A/B. Note: At least a 0.5 course in Earth Sciences is recommended in first year. If not taken in first year, Mathematics 1600A/B must be completed before the beginning of third year. |
| Specialization in Geology and Biology | Completion of first-year requirements. Students must have a minimum of 60% in each of 3.0 principal courses taken, including: Biology 1001A or 1201A and Biology 1002B or 1202B; Chemistry 1301A/B and 1302A/B; Plus 1.0 additional course from: Calculus 1000A/B, 1500A/B, and one of Applied Mathematics 1201A/B, Calculus 1301A/B or 1501A/B, Mathematics 1600A/B, Statistical Sciences 1024A/B; or Mathematics 1225A/B and 1229A/B. This requirement must be completed by the end of second year. |
| Specialization in Environmental Geoscience | Completion of first-year requirements. Students must have a minimum of 60% in each of 3.0 principal courses taken, including: Biology 1001A or 1201A and 1002B or 1202B; Chemistry 1301A/B and 1302A/B; 0.5 course from: Calculus 1000A/B, 1500A/B, or Mathematics 1225A/B; 0.5 course from: Applied Mathematics 1201A/B, Calculus 1301A/B, 1501A/B, Mathematics 1228A/B, 1229A/B, 1600A/B, Statistical Sciences 1024A/B. |
| Minor in Geophysics | Completion of first year requirements, including 1.0 course from: Calculus 1000A/B, 1500A/B and one of Applied Mathematics 1201A/B, Applied Mathematics 1413, or Calculus 1301A/B, 1501A/B with a mark of at least 60%. |

ENVIRONMENTAL SCIENCE

www.uwo.ca/enviro ▶ Western Science Centre 109 ▶ 519-850-2570

Determine how physical, chemical, and biological processes affect the biosphere, and consider human influence and interests in this relationship. The interdisciplinary modules in Environmental Science combine biological, physical and social sciences perspectives in order to understand the importance of environmental research to science and society. Complex environmental issues involving biology, chemistry, physics, mathematics, geology, geography, toxicology and more are explored.

| MODULE | PREREQUISITE COURSES |
|--|---|
| Honors Specialization in Environmental Science | Completion of first-year requirements with no failures. Students must have an average of at least 70% in 3.5 principal courses, with no mark in these principal courses below 60%, including: 1.0 course: Biology 1001A and 1002B or Biology 1201A and 1202B; 1.0 course: Chemistry 1301A/B and 1302A/B; 0.5 course from: Environmental Science 1021F/G, a 1000-level 0.5 course in Geography, Earth Sciences 1022A/B, 1023A/B, 1070A/B, 1081A/B, Physics 1028A/B, 1029A/B, 1301A/B, 1302A/B, 1401A/B, 1402A/B, 1501A/B, 1502A/B; 1.0 course from: Calculus 1000A/B or 1500A/B, Calculus 1301A/B or 1501A/B, Mathematics 1225A/B, 1228A/B, 1229A/B or 1600A/B; Statistical Sciences 1024A/B; Applied Mathematics 1201A/B. |
| Honors Specialization in Integrated Science with Environmental Science | Completion of first year requirements with no failures. Students must complete the following courses with an average of at least 70%, with no individual course mark below 60%: 0.5 course: Integrated Science 1000Z; 0.5 course: Calculus 1000A/B or 1500A/B; 1.0 course: Chemistry 1301A/B, Physics 1301A/B or 1501A/B; 0.5 course: Biology 1001A 2.0 course: Integrated Science 1001X. |
| Major in Environmental Science Specialization in Environmental Science Minor in Environmental Science | Completion of first-year requirements, with no mark in these principal courses below 60%, including: 1.0 course: Biology 1001A and 1002B or Biology 1201A and 1202B; 1.0 course: Chemistry 1301A/B and 1302A/B; 0.5 course from: Environmental Science 1021F/G; a 1000-level 0.5 course in Geography; Earth Sciences 1022A/B, 1023A/B, 1070A/B, 1081A/B; Physics 1028A/B, 1029A/B, 1301A/B, 1302A/B, 1401A/B, 1402A/B, 1501A/B, 1502A/B; 1.0 course from: Calculus 1000A/B or 1500A/B, Calculus 1301A/B or 1501A/B; Mathematics 1225A/B, 1228A/B, 1229A/B or 1600A/B; Statistical Sciences 1024A/B; Applied Mathematics 1201A/B. |

INTEGRATED SCIENCE (WISc)

www.uwo.ca/sci/WISc ▶ North Campus Building 406 ▶ 519-661-2111 ext. 81339

Through novel classroom and laboratory experiences, students in WISc refine their critical thinking and problem-solving skills while at the same time strengthening teamwork, leadership abilities and community engagement. Enrolment in one of the eight Honors Specializations also provides the focused coursework necessary to develop expertise in a particular discipline. Because many of today's most pressing scientific problems are interdisciplinary (e.g. climate change), graduates of WISc will have a unique skill set allowing them to work more effectively on cutting-edge problems that involve more than one scientific discipline.

| MODULE | PREREQUISITE COURSES |
|--|---|
| Honors Specialization in Integrated Science with Biology Honors Specialization in Integrated Science with Environmental Science Honors Specialization in Integrated Science with Genetics | Completion of first year requirements with no failures. Students must complete the following courses with an average of at least 70%, with no individual course mark below 60%: 0.5 course: Integrated Science 1000Z; 0.5 course: Calculus 1000A/B or 1500A/B; 1.0 course: Chemistry 1301A/B, Physics 1301A/B or 1501A/B; 0.5 course: Biology 1001A 2.0 course: Integrated Science 1001X. |
| Honors Specialization in Integrated Science with Chemistry Honors Specialization in Integrated Science with Computer Science Honors Specialization in Integrated Science with Earth Science | Completion of first year requirements with no failures. Students must complete the following courses with an average of at least 70%, with no individual course mark below 60%: 0.5 course: Integrated Science 1000Z; 0.5 course: Calculus 1000A/B or 1500A/B; 1.0 course: Chemistry 1301A/B, Physics 1301A/B or 1501A/B; 2.0 course: Integrated Science 1001X. |
| Honors Specialization in Integrated Science with Mathematics | Completion of first year requirements with no failures. Students must complete the following courses with an average of at least 70%, with no individual course mark below 60%: 0.5 course: Integrated Science 1000Z; 2.0 course: Integrated Science 1001X; 0.5 course: Calculus 1000A/B or 1500A/B; 1.0 course: Chemistry 1301A/B, Physics 1301A/B or 1501A/B; 0.5 course Mathematics 1600A/B. |
| Honors Specialization in Integrated Science with Physics | Completion of first year requirements with no failures. Students must complete the following courses with an average of at least 70%, with no individual course mark below 60%: 0.5 course: Integrated Science 1000Z; 2.0 course: Integrated Science 1001X; 0.5 course: Calculus 1000A/B or 1500A/B; 1.0 course: Chemistry 1301A/B, Physics 1301A/B or 1501A/B. Students must complete Mathematics 1600A/B with a minimum mark of 55% by the end of Term 1 in Year 2. |

MATHEMATICS

www.math.uwo.ca ▶ Middlesex College 117 ▶ 519-661-3639

Learn fundamental concepts that lead to mathematical formulas used in every branch of science, engineering, statistics, computer science and economics. Study algebra, analysis, geometry, topology under the friendly guidance of math professors. Note the existence of research opportunities for promising students.

| MODULE | PREREQUISITE COURSES |
|---|--|
| Honors Specialization in Mathematics Honors Specialization in Mathematics in Society Major in Mathematics | Completion of first year requirements with no failures. Students must have an average of at least 70% in 3.0 principal courses with a mark of at least 60% in each, including: Calculus 1000A/B or 1500A/B plus either Calculus 1501A/B (recommended) or Calculus 1301A/B with a mark of at least 85%; plus 2.0 additional courses. Mathematics 1600A/B and Mathematics 1120A/B, if taken in Year 1, will count toward the 3.0 principal courses. Mathematics 1600A/B and Mathematics 1120A/B are recommended. <i>Note: Mathematics 1600A/B must be completed prior to Mathematics 2120A/B.</i> |
| Honors Specialization in Integrated Science with Mathematics | Completion of first year requirements with no failures. Students must complete the following courses with an average of at least 70%, with no individual course mark below 60%: 0.5 course: Integrated Science 1000Z; 2.0 course: Integrated Science 1001X; 0.5 course: Calculus 1000A/B or 1500A/B; 1.0 course: Chemistry 1301A/B, Physics 1301A/B or 1501A/B; 0.5 course Mathematics 1600A/B. |
| Specialization in Mathematics | Completion of first-year requirements, including: 0.5 course: A mark of at least 60% in Calculus 1000A/B or 1500A/B, plus either Calculus 1501A/B with a mark of at least 60% (recommended) or Calculus 1301A/B with a mark of at least 85%. Mathematics 1600A/B and Mathematics 1120A/B are recommended. <i>Note: Mathematics 1600A/B must be completed prior to Mathematics 2120A/B. Mathematics 1600A/B must be completed prior to Mathematics 2211A/B.</i> |
| Specialization in Mathematics in Society | Completion of first year requirements. Calculus 1000A/B or 1500A/B with a mark of at least 60%, plus either Calculus 1501A/B with a mark of at least 60% (recommended) or Calculus 1301A/B with a mark of at least 85%. Mathematics 1600A/B and Mathematics 1120A/B are recommended. <i>Note: Mathematics 1600A/B must be completed prior to Mathematics 2120A/B.</i> |
| Minor in Mathematics | Completion of first-year requirements, including 0.5 course from: Calculus 1000A/B or 1500A/B with a mark of at least 60%, Calculus 1501A/B (recommended) with a mark of at least 60% or Calculus 1301A/B. with a mark of at least 85%. Mathematics 1600A/B and Mathematics 1120A/B are recommended. |
| Honors Specialization in Mathematical Sciences | See Applied Mathematics. |

PHYSICS AND ASTRONOMY

www.physics.uwo.ca ▶ Physics and Astronomy 138 ▶ 519-661-3283

Astronomers strive to understand the universe, seeking insight into how planets, stars, and galaxies form and evolve. We have Astronomy faculty members working in the areas of extrasolar planets, black holes, molecular spectroscopy, stellar composition, and star formation. Our Planetary Scientists at Western are internationally known leaders in space, planetary, meteor and atmospheric physics. Exceptional astronomy facilities include a 1.2-metre telescope. Astrophysics degrees combine skills in mathematics, physics, and computer simulations. Physics is a fundamental science and is basic to understanding the laws of nature. Physics at Western provides adaptable problem-solving skills that are transferable to many other disciplines. Facilities connected to the Physics Department include: Western's Nanofabrication Facility, nano-optoelectronics facility for fabrication of solar cells and graphene materials, atomic force microscopy and positron beams in Materials Science; neuroscience, magnetic resonance imaging (MRI), ultrasound, X-ray computed tomography (CT) imaging, and radiation dosimetry in Medical Physics; and Laboratory Astrophysics.

| MODULE | PREREQUISITE COURSES |
|---|---|
| Honors Specialization in Astrophysics Honors Specialization in Medical Physics Honors Specialization in Physics | Completion of first-year requirements with no failures. Students must have an average of at least 70% in 3.5 principal courses, with no mark in these principal courses below 60%: 1.0 course from: Physics 1301A/B, 1401A/B, 1501A/B or 80% in Physics 1028A/B and Physics 1302A/B, 1402A/B, 1502A/B or 80% in Physics 1029A/B; 1.0 course: One of Calculus 1000A/B, 1500A/B and Calculus 1501A/B (recommended) or Calculus 1301A/B (with a mark of at least 85%); or Applied Mathematics 1413; 0.5 course: Mathematics 1600A/B; 0.5 additional course from the Faculty of Science. It is highly recommended that students complete one of the following: Chemistry 1301A/B, Computer Science 1025A/B or 1026A/B, or Statistical Science 1024A/B; 0.5 additional course. |
| Specialization in Astrophysics Specialization in Medical Physics Specialization in Physics | Completion of first-year requirements including the following 3.5 courses, each with a mark of at least 60%: 1.0 course from: Physics 1301A/B, 1401A/B, 1501A/B or 80% in Physics 1028A/B and Physics 1302A/B, 1402A/B, 1502A/B or 80% in Physics 1029A/B; 1.0 course: One of Calculus 1000A/B, 1500A/B and Calculus 1501A/B (recommended) or Calculus 1301A/B (with a mark of at least 85%); or Applied Mathematics 1413; 0.5 course: Mathematics 1600A/B; 0.5 additional course from the Faculty of Science. It is highly recommended that students complete one of the following: Chemistry 1301A/B, Computer Science 1025A/B or 1026A/B, or Statistical Science 1024A/B; 0.5 additional course. |
| Honors Specialization in Materials Science | Completion of first year requirements with no failures. Students must have an average of at least 70% in 3.0 principal courses, with no mark in these principal courses below 60%: Physics 1301A/B, 1401A/B, 1501A/B or 80% in Physics 1028A/B and Physics 1302A/B, 1402A/B, 1502A/B or 80% in Physics 1029A/B; Calculus 1000A/B or 1500A/B and Calculus 1301A/B or 1501A/B; or Applied Mathematics 1413; Chemistry 1301A/B and 1302A/B. No new admission. |
| Honors Specialization in Integrated Science with Physics | Completion of first year requirements with no failures. Students must complete the following courses with an average of at least 70%, with no individual course mark below 60%: 0.5 course: Integrated Science 1000Z; 2.0 course: Integrated Science 1001X; 0.5 course: Calculus 1000A/B or 1500A/B; 1.0 course: Chemistry 1301A/B, Physics 1301A/B or 1501A/B. Students must complete Mathematics 1600A/B with a minimum mark of 55% by the end of Term 1 in Year 2. |
| Major in Astrophysics Major in Medical Physics | Completion of first-year requirements including the following 2.0 courses, each with a mark of at least 60%: Physics 1301A/B, 1401A/B, 1501A/B or 80% in Physics 1028A/B and Physics 1302A/B, 1402A/B, 1502A/B or 80% in Physics 1029A/B; One of Calculus 1000A/B or 1500A/B and one of Calculus 1501A/B (recommended) or Calculus 1301A/B (with a mark of at least 85%); or Applied Mathematics 1413; Students must complete Mathematics 1600A/B with a minimum mark of 55% by the end of term one in year 2. |

| MODULE | PREREQUISITE COURSES |
|--|--|
| Major in Physics Minor in Physics | Completion of first-year requirements including the following courses, each with a mark of at least 60%: 1.0 course from: Physics 1301A/B, 1401A/B, 1501A/B or 80% in Physics 1028A/B and Physics 1302A/B, 1402A/B, 1502A/B or 80% in Physics 1029A/B; 1.0 course from: Calculus 1000A/B, 1500A/B and Calculus 1501A/B (recommended) or Calculus 1301A/B (with a mark of at least 85%); or Applied Mathematics 1413; 1.0 additional course, at least 0.5 of which must be from the Faculty of Science. Students must complete Mathematics 1600A/B with a minimum mark of 55% by the end of Term 1 in Year 2. |
| Specialization in Materials Science Major in Materials Science Minor in Materials Science | Completion of first-year requirements including the following 3.0 courses, each with a mark of at least 60%: Physics 1301A/B, 1401A/B, 1501A/B or 80% in Physics 1028A/B and Physics 1302A/B, 1402A/B, 1502A/B or 80% in Physics 1029A/B; Calculus 1000A/B or 1500A/B and Calculus 1301A/B or 1501A/B; or Applied Mathematics 1413; Chemistry 1301A/B and 1302A/B. <i>No new admission.</i> |
| Minor in Advanced Physics | This minor is available only to those students who will complete an Honors Specialization or Specialization in Physics, Astrophysics, or Medical Physics. |
| Minor in the Physics of Materials | Chemistry 1301A/B and 1302A/B, or Chemistry 1024A/B. Available only to those students who will complete an Honors Specialization or Specialization in Physics, or by permission of the Department. |
| Minor in Conceptual Astronomy | Completion of first-year requirements. This minor is designed for students with a general interest in Astronomy. It is not intended for students considering a Major or Honors Specialization in Astrophysics. |

STATISTICAL AND ACTUARIAL SCIENCES

www.stats.uwo.ca ▶ Western Science Centre 262 ▶ 519-661-3607

Work with the collection, interpretation and analysis of data, modeling of uncertainty and variation and study the management of financial risk. Applications in finance, insurance and pensions are emphasized.

| MODULE | PREREQUISITE COURSES |
|---|---|
| Honors Specialization in Actuarial Science | Completion of first year requirements with no failures. Students must have a minimum average of 70% in 3.0 principal courses, with no mark less than 60% in any principal course, including: Calculus 1000A/B or 1500A/B and Calculus 1501A/B (or Calculus 1301A/B with a mark of at least 85%), Mathematics 1600A/B, Economics 1021A/B and 1022A/B; plus 0.5 additional principal course. Recommended (but not required) first year courses: Actuarial Science 1021A/B, Business Administration 1220E, Philosophy 1200. Note: Economics 1021A/B and Economics 1022A/B, if not taken in first year, must be completed in one of the upper years of the program. |
| Honors Specialization in Data Science | Completion of first-year requirements with no failures. Students must have an average of at least 70% in 3.0 principal courses, including (Calculus 1000A/B or 1500A/B) and (Calculus 1501A/B or (Calculus 1301A/B with a mark of at least 85%)), Mathematics 1600A/B, Computer Science 1026A/B, Computer Science 1027A/B (with a mark of at least 65%) plus 0.5 additional principal courses, with no mark less than 60% in any of the 3.0 principal courses. Recommended course: Statistical Sciences 1023A/B. If not taken in the first year, Mathematics 1600A/B or Applied Mathematics 1411A/B must be completed prior to the second term of second year. |
| Honors Specialization in Financial Modelling | Completion of first year requirements with no failures. Students must have a minimum average of 70% in 3.0 principal courses, with no mark less than 60% in any principal course including: Calculus 1000A/B or 1500A/B, and Calculus 1501A/B (or Calculus 1301A/B with a mark of at least 85%), plus 2.0 additional principal courses. Mathematics 1600A/B or Applied Mathematics 1411A/B, with a mark of 60% for either, is normally taken in Year 1. If not taken in year 1, it must be completed by first term of year 2. Recommended (but not required) first year courses: Economics 1021A/B and Economics 1022A/B, Philosophy 1200, Computer Science 1026A/B and/or 1027A/B. |
| Honors Specialization in Statistics | Completion of first year requirements with no failures. Students must have a minimum average of 70% in 3.0 principal courses, with no mark less than 60% in any principal course including: Calculus 1000A/B, 1500A/B, and Calculus 1501A/B (or Calculus 1301A/B with a mark of at least 85%), Mathematics 1600A/B, plus 1.5 additional principal courses. Recommended (but not required) first year courses: Statistical Sciences 1023A/B. |
| Major in Actuarial Science | Completion of first year requirements. Students must have a minimum grade of 60% in 3.0 principal courses including: Calculus 1000A/B or 1500A/B, and Calculus 1501A/B (or Calculus 1301A/B with a mark of at least 85%), Mathematics 1600A/B; Economics 1021A/B and Economics 1022A/B; plus 0.5 additional principal course. Recommended (but not required) first year courses: Actuarial Science 1021A/B, Business Administration 1220E, Philosophy 1200. Note: Economics 1021A/B and Economics 1022A/B, if not taken in first year, must be completed in one of the upper years of the program. |
| Major in Applied Statistics | Completion of first-year requirements, including the following: Calculus 1000A/B or 1500A/B plus Calculus 1501A/B (or Calculus 1301A/B with a mark of at least 85%); Mathematics 1600A/B; 1.0 course from Psychology 1000, Biology 1001A or 1201A, Biology 1002B or 1202B, Sociology 1020; plus 0.5 other principal course, with no mark less than 60% in any of the 3.0 principal courses. Recommended (but not required) first-year courses: Statistical Sciences 1024A/B and/or Statistical Sciences 1023A/B. |
| Major in Data Science | Completion of first-year requirements, including the following: Calculus 1000A/B or 1500A/B plus Calculus 1501A/B (or Calculus 1301A/B with a mark of at least 85%); Mathematics 1600A/B, Computer Science 1026A/B, Computer Science 1027A/B (with a mark of at least 65%) plus 0.5 additional principal courses, with no mark less than 60% in any of the 3.0 principal courses. Recommended (but not required) first-year courses: Statistical Sciences 1024A/B and/or Statistical Sciences 1023A/B. If not taken in the first year, Mathematics 1600A/B or Applied Mathematics 1411A/B must be completed prior to the second term of second year. |
| Major in Financial Modelling | Completion of first-year requirements, including the following: (Calculus 1000A/B, 1500A/B) and (Calculus 1501A/B or (Calculus 1301A/B with a mark of at least 85%)), plus 2.0 other principal courses with no mark less than 60% in any of the 3.0 principal courses. Mathematics 1600A/B or Applied Mathematics 1411A/B with a minimum mark of 60% for either, is normally taken in year 1. If not taken in year 1, it must be completed in the first term of year 2. Recommended (but not required) first year courses: Economics 1021A/B and Economics 1022A/B, Philosophy 1200, Computer Science 1026A/B. |

Note: Applied Mathematics 1413 may be substituted for the 1.0 Calculus course requirement, and Applied Mathematics 1411A/B may be substituted for Mathematics 1600A/B.

BASIC MEDICAL SCIENCES UNDERGRADUATE EDUCATION

BACHELOR OF MEDICAL SCIENCES (BMSc) Program

BACHELOR OF SCIENCE (BSc) - Neuroscience (page 52)

www.schulich.uwo.ca/bmsc

The Bachelor of Medical Sciences (BMSc) degrees are four-year undergraduate degrees, offered jointly by the Faculty of Science and the Schulich School of Medicine & Dentistry, and are designed for students interested in advanced study in one or more of the Basic Medical Sciences.

BMSc (Honors) Degree:

The BMSc (Honors) degree must contain one of the following Honors Specializations:

- ▶ Biochemistry
- ▶ Biochemistry and Cancer Biology
- ▶ Biochemistry and Cell Biology
- ▶ Biochemistry and Pathology of Human Disease
- ▶ Biochemistry of Infection and Immunity
- ▶ Chemical Biology
- ▶ Computational Biochemistry
- ▶ Epidemiology and Biostatistics
- ▶ Interdisciplinary Medical Sciences (IMS)
- ▶ Medical Biophysics (Medical Science Concentration)
- ▶ Medical Biophysics (Clinical Physics Concentration)
- ▶ Medical Biophysics and Biochemistry
- ▶ Medical Cell Biology
- ▶ Medical Health Informatics
- ▶ Microbiology and Immunology
- ▶ Microbiology and Immunology with Pathology
- ▶ One Health
- ▶ Pathology
- ▶ Pharmacology
- ▶ Physiology
- ▶ Physiology and Pharmacology

OR two of the following Majors:

- ▶ Biochemistry
- ▶ Epidemiology and Biostatistics
- ▶ Interdisciplinary Medical Sciences (IMS)
- ▶ Medical Biophysics
- ▶ Medical Cell Biology
- ▶ Microbiology and Immunology
- ▶ Pathology
- ▶ Pharmacology
- ▶ Physiology

BMSc Degree:

The BMSc degree must contain one of the following Specializations:

- ▶ Biochemistry
- ▶ Interdisciplinary Medical Sciences (IMS)
- ▶ Medical Biophysics
- ▶ Microbiology and Immunology
- ▶ Pathology
- ▶ Pharmacology
- ▶ Physiology

OR two of the following Majors:

- ▶ Biochemistry
- ▶ Epidemiology and Biostatistics
- ▶ Interdisciplinary Medical Sciences (IMS)
- ▶ Medical Biophysics
- ▶ Medical Cell Biology
- ▶ Microbiology and Immunology
- ▶ Pathology
- ▶ Pharmacology
- ▶ Physiology

Admission to BMSc:

Students interested in modules leading to BMSc degrees will usually register in Medical Sciences First Entry in the Faculty of Science. Successful completion of Medical Sciences 1, including the 1000-level science courses with minimum marks of 60%, is required for progression to Medical Sciences 2. Students in Medical Sciences 2 will be assured admission to Year 3 BMSc provided they successfully complete Medical Sciences 2 with a minimum average of 80% on the 2000-level courses required for admission to the modules. These students will receive priority placement in the Honors Specialization modules in Year 3 BMSc.

Students who complete the courses in Medical Sciences 1 and 2 without being registered in Medical Sciences First Entry, as well as students in Medical Sciences 2 who are not granted assured admission, may apply for any remaining spaces in Year 3 BMSc. A minimum average of 75% on the 2000-level courses will be required but this average may be higher if the number of students applying from this “competitive pool” exceeds the number of spaces remaining in Year 3 BMSc. See the Academic Calendar for more details.

Admission Requirements for Medical Sciences First Entry

Six Grade 12U and/or M level courses including the following 4 courses:

- ▶ English (ENG4U); Calculus and Vectors (MCV4U); Biology (SBI4U); Chemistry (SCH4U)

Note: Although Western offers first-year physics courses that do not require high-school physics as a prerequisite, it is strongly recommended that students complete Grade 12U Physics (SPH4U).

Graduate Degrees:

- ▶ Master of Science (MSc)
- ▶ Master of Science (MSc) Accelerated
- ▶ Master of Clinical Science (MCISc)
- ▶ Master of Clinical Dentistry (MCID)
- ▶ Master of Public Health (MPH)
- ▶ Doctor of Philosophy (PhD)

MEDICAL SCIENCES FIRST ENTRY

www.schulich.uwo.ca/bmsc

| MEDICAL SCIENCES FIRST ENTRY | REQUIREMENTS |
|------------------------------|--|
| Medical Sciences 1 | Successful completion of 5.0 courses during the Fall/Winter, including: Biology 1001A and 1002B; Chemistry 1301A/B and 1302A/B; Calculus 1000A/B or 1500A/B; one* of Applied Mathematics 1201A/B, Calculus 1301A/B, 1501A/B or Mathematics 1600A/B; one of Physics 1028A/B, 1301A/B or 1501A/B; one of Physics 1029A/B, 1302A/B or 1502A/B; and 1.0 first-year course from Category A or B. A minimum mark of 60% is required in each of the half courses in biology, chemistry, mathematics and physics to progress to Medical Sciences 2. The physics requirement should be completed in Medical Sciences 1 but can be delayed until Medical Sciences 2 (unless students are interested in Medical Biophysics modules). *See the modules in Medical Biophysics for exceptions to the mathematics requirement. |
| Medical Sciences 2 | Successful completion of 5.0 courses during the Fall/Winter, including ALL of the 2000-level courses listed in the Admission Requirements for the module requested for Year 3. Students in Medical Sciences 2 require a minimum average of 80% on these 2000-level courses to be assured admission to Year 3 BMSc. Students in Medical Sciences 2 with averages of 75 – 79% on these 2000-level courses may apply for the remaining spaces in Year 3 BMSc and be considered for admission as part of the “competitive pool”. See Admission to BMSc for more information. |

ANATOMY AND CELL BIOLOGY

www.schulich.uwo.ca/anatomy ▶ Medical Sciences Building M443 ▶ 519-661-3014

Modules in Medical Cell Biology are offered by the Department of Anatomy and Cell Biology. Medical Cell Biology consists of the study of humans at the molecular, cellular, tissue and systems level. The modules integrate information from each of these areas to yield an understanding of the relationship between structure and function in the organism as a whole.

| MODULE | PREREQUISITE COURSES |
|---|--|
| Honors Specialization in Medical Cell Biology Honors Specialization in Biochemistry and Cell Biology | Enrolment in either of these modules is limited and requires admission to Year 3 of the BSc Program. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Second year (usually Medical Sciences 2) requires completion of the 2000-level courses listed in the Admission Requirements for each Honors Specialization module. See Admission to BSc for more details. |
| Major in Medical Cell Biology | Students completing this Major in a BSc degree will register in the Major upon admission to Year 3 of the BSc Program (see Admission to BSc for more details). Students completing other degrees may register in this Major beginning in Year 2. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. |
| Minor in Medical Cell Biology | Completion of first-year requirements, including the following courses with a mark of at least 60% in each (full or half course): Biology 1001A and 1002B (Biology 1201A and 1202B with minimum marks of 70% in each may be used in place of Biology 1001A and 1002B); and Chemistry 1301A/B and 1302A/B. |

BIOCHEMISTRY www.schulich.uwo.ca/biochem ▶ Medical Sciences Building 342 ▶ 519-661-3074

Biochemistry is the study of the molecules and mechanisms essential to life. An emphasis is placed on an understanding of the structure, function, and regulation of biomolecules as they relate to the molecular basis of disease. Training involves the application of state-of-the-art approaches and equipment to the many diverse areas of modern biochemistry that include molecular genetics, structural biology, signal transduction, and bioinformatics.

| MODULE | PREREQUISITE COURSES |
|--|--|
| Honors Specialization in Biochemistry Honors Specialization in Biochemistry and Cancer Biology Honors Specialization in Biochemistry and Cell Biology Honors Specialization in Biochemistry and Pathology of Human Disease Honors Specialization in Biochemistry of Infection and Immunity Honors Specialization in Chemical Biology Honors Specialization in Computational Biochemistry | Enrolment in any of these modules is limited and requires admission to Year 3 of the BSc Program. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Second year (usually Medical Sciences 2) requires completion of the 2000-level courses listed in the Admission Requirements for each Honors Specialization module. See Admission to BSc for more details. |
| Honors Specialization in Medical Biophysics and Biochemistry | See Medical Biophysics Department listing. Offered only within a BSc (Honors degree). |
| Honors Specialization in Biochemistry and Chemistry | See Chemistry Department listing. Offered only within a BSc (Honors) degree. |
| Honors Specialization in Genetics and Biochemistry | See Biology Department listing. Offered only within a BSc (Honors) degree. |
| Major in Biochemistry | Students completing this Major in a BSc degree will register in the Major upon admission to Year 3 of the BSc Program (see Admission to BSc for more details). Students completing other degrees may register in this Major beginning in Year 2. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. |
| Specialization in Biochemistry | Enrolment in this module requires admission to Year 3 of the BSc Program. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Second year (usually Medical Sciences 2) requires completion of the 2000-level courses listed in the Admission Requirements for this Specialization module. See Admission to BSc for more details. |
| Minor in Biochemistry | Completion of first-year requirements, including the following courses: Biology 1001A and 1002B, Chemistry 1301A/B and 1302A/B, each with a minimum mark of 60%; 1.0 course from: Applied Mathematics 1201A/B, Calculus 1000A/B or 1500A/B, Calculus 1301A/B or 1501A/B, Mathematics 1225A/B, 1228A/B, 1229A/B, 1600A/B, Statistical Sciences 1024A/B, Applied Mathematics 1413. Note: Biology 1201A with a mark of at least 70% may be used in place of Biology 1001A, and Biology 1202B with a mark of at least 70% may be used in place of Biology 1002B. |
| Combined Honors BSc (Biochemistry)/HBA | Students will usually complete Medical Sciences First Entry in the Faculty of Science (Medical Sciences 1 and 2), including Business Administration 2257 in second year, and apply for the combined degree program once admitted to HBA (HBA1). To be eligible, students must: (i) be eligible for Year 3 of the Bachelor of Medical Sciences (BSc) Program, (ii) complete the Admission Requirements for the Honors Specialization in Biochemistry, (iii) achieve a minimum overall average of 80% in the 10.0 courses completed prior to admission to HBA, and (iv) achieve a minimum weighted rounded average of 78% in HBA1. |

EPIDEMIOLOGY AND BIOSTATISTICS

www.schulich.uwo.ca/epibio ▶ Kresge Building K201 ▶ 519-661-2162

Epidemiology is the discipline concerned with studying the determinants and distribution of diseases in human populations. Biostatistics is the discipline that develops and discovers new statistical methods for collecting, analyzing and interpreting the data arising from medical and epidemiologic studies. Students will develop skills that will allow them to contribute to health policy by providing data relevant to health promotion and illness-prevention programs.

| MODULE | PREREQUISITE COURSES |
|--|--|
| Honors Specialization in Epidemiology and Biostatistics | Enrolment in this module is limited and requires admission to Year 3 of the BSc Program. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Second year (usually Medical Sciences 2) requires completion of the 2000-level courses listed in the Admission Requirements for this Honors Specialization module. See Admission to BSc for more details. |
| Major in Epidemiology and Biostatistics | Students completing this Major in a BSc degree will register in the Major upon admission to Year 3 of the BSc Program (see Admission to BSc for more details). Students completing other degrees may register in this Major beginning in Year 2. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. |

MEDICAL BIOPHYSICS

www.schulich.uwo.ca/biophysics ▶ Medical Sciences Building M407 ▶ 519-661-3053

Students will learn about the physics of biological tissues and structures, with examples mainly from cardiovascular biophysics, orthopedic mechanics, and cancer. The underlying theme is the integration of basic concepts from physics and mathematics into the subject area of biology. Courses and laboratory studies include the frontiers of medical and diagnostic imaging, and intravital microscopy for exploring the circulation. Honors Specialization modules provide an opportunity for hands-on participation in world-class biomedical research.

| MODULE | PREREQUISITE COURSES |
|--|---|
| Honors Specialization in Medical Biophysics (Medical Science Concentration) Honors Specialization in Medical Biophysics (Clinical Physics Concentration) Honors Specialization in Medical Biophysics and Biochemistry | Enrolment in any of these modules is limited and requires admission to Year 3 of the BSc Program. The prerequisite courses (1000-level courses in biology, chemistry, calculus and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Please note that one of Calculus 1301A/B or 1501A/B must be completed along with one of Calculus 1000A/B or 1500A/B. Second year (usually Medical Sciences 2) requires completion of the 2000-level courses listed in the Admission Requirements for each Honors Specialization module. See Admission to BSc for more details. |
| Honors Specialization in Medical Biophysics (Physical Science Concentration) | This module can be completed only within a Bachelor of Science (BSc) Honors degree. Students must complete their first-year requirements with no failures and have an average of at least 70% on the following 4.0 principal courses, with no mark below 60% in any of these courses: 0.5 course from: Physics 1028A/B, 1301A/B, 1401A/B or 1501A/B (one of Physics 1301A/B or 1501A/B is preferred); 0.5 course from: Physics 1029A/B, 1302A/B, 1402A/B or 1502A/B (one of Physics 1302A/B or 1502A/B is preferred); 1.0 course from: Calculus 1000A/B or 1500A/B, and Calculus 1301A/B or 1501A/B, or Applied Mathematics 1413; 1.0 course from: Chemistry 1301A/B and 1302A/B; 1.0 course: Biology 1001A and 1002B (may be deferred until Year 2). Note: Biology 1201A with a mark of at least 70% may be used in place of Biology 1001A, and Biology 1202B with a mark of at least 70% may be used in place of Biology 1002B. |
| Honors Specialization in Medical Biophysics (Biological Science Concentration) | This module can be completed only within a Bachelor of Science (BSc) Honors degree. Students must complete their first-year requirements with no failures and have an average of at least 70% in the following 4.0 principal courses, with no mark below 60% in any of these courses: 1.0 course: Biology 1001A and Biology 1002B; 1.0 course: Chemistry 1301A/B and 1302A/B; 0.5 course from: Calculus 1000A/B, 1500A/B; 0.5 course from: Calculus 1301A/B, 1501A/B; 0.5 course from: Physics 1028A/B, 1301A/B, 1501A/B; 0.5 course from: Physics 1029A/B, 1302A/B, 1502A/B. Note: Biology 1201A with a mark of at least 70% may be used in place of Biology 1001A, and Biology 1202B with a mark of at least 70% may be used in place of Biology 1002B. |
| Major in Medical Biophysics | Students completing this Major in a BSc degree will register in the Major upon admission to Year 3 of the BSc Program (see Admission to BSc for more details). Students completing other degrees may register in this Major beginning in Year 2. The prerequisite courses (1000-level courses in biology, chemistry, calculus and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Please note that one of Calculus 1301A/B or 1501A/B must be completed along with one of Calculus 1000A/B or 1500A/B. |
| Specialization in Medical Biophysics | Enrolment in this module requires admission to Year 3 of the BSc Program. The prerequisite courses (1000-level courses in biology, chemistry, calculus and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Please note that one of Calculus 1301A/B or 1501A/B must be completed along with one of Calculus 1000A/B or 1500A/B. Second year (usually Medical Sciences 2) requires completion of the 2000-level courses listed in the Admission Requirements for this Specialization module. See Admission to BSc or more details. |

| MODULE | PREREQUISITE COURSES |
|-----------------------------|--|
| Minor in Medical Biophysics | Completion of first-year requirements, including the following courses with a minimum mark of 60% in each course: 0.5 course from: Physics 1028A/B, 1301A/B, 1401A/B or 1501A/B; 0.5 course from: Physics 1029A/B, 1302A/B, 1402A/B or 1502A/B; 1.0 course from: Calculus 1000A/B or 1500A/B, and Calculus 1301A/B or 1501A/B, or Applied Mathematics 1413; 1.0 course: Chemistry 1301A/B and 1302A/B; 1.0 course: Biology 1001A and 1002B (may be deferred until Year 2). Note: Biology 1201A with a mark of at least 70% may be used in place of Biology 1001A, and Biology 1202B with a mark of at least 70% may be used in place of Biology 1002B. |

MEDICAL SCIENCES AND INTERDISCIPLINARY MEDICAL SCIENCES (IMS)

www.schulich.uwo.ca/bmssc ▶ Medical Sciences Building M138 ▶ 519-661-3169

The Medical Sciences and Interdisciplinary Medical Sciences (IMS) modules are administered and sponsored by the Faculty of Science and the Schulich School of Medicine & Dentistry. These modules provide an opportunity to learn and understand the interrelationships between basic science and its application in the clinical medical sciences, as discoveries move from the bench to the bedside. Students have the flexibility to study two or more basic medical science disciplines, as they take courses offered by two or more of the basic medical science departments. The Interdisciplinary Medical Sciences (IMS) modules can only be completed in a Bachelor of Medical Sciences (BMSc) degree. The Major in Medical Sciences is only available to students registered in degrees other than BMSc degrees. The Minor in Medical Sciences may be completed in any type of degree.

| MODULE | PREREQUISITE COURSES |
|---|---|
| Honors Specialization in Interdisciplinary Medical Sciences (IMS) | Enrolment in this module is limited and requires admission to Year 3 of the BMSc Program. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Second year (usually Medical Sciences 2) requires completion of the 2000-level courses listed in the Admission Requirements for the Honors Specialization module. See Admission to BMSc for more details. |
| Major in Interdisciplinary Medical Sciences (IMS) | Enrolment in this module requires admission to Year 3 of the BMSc Program. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Second year (usually Medical Sciences 2) requires completion of the 2000-level courses listed in the Admission Requirements for this Major module. See Admission to BMSc for more details. |
| Specialization in Interdisciplinary Medical Sciences (IMS) | Enrolment in this module requires admission to Year 3 of the BMSc Program. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Second year (usually Medical Sciences 2) requires completion of the 2000-level courses listed in the Admission Requirements for this Specialization module. See Admission to BMSc for more details. |
| Major in Medical Sciences | The Major in Medical Sciences can be completed in any degree other than a BMSc degree (cannot be completed in a BMSc degree). Students must complete first-year requirements, including the following courses with minimum marks of 60% in each: Biology 1001A and 1002B (Biology 1201A with a mark of at least 70% may be used in place of Biology 1001A and Biology 1202B with a mark of at least 70% may be used in place of Biology 1002B); Chemistry 1301A/B and 1302A/B; 1.0 course from Applied Mathematics 1201A/B or 1413, Calculus 1000A/B or 1500A/B, Calculus 1301A/B or 1501A/B, Mathematics 1225A/B, 1228A/B, 1229A/B, 1600A/B, Statistical Sciences 1024A/B; one of Physics 1028A/B, 1301A/B or 1501A/B; and one of Physics 1029A/B, 1302A/B, 1502A/B. Note: the Physics requirement must be completed before the end of second year, and is recommended that the two half courses in Physics be taken in the Fall and Winter terms of the same academic year. |
| Minor in Medical Sciences | Completion of first-year requirements, including the following half courses with minimum marks of 60% in each: Biology 1001A and 1002B (Biology 1201A and 1202B with minimum marks of 70% in each may be used in place of Biology 1001A and 1002B); Chemistry 1301A/B and 1302A/B. |
| Combined Honors BMSc (Interdisciplinary Medical Sciences)/HBA | Students will usually complete Medical Sciences First Entry in the Faculty of Science (Medical Sciences 1 and 2), including Business Administration 2257 in second year, and apply for the combined degree program once admitted to HBA (HBA1). To be eligible, students must: (i) be eligible for admission to Year 3 of the Bachelor of Medical Sciences (BMSc) Program, (ii) complete the Admission Requirements for the Honors Specialization in Interdisciplinary Medical Sciences (IMS), (iii) achieve a minimum average of 80% in the 10.0 courses completed prior to admission to HBA, and (iv) achieve a minimum weighted rounded average of 78% in HBA1. |

MICROBIOLOGY AND IMMUNOLOGY

www.schulich.uwo.ca/microbiologyandimmunology ▶ Dental Sciences 3014 ▶ 519-661-3427

Microbiology and Immunology is a multidisciplinary field that examines the interaction between microorganisms and their host. Major topics covered are the biology and disease-causing potential of bacteria and viruses, and how the immune system protects us from infectious microorganisms and cancer, but can also lead to autoimmune diseases. Under these broad themes, the undergraduate program in Microbiology and Immunology will provide students with a comprehensive understanding of the molecular and cellular biology of infection and immunity.

| MODULE | PREREQUISITE COURSES |
|---|--|
| Honors Specialization in Microbiology and Immunology Honors Specialization in Microbiology and Immunology with Pathology | Enrolment in either of these modules is limited and requires admission to Year 3 of the BMSc Program. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Second year (usually Medical Sciences 2) requires completion of the 2000-level courses listed in the Admission Requirements for each Honors Specialization module. See Admission to BMSc for more details. |

| MODULE | PREREQUISITE COURSES |
|---|--|
| Honors Specialization in Biochemistry of Infection and Immunity | See Biochemistry Department listing. |
| Major in Microbiology and Immunology | Students completing this Major in a BSc degree will register in the Major upon admission to Year 3 of the BSc Program (see Admission to BSc for more details). Students completing other degrees may register in this Major beginning in Year 2. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. |
| Specialization in Microbiology and Immunology | Enrolment in this module requires admission to Year 3 of the BSc Program. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Second year (usually Medical Sciences 2) requires completion of the 2000-level courses listed in the Admission Requirements for this Specialization module. See Admission to BSc for more details. |
| Minor in Microbiology and Immunology | Completion of first year requirements, including the following courses with minimum marks of 60% in each: Biology 1001A and 1002B (Biology 1201A and 1202B with minimum marks of 70% in each may be used in place of Biology 1001A and 1002B); Chemistry 1301A/B and 1302A/B. |

PATHOLOGY

www.schulich.uwo.ca/pathol ▶ Dental Sciences Building 4044 ▶ 519-661-2030

Pathology: Building on a foundation of anatomy, biochemistry, cell biology and physiology, and the understanding of normal mammalian systems, students move on to pathology—the study of human disease. Basic mechanisms underlying disease are investigated with an in-depth look at some of the major organ disorders (e.g., cardiovascular disease, kidney disease, neuropathology).

Medical Health Informatics: Students combine foundational courses in both the medical sciences (such as understanding the biochemistry and pathophysiology of disease) and computer sciences (in algorithms, data structures, databases, computer networks and human-computer interaction).

One Health: One Health is an integrated effort of multiple disciplines working locally, nationally and globally to attain optimal health for humans, animals and the environment.

| MODULE | PREREQUISITE COURSES |
|--|---|
| Honors Specialization in Pathology Honors Specialization in Medical Health Informatics Honors Specialization in One Health | Enrolment in any of these modules is limited and requires admission to Year 3 of the BSc Program. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Second year (usually Medical Sciences 2) requires completion of the 2000-level courses listed in the Admission Requirements for the Honors Specialization module. See Admission to BSc for more details. |
| Specialization in Pathology | Enrolment in this module requires admission to Year 3 of the BSc Program. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Second year (usually Medical Sciences 2) requires completion of the 2000-level courses listed in the Admission Requirements for this Specialization module. See Admission to BSc for more details. |
| Major in Pathology | The Major in Pathology can only be completed in combination with another Major leading to a BSc degree and enrolment in this Major requires admission to Year 3 of the BSc Program. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Second year (usually Medical Sciences 2) requires completion of the 2000-level courses listed in the Admission Requirements for this Major module. See Admission to BSc for more details. |

PHYSIOLOGY AND PHARMACOLOGY

www.schulich.uwo.ca/physpharm ▶ Medical Sciences Building M216 ▶ 519-661-3460

Physiology: Learn how complex cells work together to produce an integrated whole. Physiology courses and research span the whole spectrum of living organisms, from events at the molecular level to integrated responses of the whole animal.

Pharmacology: Study how drugs act on biological systems to modify normal physiological functions. Understand the range of targets for drug action and the therapeutic uses of some important drugs. Discover the adverse effects of both drugs and chemicals on humans and other biological systems, and learn how technology is an integral part of risk/safety evaluation.

| MODULE | PREREQUISITE COURSES |
|--|---|
| Honors Specialization in Pharmacology Honors Specialization in Physiology Honors Specialization in Physiology and Pharmacology | Enrolment in any of these modules is limited and requires admission to Year 3 of the BSc Program. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Second year (usually Medical Sciences 2) requires completion of the 2000-level courses listed in the Admission Requirements for each Honors Specialization module. See Admission to BSc for more details. |

| MODULE | PREREQUISITE COURSES |
|--|---|
| Major in Pharmacology Major in Physiology | Students completing either (but not both) of these Majors in a BSc degree will register in the Major upon admission to Year 3 of the BSc Program (see Admission to BSc for more details). Students completing other degrees may register in one of these Majors beginning in Year 2. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. |
| Specialization in Pharmacology Specialization in Physiology | Enrolment in any of these modules requires admission to Year 3 of the BSc Program. The prerequisite courses (1000-level courses in biology, chemistry, math and physics) are specified in Medical Sciences 1 and must be completed with marks of at least 60%. Second year (usually Medical Sciences 2) requires completion of the 2000-level courses listed in the Admission Requirements for each Specialization module. See Admission to BSc for more details. |
| Minor in Pharmacology | Completion of first year requirements, including the following courses with minimum marks of 60% in each: Biology 1001A and 1002B (Biology 1201A and 1202B with minimum marks of 70% in each may be used in place of Biology 1001A and 1002B); Chemistry 1301A/B and 1302A/B. |

NEUROSCIENCE - BACHELOR OF SCIENCE (BSc)

www.schulich.uwo.ca/bsc-neuroscience ▶ Robarts Research Institute 3203 ▶ 519-661-4039

Neuroscience is a highly interdisciplinary field of science devoted to unraveling the complexities of nervous system structure and function. Students will explore a broad range of current topics and theories concerning the nervous system, ranging from single neurons to complex circuits and behaviour.

| MODULE | PREREQUISITE COURSES |
|---------------------------------------|--|
| Honors Specialization in Neuroscience | Enrolment in this module is limited. Meeting the minimum requirements does not guarantee that students wishing to enter this module will be admitted. Completion of first-year requirements with no failures. Students must have a minimum average of 75% in the following 4.0 principal courses, with no mark below 60% in any of these (full or half) courses: 1.0 course from: Biology 1001A or 1201A and Biology 1002B or 1202B. 1.0 course: Psychology 1000. 1.0 course: Chemistry 1301A/B and 1302A/B. 1.0 course from: Calculus 1000A/B or 1500A/B, 1301A/B or 1501A/B, Mathematics 1225A/B, 1228A/B, 1229A/B, 1600A/B, Statistical Sciences 1024A/B, Applied Mathematics 1201A/B, Applied Mathematics 1413. 1.0 course in physics must be completed prior to Year 3. Whether taken in first or second year, a minimum mark of 60% must be achieved in each of two courses in physics, as follows: 0.5 course from: Physics 1028A/B, 1301A/B or 1501A/B. 0.5 course from: Physics 1029A/B, 1302A/B or 1502A/B. |