

<https://langara.ca/departments/biology/index.html>

Biology Articulation Committee Meeting, May 9th and 10th, 2023

University of British Columbia Okanagan Campus, Kelowna B.C.

Report from Langara College

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Changes noted with a “*”. The number of course credits is shown in brackets after the course number.

Course # (credits)	Course Name (descriptor)	Text	Approx Projected annual enrolment	Hours (/week)	Pre-requisites	Notes	Course instructor(s) (if known)
BIOL 1111 (4 each)	Concepts in Biology: Introduction to Human Biology (non-majors)	Campbell Concepts and Connections. 10 th US Ed. Taylor et al.	950	4 lect/2 lab	None	<i>Very popular with first-term International Students</i>	Multiple instructors
BIOL 1115/1215 (4 each)	General Biology I and II (majors)	Biological Science, Freeman et al	800	4 lect/2 lab	C in BIOL 1111, 1118, 1175, or 1218 OR C+ in Biology 11 or 12,		Multiple instructors

					Chemistry 11 or 12, and English courses (see website for specific eligible courses)*; Biol 1115 serves as the prerequisite to Biol 1215		
BIOL 1118/1218 (4 each)	Introduction to environmental Ecology (non-majors)	Environmental Science: a Canadian Perspective. Freedman.	70	4 lect/2 lab	None		Kenneth Naumann/ Cameron MacDonald
BIOL 1175 (3)	Introduction to Human Biology (non-majors)	Campbell Concepts and Connections. 10 th US Ed. Taylor et al.	180	online	None	Support course for Nutrition and Food Services Program	Kyra Janot/ Martha Nelson-Flower
BIOL 1190/1191 (3 each)	Anatomy and Physiology for Health Sciences	Tortora and Derickson, Principles of Anatomy and Physiology.	700	4 lect/ 2 lab	C+ ENG 12 or equivalent AND ([C+ BIO 12 and C+ CHEM 11] OR C+ in BIOL 1111 OR C in BIOL 1115); 1190 is prereq for 1191	Support courses for Nursing	Multiple Instructors

BIOL 2192/2292 /3192 (3 each)	Pathophysiology I, II and III	2192: Intro to Pathophysiology, Sunga et al. 2292/3192: Copstead & Banasik, Pathophysiology	450	4 lect	1191 is prerequisite for 2192; 2192 is prerequisite for 2292; 2292 is prerequisite for 3192	Support courses for Nursing	Multiple Instructors
BIOL 2260 (3)	Introduction to Plant and Animal Physiology	Biological Science, Freeman et al	24	4 lect/3 lab	Completion of 1115/1215 with C or better		Kim Hruska
BIOL 2315 (3)	Biochemistry	Principles of Biochemistry, Moran et al.	140	4 lect / 2 lab	Completion of 1115/1215 with C+ or better and C or better in Chem 1220		Multiple instructors
BIOL 2330 (3)	Introduction to Genetics	Klug, Concepts of Genetics	96	4 lect/ 2 lab	Completion of 1115/1215 with C or better		Multiple Instructors
BIOL 2340 (3)	Vascular Botany	Raven, Botany	24	4 lect/ 3 lab	Completion of 1115/1215 with C or better		Ji Yang
BIOL 2350 (3)	Vertebrate Anatomy	Kardong, Comparative Anatomy and Function	24	4 lect/ 3 lab	Completion of 1115/1215 with C+ or better		Anoush Dadgar

BIOL 2370/2470 (3 each)	Microbiology I and II	Prescott's Microbiology, Willey et al	72/24	4 lect/ 2 lab	Completion of 1115/1215 with C+ or better; C grade in 2370 is prerequisite to Biol 2470		Ido Hatam/ Chris Conway
BIOL 2380 (3)	Introduction to Ecology	Smith & Smith. Elements of Ecology	72	4 lect/ 3 lab	Completion of 1115/1215 with C or better		Kim Hruska / Cameron MacDonald
BIOL 2415 (3)	Cell Biology	Beckers World of the Cell, Hardin et al, Pearson	144	4 lect/ 3 lab	Completion of 1115/1215 with C+ or better		Multiple instructors
BIOL 2440 (3)	Nonvascular Botany	Raven, Botany	24	4 lect/ 3 lab	Completion of 1115/1215 with C+ or better		Ji Yang
BIOL 2450 (3)	Invertebrate Biology	Pechenic. Biology of Invertebrates, (optional)	24	4 lect/ 3 lab	Completion of 1115/1215 with C or better		Ken Naumann
BIOL 2480 (3)	Population Ecology	Smith & Smith. Elements of Ecology	24	4 lect/ 3 lab	Completion of 1115/1215 with C+ or better		TBA

BIOL 3315 (4)	Evolution and Phylogeny	Saitou, Introduction to Evolutionary Genomics / Paradis, Analysis of Phylogenetics and Evolution with R	24	4 lect/2 lab	C grade in any two of Biol 2315, Biol 2415, or Biol 2330 and C grade in CPSC 1150 or CPSC 1155	Support course for Bioinformatics	Ido Hatam
BIOL 3430 (4)	Molecular Genetics	Klug, Concepts of Genetics	24	4 lect/ 3 lab	C grade in 2330	Support course for Bioinformatics	Joanna Woltosz
BIOL 4315 (4)	Genomics and Transcriptomics	None	3-24 (depending on BINF cohort)	4 lect/2 lab	C grade in BIOL 3430 and CPSC 3280	Support course for Bioinformatics	Ido Hatam
BIOL 4415 (4)	Proteomics and Metabolomics	None	3-24 (depending on BINF cohort)	4 lect/2 lab	C grade in BIOL 2315 and BIOL 4315	Support course for Bioinformatics	Anuli Uzozie

Please see <https://langara.ca/programs-and-courses/courses/BIOL/index.html> for complete details about courses and pre-requisites.

Program Changes:

- Two new courses (BIOL 4315 and 4415); no major changes to courses.
- We will be undergoing our Program Review next year.
- Ongoing minor changes to pre-requisites to achieve good balance between accessibility and preparedness (e.g. BIOL 1115)
- In process of discontinuing the following courses:
 - BIOL 1100: The Science and Art of Biology
 - BIOL 1185: Human Ecology
 - BIOL 2286: Ecology of the Mekong River
- In process of discontinuing the Citation in Ecology.
- Our Biology Field School (BIOL 2105) to Bamfield Marine Station has not run since 2019. We were hoping to offer it this Fall, but were not able to secure dates.

Other Notes:

- Department is comprised of 30 Biology Faculty and 15 Laboratory Demos
- This year we had one farewell (Paul Preston) and five new hires (welcoming lab demos Heather Zanzerl, Emily Betz, and Hayley Kellam, and faculty Dr. Wayne Zhao and Dr. Nora Saona)
- Currently have 4 faculty sharing departmental admin responsibilities: Dr. Melisa Hamilton (Chair), Dr. Kimberly Hruska (Assistant Chair – Faculty), Dr. Martha Nelson-Flower (Assistant Chair – Scheduling/Admin), Dr. Rawa Ibrahim (Student Coordinator)
- BIOL 1111, 1115, 1215, 1190, 1191, 2315, 2330 and 2415 are offered in all 3 terms. The number of sections in some terms has decreased slightly, compared to previous years, due to lower enrollment.
- All courses are fully F2F, except BIOL 1175, which has always been online.
- All of our courses (except the 3 Pathophysiology courses) have a lab component (and all labs are in person). As of January, we changed the lab-pass requirement as follows: "To attain a ~~passing grade~~ **higher than a C- grade** in a first-year biology course that contains a lab component, the student must attain an average of 50% or better in both the laboratory and lecture portions of the course. Exceptions are at discretion of instructor, in consultation with the lab demo."
- Our domestic enrollment for Summer 2023 is lower than in previous years. Our international student enrollment is very strong, which is (at least partly) a result of the previous backlog of students due to visa issues and students who chose to defer their enrollment during COVID.
- Starting this semester (Summer, 2023) the College has mandated that the default class composition will be 50% IE and 50% domestic students. Previously, these ratios were determined via consultation with Departments and often varied between different courses and courses sections.
- The College is pushing for Biology to increase the number of summer course sections (currently we offer ~40 sections in the summer and ~60 sections in the Fall and Spring). However, the College is currently unwilling to provide the necessary supports for students and departments to allow us to grow in a responsible and sustainable manner.
- Some instructors use iClickers in class, even though the College has discontinued their support of this technology. Instructors have incorporated use of various online learning tools into classes.
- Very limited adoption of open education resources in our department.
- The Applied B.Sc. Bioinformatics program will have its first graduate this year! The two 4th year courses that Biology faculty (Dr. Ido Hatam and Dr. Anuli Uzozie) developed to support the Bioinformatics (BINF) program (BIOL 4315 - Genomics and Transcriptomics (offered in the Fall) and BIOL 4415 - Proteomics and Metabolomics (offered in the Spring)) ran for the first time this year. Ido and Anuli were also involved in supervising the 4th year capstone projects (BINF 4215 and 4225), which showcased the Apps students developed to analyze complex biological data. Although enrollment is still low, the quality of the students and the program is high, as judged by the excellent capstone projects! The BINF program has 1st, 2nd, and 3rd year intakes. If anyone (faculty or students) is interested in this program or would like more information, please contact bioinformatics@langara.ca. Although a number of Biology

Faculty are involved with BINF, the program is now functioning independently from Biology, and has its own coordinator and budget.

- The Biology department continues to be involved in a variety of applied research projects centered around feral hops, mushrooms, pollinator gardens, cannabis, and seaweed surveys. Over the past 5 years, our faculty have received over 10 ARC (Applied Research Centre) funds, 3 NSERC grants, and 1 DFO grant. We currently have 10 faculty and ~20 SWAP/WOC/MITACs/co-op students working on these projects. Unfortunately, although the College wants these research programs to continue growing, the lack of infrastructure (i.e. inadequate investment in logistical, administrative, financial, and technological support) causes significant challenges for researchers.
- Full details of the Biology Program and Department can be found at <https://langara.ca/programs-and-courses/programs/biology/index.html>