Faculty of Natural Sciences and Mathematics

Overview

The Faculty of Natural Sciences and Mathematics offers a diverse range of courses, programs and degrees (B.Sc., B.A., M.Sc.) via its five departments (Biology & Biochemistry, Chemistry, Computer Science, Mathematics and Physics & Astronomy).

Students enrolled in the experimental science classes receive extensive laboratory experience. Laboratories and classes tend to be small and students are able to obtain essential feedback from Professors. The Faculty also offers students free help in learning mathematics/statistics, physics and computer science through Help Centres staffed with upper year students and/or professional tutors, under the supervision of Faculty members. The Bishop's University Astronomical Observatory is also available for graduate and undergraduate research as well as for public viewing.

Graduates from the Faculty pursue careers in many diverse fields. In recent years these careers have included, but are not limited to: medicine, veterinary medicine, dentistry, biomedical research, engineering, actuarial science, statistics, software engineering, pharmacology, physiotherapy, secondary and primary school science teaching and the chemical industry.

Degrees and Programs

Detailed descriptions of the degrees and programs offered are found under the respective Departmental sections of this calendar. The Faculty of Natural Sciences and Mathematics offers selected Masters of Science (M.Sc.) degrees and a wide range of programs leading to the Bachelor of Science (B.Sc.) or Bachelor of Arts (B.A.) degrees with Honours or Majors specialization. In addition, several departments offer Minor programs that can be added to one's Honours/Major program, and Computer Science also offers a certificate program. Please see the complete list of programs in Table I below.

Natural Sciences Divisional Major MAJDNS

The Faculty offers an entry-level program for a limited number of students, allowing them to register as Divisional Majors (rather than into a specific program) for a maximum of two semesters. After two semesters of full-time study completed, students must enrol into a specific program (Major). Students who are not accepted into one of the regular programs must consult with the Academic Advisor to determine an academic plan.

Length of Degrees

All students admitted into their first Bachelor's degree come into a 4-year, 120-credit program. However, students may be granted up to one year of advanced credits (30 credits) and in some specific cases, up to two years of advanced credits (60 credits), for coursework completed at a previous academic institution. To find out more, students can consult the Admission section of the Academic Calendar and the Transfer Credits webpage *(www.ubishops.ca/future-students/admission-process/transfer-credits-at-bishops-university/)* to find out if they are eligible for advanced credits and/or courses exemptions.

Collegial Equivalent Science Courses

Students having a Québec collegial diploma (DEC) and who have completed collegial courses that are equivalent to the introductory science courses listed below, will receive an exemption for the applicable courses. CEGEP/Bishop's course equivalencies *(www.ubishops.ca/future-students/admission-process/transfer-credits-at-bishops-university/cegep-credit-chart/)* are:

General Biology for Science students	**BIO 196/BIL 196**
General Chemistry	**CHM 191/CHL 191**
Chemistry of Solutions	**CHM 192/CHL 192**
Calculus 1/Differential and Integral Calculus 1	**MAT 191**
Calculus 2	**MAT 192**
Linear Algebra*	**MAT 108**
Mechanics	**PHY 191/PHL 191 or PHY 193/PHL 193**
Electricity and Magnetism	**PHY 192/PHL 192 or PHY 194/PHL 194**

**Only if a grade of 80% or higher was received in the equivalent course.*

Bishop's collegial-equivalent science courses that must be completed in each of our science programs are listed in Table II. It is to be noted that the labs that are associated with many of these courses must be taken concurrently (e.g. the course BIO 196 has an associated lab named BIL 196).

Humanities and Social Sciences Requirements

In order to encourage students enrolled in the Faculty of Natural Sciences and Mathematics to broaden the scope of their education, all majors and honours programs require to complete at least the following:

- Two courses (6 credits) selected from any Humanities courses. *It is recommended that at least one of these courses be a writing intensive course. It is to be noted that students who have received 30 or more unassigned advanced credits (ELE) are exempt from this particular requirement.*
- One course (3 credits) in either the Faculty of Humanities or the Faculty of Social Sciences. *It is to be noted that students with program combinations which require more than 72 credits are exempt from this particular requirement.*

While these requirements will not in themselves ensure against excessive specialization, it is hoped that it will lead students to find and pursue various areas of interest.

Table I: Science programs in the Faculty of Natural Sciences and Mathematicss

Department	Program/Concentration	Degree Type	Specialization Level
Biology and Biochemistry	Individualized	M.Sc.	Master's
	Biochemistry: Biochemistry and Molecular Biology Concentration	B.Sc.	Honours, Major, Minor
	Biology: Health Sciences and Pre-Medicine Concentration	B.Sc.	Honours, Major
	Biology: Health Sciences Concentration	B.A.	Major, Minor
	Biology: Biodiversity and Ecology Concentration	B.Sc., B.A.	Honours, Major, Minor
Chemistry	Individualized	M.Sc.	Master's
		.	Minor
Computer Science		M.Sc.	Master's
		B.Sc.	Honours, Major, Minor
		Certificate	
	Information Technology	B.A.	Major
Mathematics		B.Sc., B.A.	Honours, Major, Minor
	Matemáticas en Español	B.Sc., B.A.	Honours, Major
	Mathematical Contexts		Minor
Physics and Astronomy		M.Sc.	Master's
		B.Sc.	Honours, Major, Minor

Table II: Collegial-equivalent courses

Department/Program	Biology	Chemistry	Mathematics	Physics
Biology and Biochemistry / Biochemistry B.Sc.	BIO 196/BIL 196	CHM 191/CHL 191	MAT 191	PHY 191/PHL 191 or PHY 193/PHL 193
		CHM 192/CHL 192	MAT 192	PHY 192/PHL 192 or PHY 194/PHY 194
Biology and Biochemistry / Biology B.Sc.	BIO 196/BIL 196	CHM 191/CHL 191	MAT 191	PHY 191/PHL 191 or PHY 193/PHL 193
		CHM 192/CHL 192	MAT 192	PHY 192/PHY 192 or PHY 194/PHY 194
Biology and Biochemistry / Biology B.A.	BIO 196/BIL 196	CHM 191/CHL 191 CHM 192/CHL 191		
Computer Science / B.Sc.			MAT 191	PHY 191/PHL 191
			MAT 192	PHY 192/PHL 192
Computer Science / Information Technology B.A.			MAT 196	
			MAT 197	
Mathematics / B.Sc.			MAT 191	PHY 191/PHL 191
			MAT 192	PHY 192/PHL 192
Mathematics / B.A.			MAT 191	
			MAT 192	
Physics and Astronomy		CHM 191/CHL 191	MAT 191	PHY 191/PHL 191
		CHM 192/CHL 192	MAT 192	PHY 192/PHL 192

Transfers from other Universities and Colleges

Students entering a program in the Faculty of Natural Sciences and Mathematics from another Canadian University or College, or from accredited international post-secondary institutions, will have their transcripts of grades examined individually for possible transfer credit against a Bishop's program's requirements. Please consult the Admission section of this Calendar or the Admissions Office, admissions@ubishops.ca for details.

Transfers from other programs at Bishop's University

Rules pertaining to transfer into Faculty of Natural Sciences and Mathematics programs are published in the Undergraduate Academic Regulations, under the article "Change of Degrees or Degree Components."