

# GENERAL B.SC.

## B.Sc. General Degree

The three-year General program is intended to provide diversified training in Science. The program provides students with broad exposure to the major areas of Science at the introductory level with a requirement for more advanced studies in one or more areas of Science.

This program is not intended for students who desire to practice in some field of specialization in the Sciences. Students with that intent are recommended to pursue the Honours or the four-year Major program.

Students are required to have the equivalent of high school Mathematics 40S (either pre-calculus or applied mathematics) and at least one of high school Chemistry 40S or Physics 40S.

Students having difficulty with the interpretation of the following regulations or the way in which they are applied, are urged to contact a Science Academic Advisor in the general office. Students are responsible for their own degree progress and completion.

Students admitted into the B.Sc. General degree program prior to September 2021 should consult with a Science Academic Advisor about their degree requirements.

Students anticipating a transfer to either a four-year Major or Honours program at the end of the second or third year should consult with a Science Academic Advisor before registering.

Students must complete 90 credit hours with passing grades ("D" or better) in each course. Please note higher grades are usually required for prerequisite purposes. See course descriptions for details. A student must obtain a minimum grade point average of 2.00 on the 90 credit hours, which constitute the degree to qualify for the degree of Bachelor of Science (General).

Students must complete:

### Introductory Level Faculty of Science Courses (21 credit hours)<sup>1</sup>

- **9 credit hours from the Computational and Mathematical Sciences:**
  - COMP 1010 (or COMP 1012<sup>2</sup>), COMP 1020,
  - [MATH 1220 or MATH 1300 (or equivalent) or MATH 1210<sup>3</sup>], [MATH 1230 or MATH 1500 (or equivalent) or MATH 1524], [MATH 1232 or MATH 1700 (or equivalent)], MATH 1240,
  - [STAT 1000<sup>4,5</sup> (or STAT 2220<sup>4</sup>) or STAT 1150<sup>5</sup>], STAT 2000<sup>5</sup>, STAT 2150
- **6 credit hours from the Physical Sciences<sup>6</sup>:**
  - ASTR 1810, ASTR 1830,
  - CHEM 1100, CHEM 1110, [CHEM 1120 or (CHEM 1122 and CHEM 1126)<sup>7</sup>],
  - (PHYS 1020 or PHYS 1050), [PHYS 1030 or (PHYS 1070 or PHYS 2152)]<sup>8</sup>
- **6 credit hours from the Life Sciences:**
  - BIOL 1020, BIOL 1030, BIOL 1410, BIOL 1412,
  - MBIO 1010, MBIO 1220<sup>9</sup>

- <sup>1</sup> When selecting courses to fulfill the Introductory Faculty of Science requirement, a student should consider the subject areas in which they wish to select Advanced Level Faculty of Science courses, and select courses that will fulfill the prerequisite requirements of the Advanced Level courses. A student is encouraged to consult course descriptions and an academic advisor for guidance. Students must satisfy the Written English (W) Requirement (<https://catalog.umanitoba.ca/undergraduate-studies/general-academic-regulations/#text>), within the first 60 credit hours.
- <sup>2</sup> COMP 1012 is primarily intended for Price Faculty of Engineering students and may not be held for credit with COMP 1010.
- <sup>3</sup> MATH 1210 is intended for Price Faculty of Engineering students and may not be held for credit with MATH 1220 or MATH 1300 (or equivalent).
- <sup>4</sup> STAT 2220 is intended for Price Faculty of Engineering students and may not be held for credit with STAT 1000 or STAT 1150.
- <sup>5</sup> STAT 1150 may not be held for credit with STAT 1000 or STAT 2000.
- <sup>6</sup> Students must have at least one of High School Chemistry 40S or Physics 40S. Students who do not have either of these high school courses will not be able to satisfy this requirement without taking CHEM 1018, PHYS 1018, or another equivalent. CHEM 1018 or PHYS 1018 may be used to fulfill the Faculty of Science requirement, or an elective requirement.
- <sup>7</sup> CHEM 1122 and CHEM 1126 are intended for Price Faculty of Engineering students and may not be held for credit with CHEM 1120.
- <sup>8</sup> PHYS 2152 is intended for Price Faculty of Engineering students and may not be held for credit with PHYS 1070.
- <sup>9</sup> MBIO 1220 is primarily intended for students planning to enter the College of Nursing or other health care or related programs. It will not act as a prerequisite to higher level Microbiology courses.

### Advanced Level Science Courses (36 credit hours)

To satisfy the advanced level requirements of the 3-year General Degree program, thirty-six (36) credit hours at the 2000, 3000, and (or) 4000 level must be chosen from courses offered by the Faculty of Science. Courses offered by the Faculty of Science include courses from the departments of Biological Sciences, Chemistry, Computer Science, Mathematics, Microbiology, Physics & Astronomy, and Statistics. Courses with the prefix DATA, FORS, and SCI, are also courses taught by the Faculty of Science and may be used to fulfill this requirement.

Of these 36 credit hours, at least 9 credit hours must be chosen from 3000 or 4000 level courses.

Students should note prerequisite requirements for upper level courses when planning their program.

PHYS 2152, SCI 2980, SCI 2990, SCI 3980, SCI 3990, SCI 4980, SCI 4990, STAT 2000, and STAT 2220 may not be used to fulfill this requirement.

### Other Course Requirements (33 credit hours)

- **Faculty of Science Elective Course (3 credit hours)** - In addition to the 57 credit hours of Faculty of Science courses stated above, students must take an additional 3 credit hours from the Faculty of Science. This course must be at the 1000-level or higher.
- **Other Faculty Courses (12 credit hours)** - Students must take a minimum of 12 credit hours of courses from outside the Faculty of Science, **of which at least six credit hours must be from the Faculty of Arts.** Students may take up to 30 credit hours of courses from outside of the Faculty of Science using the 18 credit hours of electives below.

- **Elective Courses (18 credit hours)** - Students must take 18 credit hours of electives in this program. Elective courses may include courses from within the Faculty of Science, or courses from other faculties.

## General Science Internship Option

An internship option is available for B.Sc. General Degree students. Students should refer to the General Science Internship Program (<https://catalog.umanitoba.ca/undergraduate-studies/science/#cooperativeeducationtext>) for further information on the Internship Program.

The course and minimum grade requirements for entry and continuation in the B.Sc. General Internship are the same as those required for the B.Sc. General degree. However, the entry and continuation DGPA requirement is set at a minimum of 3.0.

## Degree Requirements

### General <sup>1</sup>

Course	Title	Hours
<b>Year 1</b>		
9 credit hours from COMP, MATH or STAT <sup>2</sup>		9
6 credit hours from ASTR, CHEM or PHYS <sup>3,4</sup>		6
6 credit hours from BIOL or MBIO <sup>5</sup>		6
<b>Hours</b>		<b>21</b>
<b>Years 1-3</b>		
3 credit hours of Faculty of Science courses		3
12 credit hours from outside of the Faculty of Science, of which at least 6 credit hours must be from the Faculty of Arts		12
18 credit hours of electives		18
<b>Hours</b>		<b>33</b>
<b>Years 2-3</b>		
27 credit hours at the 2000 level or higher from the Faculty of Science <sup>6</sup>		27
9 credit hours at the 3000 level or higher from the Faculty of Science		9
<b>Internship Requirements (if selected): <sup>7</sup></b>		
SCI 2980 or SCI 2990	4-Month General Science Internship or 8-Month General Science Internship	0
<b>Hours</b>		<b>36</b>
<b>Total Hours</b>		<b>90</b>

<sup>1</sup> Student must satisfy the W requirement in their first 60 credit hours.

<sup>2</sup> Chosen from:

- (COMP 1010 or COMP 1012), COMP 1020,
- [MATH 1220 or MATH 1300 (or equivalent), or MATH 1210], [MATH 1230 or MATH 1500 (or equivalent) or MATH 1524], [MATH 1232 or MATH 1700 (or equivalent)], MATH 1240,
- (STAT 1000 or STAT 2220 or STAT 1150), STAT 2000, STAT 2150.

<sup>3</sup> Chosen from:

- ASTR 1810, ASTR 1830,
- CHEM 1100, CHEM 1110, [CHEM 1120 or (CHEM 1122 and CHEM 1126)],
- (PHYS 1020 or PHYS 1050), [PHYS 1030 or (PHYS 1070 or PHYS 2152)].

<sup>4</sup> Students must have at least one high school Chemistry 40S or Physics 40S, or equivalent.

<sup>5</sup> Chosen from:

- BIOL 1020, BIOL 1030, BIOL 1410, BIOL 1412,
- MBIO 1010, MBIO 1220.

<sup>6</sup> PHYS 2152, SCI 2980, SCI 2990, SCI 3980, SCI 3990, SCI 4980, SCI 4990, STAT 2000, STAT 2220 cannot be used to satisfy this requirement.

<sup>7</sup> Students in the General Science Internship Option must end their degree on an academic term.

## General Science Internship Program Option Academic Regulations: B.Sc. (General)

An internship is a form of work-integrated learning (WIL). It is a professional learning experience that offers meaningful, practical work experience related to students' field of study or career interest. An internship is a one-time discipline-specific, supervised and structured work experience providing students the opportunity for career related exploration and development and to learn new skills.

The Faculty of Science offers an internship option for students completing the B.Sc. (General) degree. Students participating in the General Science Internship Program Option can complete one internship of either four months or eight months in duration. Internships completed through the General Science Internship Program (GSIP) are full-time and paid.

The Science General Internship Program is optional and supplementary to academic requirements of the B.Sc. (General) degree. All regulations governing the degree apply to the General Science Internship Program Option. In addition, the following variations apply:

### Entrance

To enter the General Science Internship Program Option, a student, at the time of application, must meet the following:

- be a full-time student in the B.Sc. General degree program
- be in good standing in the Faculty of Science
- have a minimum Degree Grade Point Average (DGPA) of 3.0
- have completed a minimum of 24 credit hours at the time of application
- have successfully completed (grade of "C" or better) 12 credit hours of Faculty of Science courses at the 2000-level or higher. Alternatively, be registered in enough Faculty of Science courses at the 2000-level or higher that it is possible to have successfully completed (grade of "C" or better) 12 credit hours of Faculty of Science courses at the 2000-level or higher by the start of the internship. Failure to successfully complete 12 credit hours of Faculty of Science courses at the 2000-level or higher by the start of the internship will result in a removal from the program.
- students must have enough credit hours remaining in their degree to be able to return to full-time studies after the completion of their internship. Interested B.Sc. General students would apply for entry to the General Science Internship Program in the Fall Term (typically in Year 2) upon the completion of a minimum of 24 credit hours. During that same term they will complete an intake process with the General Science Internship Program Coordinator. Application deadlines are established by the General Science Internship Program Office.
- successfully complete an intake interview with the GSIP Coordinator

Students are advised that satisfying the minimum entrance requirements does not guarantee a place in the General Science Internship Program Option. The GSIP office will select the best-qualified applicants using

a broad-based admission criteria, including applicant's DGPA and a standard interview. The interview process is designed to assess students' professionalism, work and volunteer experience, and general suitability to enter the Internship Program.

Students admitted into the General Science Internship Program Option will complete pre-employment training, including workshops, prior to the start of their internship. The structure and content of this training is developed by the General Science Internship Program Office. Attendance and completion of this training is mandatory.

### Internship Requirements

Participating students are to complete one internship position of either four or eight months in duration. An internship position (regardless of duration) is completed with one employer.

General Science Internship Program Option students are required to complete a final internship report at the end of their internship. These reports are due at times designated by the General Science Internship Program Office. To successfully complete their internship, a student must obtain a grade of "Pass" for their final internship report. The General Science Internship Program Office will provide students with instructions regarding the content and format requirements of the final internship report.

While on an internship, students are not permitted to take more than six credit hours of academic credit and may not take more than one course at a time.

### Academic Term Requirements

Coursework requirements of the General Science Internship Program Option are equivalent to the coursework requirements of the B.Sc. (General) degree.

General Science Internship Program Option students are required to maintain full-time study while registered for an academic term.

Students participating in the General Science Internship Program must end on an academic term.

Students may be required to withdraw from the General Science Internship Program Option for any of the following reasons:

- Failure to maintain the minimum academic requirements of the B.Sc. (General) degree program, and the General Science Internship Program Option. Note the General Science Internship Program requires students to have a minimum DGPA of 3.0 upon entrance to the program, and to continue in the program.
- Failure to maintain the minimum credit hour requirements of the academic term in the internship option.
- Failure to successfully complete (minimum grade of "C" or better) 12 credit hours of Faculty of Science courses at the 2000-level or higher by the end of the Winter Term or the year they enter the program.
- Unsatisfactory performance during an internship as determined by the employer and/or dismissal by the employer for cause, through consultation with the GSIP Office and the Faculty of Science Dean's Office. Unsatisfactory performance may include (but is not limited to) failure to meet performance requirements, dissemination of confidential information, not adhering to the employer's code of conduct, unethical or illegal activity.
- Failure to submit a final internship report or the submitted report does not achieve a "Pass" grade.
- Failure to observe the policies outlined in the university governing documents related to Behavioural Policies (<https://umanitoba.ca/student/behavioural-policies.html>), Academic Misconduct (<https://catalog.umanitoba.ca/undergraduate-studies/science/general-bsc/%20https://umanitoba.ca/student-supports/academic-supports/academic-integrity/>), and Non-Academic Misconduct ([https://umanitoba.ca/governance/sites/governance/files/2021-09/Student%20Non-Academic%20Misconduct%20and%20Concerning%20Behaviour%20Procedure%20-%202021\\_09\\_01.pdf](https://umanitoba.ca/governance/sites/governance/files/2021-09/Student%20Non-Academic%20Misconduct%20and%20Concerning%20Behaviour%20Procedure%20-%202021_09_01.pdf)).

Prior to securing an internship position, students who wish to voluntarily leave the General Science Internship Program Option must meet with the GSIP Coordinator to discuss their reason(s) for leaving prior to submitting their withdrawal request. Students must submit their withdrawal request to the General Science Internship Program Coordinator and receive approval by the withdrawal dates set by the General Science Internship Program Office for the applicable internship term.

Once an internship position has been confirmed, students will be registered in the applicable internship course. Enrollment in the applicable internship course will be maintained and students are responsible for all assessed fees for the duration of the internship and for meeting all academic requirements. Students are not normally permitted to voluntarily withdraw from the General Science Internship Program Option once they have secured their internship position. Should extenuating circumstances arise which will require students to withdraw, they are required to first meet with the GSIP Coordinator to discuss their status prior to withdrawing.

Students are also subject to the academic assessment policy found in Regulations Application to all Programs (<https://catalog.umanitoba.ca/undergraduate-studies/science/general-bsc/#facultyrequirementstext>).

General Science Internship Program Option students who are required to withdraw, or voluntarily move to an alternative degree program must fulfil all academic requirements of that degree.

LIAM ADDED THIS TEST LINE AFTER IMPLEMENTING THIS SHARED PAGE ONTO THE BSC GENERAL AND THE SCIENCE CO-OP EDUCATION PAGE.