

## Minor Program Adjustment

<b>Faculty:</b> Science	<b>Date:</b> November 20, 2017
<b>Program:</b> Minor in Biology	
<b>Undergraduate:</b> <input checked="" type="checkbox"/>	<b>Graduate:</b> <input type="checkbox"/>

*Minor Program Adjustments include: New required courses, Deletion of required courses, Other changes to degree requirements or program learning outcomes, New academic requirements or changes to existing requirements.*

**Motion: That CPRC approve the updates to the current language in the academic calendar for the minor in Biology. The update will reflect the new institutional nomenclature and restrictions around double-counting courses, as well as remove the list of “suggested” groupings of BIOL courses in favour of a flexible model more inline with other Faculty of Science minors.**

### Proposal Brief

#### Summary of the proposed change

This proposal looks to bring the requirements for the minor in Biology more inline with other Faculty of Science minors, and to provide more flexibility in the courses which student can apply towards the minor. The proposed changes will also align the stated general minor requirements with institutional changes to minor nomenclature and restrictions around double-counting courses. Specifically:

- Change the total credit hour requirements for a minor in Biology from “at least 18 credit hours” to “21 credit hours”.
- Add BIOL 2010U – Human Physiology and BIOL 2030U – Cell Biology to the list of mandatory minor courses.
- Remove the list of prescribed themes of 4 to 7 BIOL courses, in favour of the requirement of an additional 3 (9 credit hours) in BIOL courses including at least two at the 3000- or 4000- level. BIOL 1000U, BIOL 1011U, BIOL 1021U and BIOL 1841U will not count toward a minor in Biology, as they do not meet the academic rigor required. Students previously had the option to have different course groupings approved by the academic advisors and UPD, this changed removes only these suggested “themed” groupings.
- Remove the requirement that “at least three credit hours must be taken as science electives” (i.e. not be required by the major program), as well as the provision “if all the courses in a minor group are required by the major program, one additional course in the minor subject must be taken to satisfy the elective rule above”.

#### Description of the ways in which the proposed change will enhance the program and/or opportunities for students

The undergraduate program nomenclature for a minor is as follows:

“An optional secondary area of study requiring a minimum of 18 and maximum of 24 credit hours (including all prerequisites). A student may not declare a major and a minor in the same discipline. The minor appears on the academic transcript, but does not appear on the degree parchment.”

Some of the current prescribed themes of BIOL courses require students to complete upwards of 9 courses (27 credit hours) to obtain a minor. This is outside the parameters of the minor nomenclature, which allows a maximum of 8 courses (24 credit hours). By removing the list of prescribed themes, establishing a consistent required number of BIOL courses (7 courses; 21 credit hours), and including BIOL 2010U – Human Physiology and BIOL 2030U – Cell Biology in the list of mandatory minor courses, we have increased the flexibility in selecting courses, while maintaining the academic strength of the minor program. As BIOL 2010U and BIOL 2030U are prerequisites for most upper year BIOL courses, their addition as mandatory courses ensures we are staying within the nomenclature guidelines. Similarly, the requirement that two of the remaining three “additional BIOL courses” be at the 3000- or 4000- level, means that students have the capacity to apply an additional 2<sup>nd</sup> year BIOL (e.g. BIOL 2020U, BIOL 2050U, or BIOL 2060U) towards their minor. This could increase the number 3000- and 4000- level BIOL courses open to them by providing an additional second year-level prerequisite course.

As per the nomenclature’s restrictions on program elements, a course is considered to be double-counted “if it is used to satisfy both the requirements for the Major and a Minor”. For minors “a maximum of 6.0 credit hours in double-counted courses may be included in the credits used towards a Minor program(s)”. As such, the existing requirements stated in calendar for the Biology minor are no longer applicable, and go against the approved institutional nomenclature. The proposed changes will clarify the correct requirements regarding obtaining a Biology minor, and ensure that our requirements are aligned with institutional policy and guidelines.

#### **Process of consultation with other units if the change(s) involves students, staff, and/or faculty from other programs or courses**

The Program Nomenclature Guidelines were passed through governance in June 2016, and the restrictions around double-counting courses were clarified in June 2017. These changes were communicated to the various Faculty representatives (i.e. Dean, Associate Dean, CPRC representatives, etc.). The changes proposed in this document have been discussed with faculty members through the Faculty level governance process.

#### **Analysis of financial and enrolment implications**

There are no financial implications to these changes. Our hope is that these changes will allow more students to enrol in and successfully complete a minor in Biology. We recognize that, with the changes to the double-counting rules, students may require additional guidance from the academic advisors in determining their major and minor requirements.

#### **Proposed Implementation Date (state term, e.g. Fall 2017)**

**Fall 2018**

#### **Transition Plan (include a plan for all current students in the program, by year level)**

Students who previously declared a minor prior to the 2017-18 academic year will be able to follow the old requirements for their minor subject. This has been discussed with CIQE. Those students who add(ed) a minor in 2017-18 onwards will be required to follow the new nomenclature guidelines and double-counting rules. Students who wish to pursue a minor under the more flexible course requirements will have to adhere to the new nomenclature and double-counting rules, regardless of when they declared their minor. We are recommending that students speak with their academic advisors for clarity and guidance.

### Calendar Copy and/or Program Maps (highlight revisions to existing curriculum)

## Biology minor

### General requirements

A student must take a minimum of ~~21~~ **18** credit hours in courses with the designation BIOL, ~~of which at least three credit hours must be taken as science electives (i.e. not be required by the major program) and including~~ at least six credit hours must be at the 3000- or 4000-level. ~~If all the courses in a minor group are required by the major program, one additional course in the minor subject must be taken to satisfy the elective rule above. No more than six credit hours can be double-counted towards both major and minor program requirements.~~ A cumulative GPA of at least 2.0 in the minor subject courses is required to successfully complete a minor program.

~~Suggested course groups for minors in Biology follow; students may choose to follow these course groups, or develop other course groups in consultation with the Faculty of Science academic advisor.~~

#### ~~Four~~ **Two** mandatory courses:

- BIOL 1010U – Biology I: Molecular and Cellular Systems
- BIOL 1020U – Biology II: Diversity of Life and Principles of Ecology
- BIOL 2010U – Human Physiology
- BIOL 2030U – Cell Biology

#### Additional Courses:

At least three additional courses (9 credit hours) with a designation of BIOL, excluding BIOL 1000U, BIOL 1011U, BIOL 1021U, and BIOL 1841U, of which at least two (6 credit hours) must be at the 3000- or 4000- level.

One of the following groups (themes indicated in bold):

#### ~~Microbiology and Developmental Biology~~

- ~~BIOL 2020U – Genetics and Molecular Biology~~
- ~~BIOL 2030U – Cell Biology~~
- ~~BIOL 2060U – Introduction to Microbiology and Immunology~~
- ~~BIOL 4031U – Infection and Immunity~~

#### ~~Microbiology and Physiology~~

- ~~BIOL 2010U – Introductory Physiology~~
- ~~BIOL 2020U – Genetics and Molecular Biology~~
- ~~BIOL 2030U – Cell Biology~~

- BIOL 2060U — Introduction to Microbiology and Immunology
- BIOL 3040U — Animal Physiology
- BIOL 4031U — Infection and Immunity

#### **Molecular and Developmental Biology**

- BIOL 2020U — Genetics and Molecular Biology
- BIOL 2030U — Cell Biology
- BIOL 2080U — Biochemistry I
- BIOL 3010U — Laboratory Methods in Molecular Biology
- BIOL 3080U — Biochemistry II

#### **Molecular Biology and Microbiology**

- BIOL 2020U — Genetics and Molecular Biology
- BIOL 2030U — Cell Biology
- BIOL 2060U — Introduction to Microbiology and Immunology
- BIOL 2080U — Biochemistry I
- BIOL 3010U — Laboratory Methods in Molecular Biology
- BIOL 3080U — Biochemistry II
- BIOL 4031U — Infection and Immunity

#### **Molecular Biology and Toxicology**

- BIOL 2010U — Introductory Physiology
- BIOL 2020U — Genetics and Molecular Biology
- BIOL 2080U — Biochemistry I
- BIOL 3010U — Laboratory Methods in Molecular Biology
- BIOL 3020U — Principles of Pharmacology and Toxicology
- BIOL 3080U — Biochemistry II

#### **Physiology and Developmental Biology**

- BIOL 2010U — Introductory Physiology
- BIOL 2020U — Genetics and Molecular Biology
- BIOL 2030U — Cell Biology
- BIOL 3040U — Animal Physiology

#### **Physiology and Toxicology**

- BIOL 2010U — Introductory Physiology
- BIOL 2030U — Cell Biology
- BIOL 2080U — Biochemistry I
- BIOL 3020U — Principles of Pharmacology and Toxicology
- BIOL 3040U — Animal Physiology
- BIOL 3080U — Biochemistry II

Note:

Other course groups may be developed in consultation with the science academic advisor, subject to the general rules above.

*Attachments*

**APPROVAL DATES**

Curriculum Committee approval	November 22, 2017
Faculty Council approval	December 6, 2017
CPRC Approval	19 January 2018
Submission to Academic Council	27 February 2018