

Biological Science – Advanced Entry

*2019-2020 - UG - Minor Program Adjustment

(A) Proposal summary

Home faculty*

Faculty of Science

**Summary of
proposed
changes***

The Biological Science – Advanced Entry program enables graduates with a three-year Biotechnology – Advanced diploma from an Ontario college an opportunity to complete a Bachelor of Science (Honours) in Biological Science within four semesters post-diploma. In 2017-18, the following changes were made to the BSc (Hons) Biological Science major;

MATH 1010U – Calculus I and MATH 1020U – Calculus II were replaced with MATH 1015U – Mathematics for Bioscience (Year 1, Semester 1)

PHY 1010U – Physics I was removed as a first year physics options. Instead, Biological Science students are required to take PHY 1030U – Introductory Physics, which aligns better with the content of MATH 1015U.

BIOL 1000U – Foundations in Bioscience was added (Year 1, Semester 1)

BIOL 3051U – Developmental Biology and BIOL 3080U – Biochemistry II were removed as core Biological Science course and replaced with two additional 3rd year BIOL electives.

In order to keep the Biological Science –Advanced Entry program aligned with the BSc (Hons) Biological Science requirements, we propose the following program map changes:

MATH 1010U – Calculus I and MATH 1020U – Calculus II be replaced with MATH 1015U – Mathematics for Bioscience (Year 1, Semester 1)

Remove PHY 1010U – Physics as a first year physics option.

PHY 1030U will be required. (Year 1, Semester 1)

BIOL 1000U – Foundations in Bioscience be added to the Advanced Entry program map (Year 1, Semester 1)

BIOL 3051U – Developmental Biology be removed as a required courses. BIOL 3080U – Biochemistry II will remain as a

requirement, as it is an important prerequisite for several 4th year BIOL courses. Due to the nature of the Advanced Entry program

map, students in the program are limited in terms of upper year BIOL courses. Requiring key prerequisite courses, such as BIOL 3080U and BIOL 3020U, ensures that they will be able to meet their program requirements without unnecessary delay.

We would also like to make the following additional changes to the Advanced Entry program map:

Remove BIOL 4040U – Applied Molecular Biology and BIOL 4070U – Advanced Biochemistry as required 4th year BIOL courses (include as suggested electives instead).

Add BIOL 4031U – Infection and Immunity as a required 4th year BIOL course.

Modify the lists of suggested 3rd and 4th year BIOL electives to include courses which were created or modified after the original Advanced Entry map was passed.

The curriculum of the three-year Biotechnology – Advanced diploma program has been reassessed, and there are no changes to the group of transfer credits the Advanced Entry students receive upon admission.

Is a new course associated with this proposal? * Yes No

Are you modifying a pathways program? * Yes No

Effective semester *

Are you attaching any supporting documents? * Yes No

(B) Program information

Program or shared core name *

Program type

Degree type

College-to-University Transfer

Program or
shared core
description

Calendar copy*

General information

The Biological Science – Advanced Entry program enables graduates with a three-year Biotechnology – Advanced diploma from an Ontario college an opportunity to complete a Bachelor of Science (Honours) in Biological Science within four semesters post-diploma.

Admission requirements

Graduates from most three-year Biotechnology – Advanced Ontario college diploma programs with an overall B average (73 per cent average) or better, will be considered for admission to UOIT's Biological Science program. Please contact the Admissions department for a list of diploma programs which are eligible for admission to this pathway program.

Students approved for admission to this pathway program are accepted into the regular [Biological Science program](#) only and do not have the option to transfer into other programs or specializations.

Program details and degree requirements

The requirements for the degree completion program are detailed in the following program map.

Year 1

Semester 1 (15 credit hours)

[Before] Elective* (recommend ENVS 1000U)

~~BIOL 3051U Developmental Biology~~
BIOL 1000U Foundations in Bioscience

~~[Before] One of:~~

~~MATH 1000U Introductory Calculus~~

~~[Right] or~~

~~MATH 1010U Calculus I~~

~~[Right] +~~

~~[Before] One of:~~

~~PHY 1010U Physics I~~

~~[Right] or~~

~~BIOL 3080U Biochemistry II~~

~~[Right] ±~~

MATH 1015U Mathematics for Bioscience

PHY 1030U Introductory Physics

Semester 2 (15 credit hours)

~~[Before]~~ Two third-year BIOL electives (recommend two of BIOL 3040U, BIOL 3620U or BIOL 3650U)**

~~[Before]~~ ~~Elective* (recommend PHY 2900U or PSYC 1000U)~~
Two Electives*

~~MATH 1020U Calculus II~~

PHY 1040U Physics for Biosciences

~~[Right] ++~~

~~[After] -~~

~~+ All students who have completed Grade 12 Advanced Functions (MHF4U) and Calculus and Vectors (MCV4U) should take MATH 1010U and PHY 1010U. Students without one of these high school courses or equivalent are directed to take MATH 1000U and PHY 1030U.~~

~~[After] -~~

~~++ Students who wish to take upper-year physics courses must take PHY 1010U or PHY 1030U, and PHY 1020U. However, students who achieve a B standing or higher in PHY 1040U will be permitted to proceed to higher-level physics courses~~

~~-~~

Year 2

Semester 1 (15 credit hours)

[Before] ~~Two~~ Third-year BIOL elective (recommend one of BIOL 3032U, BIOL 3051U, BIOL 3610U, BIOL 3640U, or BIOL 3660U) **

[Before] Fourth-year BIOL Elective (recommend one of BIOL 4020U, BIOL 4040U, or BIOL 4070U)

~~BIOL 4040U Applied Molecular Biology~~

~~BIOL 4070U Advanced Biochemistry~~

BIOL 3020U Principles of Pharmacology and Toxicology

STAT 2020U Statistics and Probability for Biological Science

Semester 2 (15 credit hours)

[Before] Third- or fourth-year BIOL elective (recommend one of BIOL 3040U, BIOL 3620U, BIOL 3650U, BIOL 4030U, BIOL ~~4031U~~ 4050U, BIOL ~~4050U~~ 4060U, or BIOL ~~4060U~~ 4660U) **

[Before] Fourth-year BIOL elective (recommend one of BIOL 4030U, BIOL ~~4031U~~ 4050U, BIOL 4060U, BIOL ~~4050U~~ or BIOL ~~4060U~~ 4660U) **

[Before] ~~Two electives*~~ Elective*

BIOL 4031U Infection and Immunity

BIOL 4080U Bioethics

Notes:

No more than 42 credit hours may be taken at the first-year level.

*Electives and breadth requirements

Students must complete 12 elective credit hours. Of these 12 credit hours, at least 3 credit hours must be in courses offered by the Faculty of Science, and at least 3 credit hours must be in courses outside the Faculty of Science. Students must take the remaining 6 elective credit hours in a general elective (offered by the Faculty of Science or outside the Faculty of Science). No more than 9 elective credit hours may be taken at the first-year level.

**Third- and Fourth-year Biology electives:

All students must complete ~~15~~ 21 credit hours in BIOL at the third- and fourth-year level, with at least ~~3~~ 6 credit hours at the fourth-year level.

Program learning outcomes

(C) Pathways programs

Proposed transfer credit block No changes to current transfer credit block

(D) Detailed proposal information

Enhanced academic opportunities*

The addition of BIOL 1000U – Foundation in Bioscience will provide the opportunity for student to learn the practical skills important to success in the Biological Science program. For example, this course will cover, in depth, areas such as the scientific method, basic principles of measurement and analysis, how to approach a laboratory experiment, time management for experiments, communication in biology, reading and writing scientific papers, data analysis and interpretation and problem solving.

The removal of MATH 1010U and MATH 1020U, and the addition of MATH 1015U will provide the appropriate knowledge in Mathematics for students in the Biological Sciences program. Advanced Entry students often struggle in MATH 1010U and MATH 1020U, being so far removed from high school math, or never having studied it. MATH 1015U will provide the appropriate depth needed for students to learn the application of math for the Biological Sciences.

The removal of BIOL 3051U as a core requirement in the Advanced Entry program will allow students in more the flexibility in their 3rd year BIOL courses. BIOL 3051U will be added to the list of possible Biological Science electives. Similarly, replacing BIOL 4040U and BIOL 4070U as required 4th year BIOL courses, with BIOL 4031U – Infection and Immunity, will ensure that Advanced Entry students are streamed into 4th year BIOL courses which are more appropriate to their prior educational background. BIOL 4040U and BIOL 4070U will be added to the list of suggested BIOL electives and, along with the addition of BIOL 3051U, BIOL 4660U, and BIOL 4020U, will provide Advanced Entry students with more elective options and flexibility.

Financial/resource implications*

Due to the small number of Biological Science – Advanced Entry students, no significant enrolment or additional financial impacts are expected.

Enrolment implications*

Due to the small number of Biological Science – Advanced Entry students, no significant enrolment or additional financial impacts are expected.

Transition plan*

As the Advanced Entry program is two years in length, students who entered the Biological Science – Advanced Entry program in Sept 2018 will be able to adjust their program maps, in consultation with their academic advisor, to align with these new program requirements. They will still need to meet all the requirements of the B.Sc. Biological Science major.

Additional supporting information, if applicable

(E) Impact and consultation

Does this change include any indigenous content?* Yes No

We have consulted with all impacted areas* Yes N/A

Consultation*

These changes have been discussed amongst the Biological Science program faculty, and the Science Academic Advising Office.