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Biology Articulation Committee Meeting, May 2-3, 2024
University of Victoria
Articulation Rep: Mitra Panahi
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Course (credits)	Course Name	Text	Projected Enrolment	Hours/week lec-lab-tut	Pre-requisites	Notes	Course Instructors
BIOL 100 (4)	Biology I	Fowler *et al.*, Concepts of biology	521	3-3-0	ENGL 099	Non-majors	Dr. Michael Chua Dr. Jasmine Hue Dr. Sandra Pena-Diaz Dr. Abigail Feresten Dr. Anna Hipmann
BIOL 101 (4)	Intro. Biology I	Freeman *et al.*, Biological: Sciences, Biology 2e: OpenStax	105	3-3-0	ENGL 099 or equivalent, BIOL 11/12 & CHEM 11/12 Or BIOL 100 (B or better)	Majors	Dr. Mitra Panahi Dr. Michael Chua
BIOL 102 (4)	Intro. Biology II	Freeman *et al.*, Biological: Sciences, Biology 2e: OpenStax	104	3-3-0	ENGL 099 or equivalent, BIOL 11/12 & CHEM 11/12 Or BIOL 100 (B or better)	Majors	Dr. Michael Chua Dr. Sandra Pena-Diaz
BIOL 110 (4)	A & P I	Elaine Marieb and Lori Smith, Anatomy and Physiology	69	3-3-0	ENGL 098 or equivalent	Non-majors	Dr. Jasmine Hue Dr. Sandra Pena-Diaz

BIOL 120 (4)	A & P II	Elaine Marieb and Lori Smith, Anatomy and Physiology	35	3-3-0	ENGL 098 or equivalent	Non-majors	Dr. Jasmine Hue Dr. Sandra Pena-Diaz
BIOL 105 (4)	Biological concepts in Sustainability	Environmental Science: a Canadian perspective, Bill Freedman	448	3-3-0	ENGL 098 or equivalent	Non-majors	Dr. Mitra Panahi Dr. Michael Chua Dr. Sandra Pena-Diaz Dr. Jasmine Hue Dr. Farnaz Pournia
BIOL 106 (4)	Intro to Environmental Science	Environment: The Science behind the stories (Canadian Edition), Third Edition, Authors: Jay H. Withgott; Matthew Laposata; Barbara Murck	106	3-3-0	ENGL 099 or equivalent	Non-majors	Dr. Mitra Panahi Dr. Michael Chua Dr. Jasmine Hue
BIOL 201 (4)	Cellular Biology	Alberts et al., Essential Cell Biology	6	3-3-0	BIOL 101, BIOL 102, Chem 102	Majors	Dr. Mitra Panahi
BIOL 203 (3)	Genetics	Griffiths et al., Intro to Genetic analysis	20	3-0-1	ENGL 098, BIO 102	Majors	Dr. Jasmine Hue Dr. Michael Chua
BIOL 204 (4)	Ecology	Ecology, 5th Edition, William D. Bowman; Sally D. Hacker, Oxford University Press	18	3-3-0	ENGL 099, BIOL 102	Majors	Dr. Mitra Panahi

HSCI (3)	Intro to Health Sci	Essentials of Epidemiology in Public Health. 4th ed., Jones & Bartlett Learning. Epidemiology. 6th ed. Elsevier. An Invitation to Health. 6th Canadian ed. Nelson Cengage.	35	3-0-0	ENGL 099	Non-majors	Dr. Michael Chua Dr. Farnaz Purnia

NOTES

1. Biology 100, biology 105, and biology 106 run every term with good enrollment.
2. Dr. Farnaz Pournia, is a new instructor. Dr. Anna Hipmann is a returning instructor.
3. HSCI course is a new course.

INSTITUTIONAL DEVELOPMENTS

Admissions

1. Several new processes were introduced by the Federal government (specifically Immigration, Refugees and Citizenship Canada-IRCC) which impact admissions, including the implementation of a daily requirement to verify letters of acceptance submitted to IRCC using a dedicated portal (implemented December 2023) and a daily requirement to allocate the issue provincial attestation letters using another dedicated portal (implemented March 2024).

2. Two new Associate Degree concentrations were established in 2023-2024:
   - Associate of Arts (Pre-Social Work) degree
   - Associate of Science (Health Sciences) degree

Course Registration and Offerings

Spring 2023 (Apr-Jul)	Summer Intensive 2023 (Jul-Aug)	Fall 2023 (Sep-Dec)	Winter 2024 (Jan-Apr)
384 unique course sections offered • 373 for-credit/university-level • 3 ESL/EAL level • 8 preparatory level (099)	67 unique course sections offered • 67 for-credit/university-level • 0 ESL/EAL level • 0 preparatory level (099)	427 unique course sections offered • 415 for-credit/university-level • 3 ESL/EAL level • 9 preparatory level (099)	500 unique course sections offered • 485 for-credit/university-level • 4 ESL/EAL level • 11 preparatory level (099)
Total headcount: 4275	Total headcount: 1029	Total headcount: 4735	Total headcount: 5478

Student Grades/Performance

1. The academic readiness of our international students is a sustained concern both at AC and peer institutions. Multiple research and data analysis projects are underway to determine how we can mitigate this complex issue, and some initiatives have already been implemented (e.g., revisions to AC 101 and New Student Orientation). Discussion of further initiatives such as pre-departure training.

2. Student performance averages are on par with previous years.

Graduation

1. Graduation rates (by term of completion)

Completion Term	Associate of Arts (all concentrations)	Associate of Science (all concentrations)
Spring 2023	178	16
Summer Intensive 2023	115	4
Fall 2023	195	18

Articulation

1. A number of courses are due for 5-year review this year (2024).
2. A number of new courses have been developed and articulated in the past year, including:

Department	Course Code	Proposed Course Title	Curriculum Designer
Biology (BIOL)	BIOL 222	Introduction to Biochemistry	Designer(s): Mitra Panahi Consultant(s): Carol Pollock
Health Sciences (HSCI)	HSCI 130	Introduction to Health Science	Designer(s): Michael Chua Consultant(s): Carol Pollock
HSCI 214		Perspectives of Mental Health and Illness	Designer(s): Mitra Panahi Consultant(s): Carol Pollock
HSCI 216		Ecological Determinants of Human Growth, Development and Health	Designer(s): Michael Chua Consultant(s): Carol Pollock
HSCI 230		Evaluating Epidemiological Research	Designer(s): Michael Chua Consultant(s): Carol Pollock

CAPILANO UNIVERSITY

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Biology Articulation Committee Meeting, May 1st and 2nd, 2024

University of Victoria, BC

Report from (Capilano University)

Articulation Rep: Thomas Flower

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Course # (credits)	Course Name (Descriptor)	Text	Projected Enrolment next Year	Hours (/week)	Pre-requisites	Notes	Course Instructor next year
BIOL 104 (4)	Human Biology	- *Campbell Essential Biology with Physiology* Simon, Dickey, and Reece -Custom lab manual: Mader	210 (6 sections of 35 - 3 in Fall and 3 in Summer)	3 lect/ 3 lab	None	Non-majors	E. Chin S. Cornish B. Fessenden
BIOL 105 (4)	Environmental Biology	- *Environment: The Science Behind the Stories,* Withgott et al. -Custom lab manual:	105 (3 sections of 35 in Spring)	3 lect/ 3 lab	None	Non-majors	B. Fessenden P.McMillan C. Dingle
BIOL 106/107 (1.5) /(4)	Introductory Biology I & II	- *Campbell Biology in Focus*, Reece et al -Custom lab manual: Mader/Dolphin	Will no longer be offered	4.5 lect/ 3 lab	None	*Replaced with BIOL 109*	Not offered
BIOL 109 (5.5)	Introductory Biology	- *Campbell Biology in Focus*, Reece et al -Custom lab manual: Mader/Dolphin	210 (6 sections of 35 - 3 in Fall and 3 in Summer)	4.5 lect/ 3 lab	None	Majors	E. Chu C. Dingle E. Pokrishevsky B. Fessenden
BIOL 110 (4)	General Biology I	- *Campbell Biology in Focus*, Reece et al -Custom lab manual: Mader/Dolphin	105 (3 sections of 35 in Fall)	3 lect/ 3 lab	*Chem 11 or Chem 12 or equivalent*	Majors	E. Pokrishevsky

Course # (credits)	Course Name (Descriptor)	Text	Projected Enrolment next Year	Hours (/week)	Pre-requisites	Notes	Course Instructor next year
BIOL 111 (4)	General Biology II	-- *Campbell Biology in Focus*, Reece et al -Custom lab manual: Mader/Dolphin	245 (7 sections of 35) – 4 in Spring and 2 in Summer	lect/ 3 lab	Biol 110 or BIOL 106/107 or BIOL 109	Majors	P. McMillan E. Chu C. Dingle T. Flower
BIOL 112 (4)	Human Anatomy & Physiology I for Health Sciences	-*Human Anatomy & Physiology*, Marieb & Hoehn -Lab manual: Marieb	105 (3 sections of 35 in Fall)	3 lect/ 3 lab	None *Will change to Biology 12 (pass), BBIO 054, BIOL 104, BIOL 109, or BIOL 110 starting Summer 2023	Not required by a program – include in future Health Science Citation/Diploma	M. Kiraly
BIOL 113 (4)	Human Anatomy & Physiology II for Health Sciences	-*Human Anatomy & Physiology*, Marieb & Hoehn -Lab manual: Marieb	70 (2 sections of 35 in Spring)	3 lect/ 3 lab	Biol 112	Not required by a program – include in future Health Science Citation/Diploma	M. Kiraly
BIOL 200 (3)	Genetics I	-*Genetics Essentials*. Pierce	70 (2 section of 35 in Fall)	3 lect	BIOL 111 (C-) and CHEM 111 (pass)	Majors	E. Pokrishevsky
BIOL 202 (3)	Nutrition	-*Understanding Nutrition: Canadian Edition*, Whitney et al.	105 (3 sections, 1 in Spring, 2 in Summer)	3 lect	BIOL 113 (C-), or BIOL 111 (C-), and Chemistry 11	Not required by a program – include in future Health Science Citation/Diploma	E. Chin M. Kiraly E. Pokrishevsky
BIOL 203 (4)	Introduction to Microbiology	-*Microbiology with Diseases by Body System,* Bauman -Lab manual: *Microbiology Laboratory Theory and Applications,* Leboffe & Pierce	35 (1 section of 35 in Spring)	3 lect/ 3 lab	BIOL 111 (C-)	Majors	E. Chu

Course # (credits)	Course Name (Descriptor)	Text	Projected Enrolment next Year	Hours (/week)	Pre-requisites	Notes	Course Instructor next year
BIOL 208 (4)	Ecology	-*Ecology: The Economy of Nature*. Ricklefs & Relyea, -Lab text: *Plants of Coastal British Columbia*, Pojar & Mackinnon -Custom lab manual:	35 (1 section of 35 in Spring)	3 lect/ 3 lab	BIOL 111 (C-)	Majors	C. Dingle
BIOL 209 (3)	Fundamentals of Physiology	-*Campbell: Biology Canadian Edition.* Urry et al.	140 (2 section of 35 in Fall and 1 of 35 in the Summer)	3 lect	BIOL 111 (C-)	Majors	E. Chin
BIOL 210 (4)	Morphology of Vascular Plants	*TBD*	Not offered	3 lect/ 3 lab	BIOL 106, 107 and 111 or BIOL 110 and 111 with a minimum C- grade	Majors *Not planned to be offered in the future. Replaced by BIOL 230	Not offered
BIOL 212 (4)	Invertebrate Zoology	-*Integrated Principles of Zoology* (custom text). Hickman, et al. - Custom lab manual: *Laboratory Studies in Integrated Principles of Zoology*, Hickman, et al.	35 (1 section of 35 in Fall)	3 lect/ 3 lab	BIOL 111 (C-) grade	Majors Offered alternate years	T. Flower
BIOL 213 (4)	Vertebrate Zoology	-*Functional Anatomy of the Vertebrates: An Evolutionary Perspective*, Liem, et al. -Lab manual: *Manuel of Vertebrate Dissection Comparative Anatomy*, Fishbeck & Sebastiani	Not offered in 2024/25	3 lect/ 3 lab	BIOL 111 (C-) grade	Majors Offered alternate years	Not offered

Course # (credits)	Course Name (Descriptor)	Text	Projected Enrolment next Year	Hours (/week)	Pre-requisites	Notes	Course Instructor next year
BIOL 214 (4)	Cell Biology	-*Becker's World of the Cell*, Hardin et al. -In-house lab manual: Capilano University Biology 214 Lab Manual	35 (1 section of 35 in Fall)	3 lect/ 3 lab	BIOL 111 (C-) and CHEM 200 as a prerequisite or co-requisite	Majors	E. Chu
BIOL 215 (4)	Biochemistry	-*Biochemistry: A Short Course*, Tymoczko, et al. -In-house lab manual: Capilano University Biology 215 Lab Manual	Not offered	3 lect/ 3 lab	CHEM 201 as a prerequisite or co-requisite and BIOL 214	Majors *Not offered. CHEM 215 currently provides Biochemistry*	Not offered
BIOL 222 (4)	Microbiology	-*Brock Biology of Microorganisms* Madigan, et al. -Lab manual: *Microbiology Laboratory Theory & Applications,* Leboffe & Pierce	Not offered	3 lect/ 3 lab	BIOL 214 is a prerequisite and BIOL 215 is a prerequisite or co-requisite	Majors	Not offered
BIOL 230 (4)	Botany – Algae to Angiosperms	-*Evert, R.F. and S.E. Eichhorn, 2013. Raven Biology of Plants. 8th Edition. W.H. Freeman and Company Publishers, USA* -*Lab manual: Kazmierski, J.A. 2016. Exercises for the Botany Laboratory 2nd edition. Morton Publishing, USA*	35 (1 section of 35 in Summer 1)	3 lect/ 3 lab	BIOL 111 (C-) grade	Majors	Paul McMillan (Lecture), Ann Meintz (Lab)

Course # (credits)	Course Name (Descriptor)	Text	Projected Enrolment next Year	Hours (/week)	Pre-requisites	Notes	Course Instructor next year
BIOL 240 (3)	Pathology	*-Porth's Pathophysiology: Concepts of Altered Health States.* Hannon et al.	Not offered	3 lect	BIOL 113 (C-) or HKIN 191 (C-) or BIOL 111 (A-)	*Not planned to be offered in the future. Replaced by BIOL 241 and BIOL 242.	Not offered
BIOL 241 (3)	Pathology I	*-Porth's Pathophysiology: Concepts of Altered Health States.* Hannon et al.	35 (1 section of 35 in Fall)	3 lect	BIOL 113 (C-) or HKIN 191 (C-) or BIOL 111 (A-)	Not required by a program – include in future Health Science Citation/Diploma	M. Kiraly
BIOL 242 (3)	Pathology II	*-Porth's Pathophysiology: Concepts of Altered Health States.* Hannon et al.	35 (1 section of 35 in Spring)	3 lect	BIOL 113 (C-) or HKIN 191 (C-) or BIOL 111 (A-)	Not required by a program – include in future Health Science Citation/Diploma	M. Kiraly
BIOL 300 (4)	Molecular Genetics	*Molecular Biology: Principles and Practices, Cox et al.*	35 (1 section of 35 in Spring)	3 lect/ 3 lab	BIOL 200 (C-)	Majors Biomedical Science Concentration course of the BSc General	E. Chu
BIOL 305 (3)	Ecological Principles for Sustainability	*TBD*	Not offered	3 lect	Successful completion of 45 credits at 100 level or higher	Non-Majors & Majors Serves as upper level science elective for non-science degree majors	Not offered
BIOL 308 (3)	Conservation Biology	*Introduction to Conservation Biology. Primack and Sher*	35 (1 section of 35 in Spring)	3 lect	BIOL 208 (C-)	Majors Environmental Science Concentration course of the BSc General	T. Flower
BIOL 312 (3)	Human Physiology I: Brains, Hormones and Guts	*Students will be provided with selected peer reviewed literature for readings*	35 (1 section of 35 in Summer)	3 lect	BIOL 209 (C-)	Majors Biomedical Science Concentration course of the BSc General	E. Chin

Course # (credits)	Course Name (Descriptor)	Text	Projected Enrolment next Year	Hours (/week)	Pre-requisites	Notes	Course Instructor next year
BIOL 313 (3)	Human Physiology II	*Students will be provided with selected peer reviewed literature for readings*	35 (1 section of 35 in Fall)	3 lect	BIOL 209 (C-)	Majors Biomedical Science Concentration course of the BSc General	E. Chin
BIOL 314 (3)	Advanced Cell Biology	- *Molecular Cell Biology.* Lodish et al.	35 (1 section of 35 in Fall)	3 lect	BIOL 214 (C-); and BIOL 215 (C-) or CHEM 215 (C-)	Majors Biomedical Science Concentration course of the BSc General	E. Chu
BIOL 350 (3)	Natural History of BC	-*B.C. A Natural History*, Cannings & Cannings	Not offered	3 lect	Successful completion of 45 credits at 100 level or higher	Non-Majors & Majors Serves as upper-level science elective for non-science degree majors	Not offered
BIOL 351 (3)	Global Biogeography	-*Biogeography: An Ecological and Evolutionary Approach,* Cox et al.	Not offered	3 lect	Successful completion of 45 credits at 100 level or higher	Non-Majors & Majors Serves as upper level science elective for non-science degree majors *Spring 2022-10 enrolled*	Not offered
BIOL 352 (3)	Evolution of Life	-*Charles Darwin's Origin of Species: A Graphic Adaptation*, Keller & Fuller -*The Tangled Bank: An Introduction to Evolution*, Zimmer	Not offered	3 lect	Successful completion of 45 credits at 100 level or higher	Non-Majors & Majors Serves as upper level science elective for non-science degree majors	Not offered
BIOL 353 (3)	Brain Health	-*Human Anatomy & Physiology*, Marieb & Hoehn -*Your Brain Health*, Kiraly	Not offered	3 lect	Successful completion of 45 credits at 100 level or higher	*Not planned to be offered in the future. Replaced by proposed BIOL 412.	Not offered
BIOL 354 (3)	Physiology of Disease	*Exercise Physiology: - Energy, Nutrition and Performance*, McArdle, et al	Not offered	3 lect	Successful completion of 45 credits at 100 level or higher	Health Science Majors Serves as upper level elective in the health sciences (*not yet offered)*	Not offered

Course # (credits)	Course Name (Descriptor)	Text	Projected Enrolment next Year	Hours (/week)	Pre-requisites	Notes	Course Instructor next year
BIOL 401	Applied Population Ecology	*Readings will be selected from the primary literature, and will vary from year to year*	Not offered	3 lect / 3 lab	BIOL 208 (C-)	Majors Proposed Environmental Science concentration course of the BSc General	Not offered
BIOL 402	Applied Ecosystem Ecology	*Readings will be selected from the primary literature, and will vary from year to year*	Not offered	3 lect / 3 lab	BIOL 208 (C-)	Majors Proposed Environmental Science concentration course of the BSc General	Not offered
BIOL 403 (3)	Microbiology and Immunology	- *Microbiology: an evolving science.* Slonczewski and Foster.	Not offered	3 lect	BIOL 203 (C-) or BIOL 214 (C-); and BIOL 215 (C-) or CHEM 215 (C-)	Majors Biomedical Science Concentration course of the BSc General *(not yet offered)*	Not offered
BIOL 408 (4)	Ecosystem Restoration	- *Foundations of Restoration Ecology.* Palmer, Zedler and Falk	35 (1 section of 35 in Summer)	3 lect / 3 lab	BIOL 208 (C-)	Majors Environmental Science Concentration course of the BSc General	P. McMillan
BIOL 409 (3)	Global Change Biology	*Bree Rosenblum, E. 2021. Global Change Biology. E-Book. Oxford University Press*	35 (1 section of 35 in Fall)	3 lect	BIOL 208 (C-) or GEOG 222 (C-)	Majors Proposed Environmental Science concentration course of the BSc General	C. Dingle
BIOL 412 (3)	Special Topics in Pathophysiology : Neurological Disorders	*Readings will be selected from the primary literature, and will vary from year to year*	Not offered	3 lect	BIOL 215 or CHEM 215, and BIOL 312	Majors Proposed Biomedical concentration course of the BSc General	M. Kiraly

PROGRAM CHANGES (or other Notes)

Total enrolled seats:

Program Updates:

- **BSc General (Concentration in Biomedical Sciences, Environmental Science or Computational Science)**
  - First cohort of students who retrofitted to the program have graduated the program. SCI 400 research projects a great success.
  - First cohort who started in 100 level will now enter upper-level courses
  - Upper-level BIOL courses offered in 2024/25: BIOL 300 Molecular Techniques, BIOL 308 Conservation Biology, BIOL 312 Human Physiology I, BIOL 313 Human Physiology II, BIOL 314 Advanced Cell Biology, BIOL 408 Restoration Ecology, BIOL 409 Global Change Biology
- **Bachelor of Environment and Society (BES) – BES Environmental Science or BES Environmental Studies**
  - Degree approved by the province and will launch in Fall 2024.
  - Students complete two upper-level 12 credit modules. In 2024/25, Biology will support the Biodiversity Conservation module with courses: BIOL 308 Conservation Biology, BIOL 408 Restoration Ecology and BIOL 409 Global Change Biology.
- **Foundations in Human Health (Certificate and Diploma)**
  - CapU Biology is proposing development of pre-nursing/human health profession programs to meet entry needs in BC.
    - Human Health Certificate (26 credits) to fulfil 100 level/low credit number requirements and which can be completed in one year. Likely including: BIOL 112/113 (Anatomy and physiology + lab), ENGL 6 credits, MATH/STAT 3 credits, PSYC 3 credits, 6 credits electives (PHYS required for medical imaging and can be taken as an elective).
    - Human Health Diploma/Assoc (60 credits): Considering including BIOL 109 or BIOL 110 and BIOL 111 (100 level General Biology) to gain access to 200 level credits from: BIOL 200 Genetics, BIOL 202 Nutrition, BIOL 203 Microbiology, BIOL 214 Cell Biology, BIOL 241 Pathophysiology I, BIOL 242 Pathophysiology II.

Changes to course offerings:

- BIOL 230 Botany: Algae to Angiosperms, BIOL 408 Restoration Ecology and BIOL 412 Special Topics in Pathophysiology: Neurological Disorders, ran for the first time in the 2023/24 academic year
- BIOL 409 Global Change Biology and BIOL 314 Advanced Cell Biology will run for the first time 2024/25 to support the BSc General and BES degrees

- CHEM 215 included as a pre-requisite for

Course delivery format:

- All lectures and labs were delivered in-person.

Changes to staff and faculty:

- Marja de Jong Westman retired in January 2024 after 41 years at Capilano University. We will miss Marja's incredible energy, commitment to building CapU, and most of all her love for her students and teaching.
- Caroline Dingle (Fall 2023) and Alana Schick (Summer 2024) hired as Instructors. Aron Weir hired as a Lab Supervisor (Summer 2024).

Changes to work loading:

- 100 level labs moved to 18 students per class from 24 students (as per 200 and upper-level labs) to: meet current student needs, facilitate increased active learning and assessment, and maintain Health and Safety given current student lab prior experience.
- Non-regular lab supervisors given increased work loading per lab to match Regular lab supervisors, and now required to complete PD proportionate to workload.

Student led Research:

- Capilano University Awarded 1.5 million NSERC Mobilize grant built around student research with community partners on sustainability in the North Shore, Sea-to-Sky and Sunshine Coast region. Biology faculty were awarded project funding and release to support research, including in collaboration with Langara University Biology faculty, thereby supporting the research component of the CapU/Langara MOU). The project investigates eDNA detection of Coastal Tailed Frogs in relation to recreational trail use in the Shannon Basin riparian zones

FACULTY and STAFF

Name and credentials	Role/courses instructed	Phone	Email
Neilab Amiri *B.Sc (SFU), M.Sc. (SFU)*	Laboratory Supervisor	604-986-1911 (x3449)	neilabamiri@capilanou.ca
Melissa Bodner *BA (Hons. L&C College), MSc (UBC)*	Laboratory Supervisor		
Eunice Chin *B.Sc. (Hons.) (SFU), M.Sc. (UBC), Ph.D. (Trent)*	Instructor	604-986-1911 (x3476)	eunicechin@capilanou.ca
Eugene Chu *B.Sc. (Hons.) (SFU), Ph.D. (UBC)*	Instructor (Dept Coordinator)	604-986-1911 (x3492)	eugenechu@capilanou.ca
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Caroline Dingle *B.Sc. (Hons. U. of C. Santa Cruz), M.Sc. (CSU San Francisco), Ph.D. (U. Cambridge)*	Instructor		cdingle@capilanou.ca
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Name and credentials	Role/courses instructed	Phone	Email
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Articulation Representative & Biology Coordinator Fall 2022 - Summer 2025
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Report from College of the Rockies

Biology Articulation Committee Meeting, May 2 and 3, 2024

Victoria, BC

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Course # (credits)	Course Name (Descriptor)	Text	Projected Enrolment	Lecture Hours (/week)	Lab Hours (/week)	Pre-requisites	Notes	Course Instructor
BIOL 090 (3)	Biology Provincial Level (Human Biology)	*Open Stax, Concepts of Biology* Rice University	12	3 lect.	3 lab	None		B. Heyde
BIOL 151 (3)	Biology of the Environment (Non-majors)	Selected readings	18	3 lect.	3 lab.	None		S. Larsen
BIOL 101 (3)	Introduction to Biology 1	*Biology,* Raven et al	36	3 lect.	3 lab.	A&P 12 (=090)		A. Heigh
BIOL 102 (3)	Introduction to Biology 2	*Biology,* Raven et al	25	3 lect.	3 lab.	Biol 101		A. Heigh
BIOL 181 (3)	Intro Human A&P 1	*Open Stax* Rice University	54	3 lect.	3 lab.	A&P 12 (=090)		R. Tillman
BIOL 182 (3)	Intro Human A&P 2	*Open Stax* Rice University	54	3 lect.	3 lab.	Biol 181		R. Tillman
BIOL 200 (3)	Introduction to Microbiology	*Prescott's Microbiology*, Wiley et al	12	3 lect	3 lab	Biol 101		A. Heigh
BIOL 201 (3)	Cell Biology	*Becker's World of the Cell,* Hardin & Bertoni	12	3 lect.	3 lab.	Biol 101/102 Chem 101/102		L. Kuervers

Course # (credits)	Course Name (Descriptor)	Text	Projected Enrolment	Lecture Hours (/week)	Lab Hours (/week)	Pre-requisites	Notes	Course Instructor
BIOL 202 (3)	Introduction to Biochemistry	*Biochemistry* Stryer et al (text and lab manual)	12	3 lect.	3 lab	Biol 201 Chem 201		L. Kuervers
BIOL 203 (3)	Genetics	*Essentials of Genetics,* Klug et al	12	3 lect.	3 lab.	Biol 101/102		L. Kuervers
BIOL 204 (3)	Introduction to Ecology	*The Economy of Nature,* Ricklefs	12	3 lect.	3 lab.	Biol 101/102		A.Heigh
BIOL 208 (3)	Vertebrate	*Vertebrate Life* Pough et al	12	3 lect.	3 lab.	Biol 101/102		L. Kuervers
BIOL 218 (3)	Patho1	*Porth Pathophysiology 2nd Cdn ed,* Hannon	25	2 lect.	N/A	Biol 181/182	Nursing-only	R. Tillman
BIOL 228 (3)	Patho2	*Porth Pathophysiology 2nd Cdn ed,* Hannon	25	2 lect.	N/A	Biol 218	Nursing-only	R. Tillman

NOTES:
Course enrollments in all University Arts and Sciences Biology courses at the 1st year level are stable projected higher enrollment in 2nd year courses.

FACULTY and STAFF

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University Arts and Sciences Department Head/Articulation Representative
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Biology Articulation Committee Meeting, May 2nd-3rd, 2024 University of Victoria, Victoria, B.C., Report from Columbia College Articulation Rep: Sarah Goomeshi Nobary, sgoomeshinobary@columbiacollege.ca

Course #	Course Name	Text(s)	Projected Enrollment	Hours	Pre-requisites	Notes	Instructor
BIOL100	Concepts in Human Health and Biology	OER: Biology 2e, Clark et al.	300	3 lecture+2 lab	Co-requisite: English 099		Azevedo, Bains, Kumari, Weir
BIOL105	Environmental Biology and Ecology	Environmental Biology, Fisher	105	3 lecture+2 lab	Co-requisite: English 099		Chua
BIOL110	Introduction to Biology I	Biology, Campbel	200	4 lecture, 2 lab	Biology 12, Co-requisite: English 099		Goomeshi Nobary, Kumari, Moens, Que
BIOL120	Introduction to Biology II	Biology, Campbel OER: Biology 2e, Clark et al	200	4 lecture, 2 lab	Biology 12, Co-requisite: English 099		Azevedo, Goomeshi Nobary, Bains
BIOL130	Anatomy and Physiology	OER: Anatomy and Physiology, Betts et al	75	4 lecture, 2 lab	Biology 12, Co-requisite: English 099		Doheny
BIOL200	Cell Biology	Essential Cell Biology, Alberts et al OER: Fundamentals of Cell Biology by Lauren Dalton and Robin Young	30	3 lecture, 1 tutorial	BIOL110, BIOL120, CHEM 121, and 12 credits		Moens, Que, Weir
BIOC201	Fundamentals of Biochemistry	Lehninger Principles of Biochemistry, Nelson and Cox OER: Fundamentals of Biochemistry	30	4 lecture	BIOL110, BIOL120, CHEM 123 and CHEM 210 (or 230)		Goomeshi Nobary, Que

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BIOL205	**Introduction to Microbiology**	Microbiology, Parker et al	45	3 lecture, 1 tutorial	BIOL110 and BIOL 120 (or 130), CHEM 121		Bains, Goomeshi Nobary, Que
BIOL234	**Fundamentals of Genetics**	Introduction to Genetic Analysis, Griffiths	45	3 lecture, 1 tutorial	BIOL110, BIOL120, and 12 credits		Moens, Que
BIOL260 *	**Introduction to Plant and Animal Physiology**	OER: Required Textbook (free): Clark, M.A., Choi, J, and Douglas, M, Biology 2e (2nd Edition), OpenStax, 2020	45	4 lecture	12 credits and Chemistry 121, English 099, and Biology 110 and 120 (or Biology 110 and 130)	New course: Summer 2024 is the first time offered	Bains and Weir coteaching
HSCI130	**Foundations of Health Sciences**	Principles of Epidemiology in Public Health Practice (U.S. Department of Health and Human Services) No authors listed. Pursuing Health and Wellness, Segall and Fries	60	4 lecture, 2 lab	Biology 12 or Chemistry 12		Doheny

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Notes: Columbia College is moving towards open-source textbooks to alleviate costs for our students. Most instructors have started adopting open-source textbooks for various BIOL courses particularly the 1st year courses. BIOL260 is a newly articulated course that is starting Summer 2024.

Faculty:

Greg Doheny, 100% Tenured
Rachel Moens, 100% Tenured
Onkar Bains, 97% Tenured
Sarah Goomeshi Nobary, 100% Tenured
Jaimmie Que, 100% Tenured
Manjeet Kumari, 13% Regular
Michael Chua, Gridded
Vinicius Cavicchioli Azevedo, Gridded
Aron Weir, Gridded

COQUITLAM COLLEGE

coquitlamcollege.com

Biology Articulation Committee Meeting, May 2 and 3, 2024
University of Victoria, Victoria B.C.
Report from Coquitlam College
Articulation Rep: Raymond Wang
Email: rwang@coquitlamcollege.com

Course (credits)	Name	Text	Projected Enrolment	Hours (/week)	Prerequisites	Notes	Course Instructor
University-Level Courses							
BIOL101 (4)	Principles of Biology I	Biological Science, Third Canadian Edition; 3rd edition	20	7	None	Offered in-person	R. Wang
BIOL102 (4)	Principles of Biology II	Biological Science, Third Canadian Edition; 3rd edition	20	7	BIO 12 and CHEM 11, or BIOL 104	Offered in-person	R. Wang
BIOL104 (4)	Introduction to Biology	Campbell Biology: Concepts and Connections; 9th edition	20	7	BIO 12 and CHEM 11, or BIOL 104	Offered in-person	R. Wang

General Updates

- Coquitlam College has relocated to a new campus in the city of Vancouver, with newly constructed labs
- No changes in course offerings, labs, or prerequisite requirements

Faculty

Name and credentials	Role/courses instructed	Phone	email
Raymond Wang, MSc	BIOL 101, 102, and 104	604 -715 - 8866	rwang@coquitlamcollege.com

https://www.douglascollege.ca/

Biology Articulation Committee Meeting, May 2nd and 3rd, 2024
University of Victoria
Report from Douglas College
Articulation Rep: Michael Silvergieter
Email: silvergieterm@douglascollege.ca

Course (credits)	Name	Text	Projected Enrolment	Hours (/week) *	Prerequisites	Notes	Course Instructor
University-Level Courses							
1100 (4)	Trends in biology	*Openstax Concepts of Biology*	105	4 lecture 2 lab	None	Non-majors	Clasen/Harper
1103 (3)	Human anatomy & physiology I	*Douglas College Human Anatomy and Physiology I (2nd ed).*	925	4 lecture 2 lab	None	Health Sciences	Various
1104 (3)	Introduction to human anatomy & physiology	*Douglas College Human Anatomy and Physiology I & II (2nd ed).*	90	4 lecture/ tutorial	None	Therapeutic Recreation	Barker/ Viveiros
1109 (3)	Human anatomy & physiology I	*Douglas College Human Anatomy and Physiology I (2nd ed).*	210	4 lecture 2 lab	None	Sport Science and BPEC	Various

1110 (5)	Principles of biology: the biosphere	Campbell Biology 2nd Canadian ed.	420	4 lecture 3 lab	None	UT	Various
1203 (3)	Human anatomy & physiology II	Douglas College Human Anatomy and Physiology II (2nd ed).	666	4 lecture 2 lab	1103/09 OR Bio 12 B	Health Sciences	Various
1209 (3)	Human anatomy & physiology II	Douglas College Human Anatomy and Physiology II (2nd ed).	140	4 lecture 2 lab	1103/09 OR Bio 12 B	Sport Science and BPEC	Various
1210 (5)	Principles of biology: the organism	Campbell Biology 2nd Canadian ed.	315	4 lecture 3 lab	None	UT	Various
2200 (3)	Pathophysiology	Hannon, Pooler & Porth ; Porth Pathophysiology	315	3 lecture 1 tutorial	1103/1109 and 1203/1209	Health Sciences	Weisser/Sutton /Karunakaran /Barker
2300 (5)	Marine biology	Castro and Huber Marine Biology	35	4 lecture 3 lab	1110 and 1210	UT	Clasen/Harper
2321 (5)	Cell Biology	Cooper & Hausmann The Cell: A molecular approach	56	4 lecture 3 lab (hybrid)	1110 and 1210	UT and BPEC	Sigola/Jamil/ Oh-McGinnis
2400 (5)	General Microbiology	Madigan et al Brock biology of microorganisms	56	4 lecture 3 lab (hybrid)	1110 and 1210	UT	Clasen/Lee
2401 (3)	Introductory microbiology for Health sciences	OpenStax Microbiology – Douglas College Ed.	280	4 lecture 2 lab	1103/1109 and 1203/1209	Health Sciences	Lee/Viveiros/ Weisser/ Sutton/ Karunakaran

2421 (3)	Cell biochemistry	Lehninger Principles of biochemistry	70	4 lecture/ Tutorial	1110 and 1210	UT and BPEC	Lee/Cruz-Aguado
3100 (5)	Musculoskeletal anatomy	Moore Essentials of Clinical Human Anatomy	56	4 lecture 3 lab	1103/1109 and 1203/1209	Sport Science and BPEC	Barker/Weisser
3205 (5)	Genetics	Klug Concepts of genetics	56	4 lecture 3 lab	1110 and 1210	UT and BPEC	Millis/Jamil/ Oh-McGinnis
3305 (5)	Ecology	Ricklefs The economy of nature	35	4 lecture 3 lab	1110 and 1210	UT and BPEC	Clasen/ Matheson
3500 (5)	Plant Biology	Raven, Evert & Eichhorn Biology of plants	0	4 lecture 3 lab	1110 and 1210	UT and BPEC	Gonzalez-Torres/Faurie/ Harper
3610 (5)	Invertebrate zoology	Pechenik, J. Biology of the Invertebrates	28	4 lecture 3 lab	1110 and 1210	UT and BPEC	Harper
3620 (5)	Vertebrate zoology	Hickman et al. Integrated Principles for Zoology, 17th ed.	0	4 lecture 3 lab	1110 and 1210	UT and BPEC	Cruz-Aguado
3700 (3)	Evolution	Herron & Freeman Evolutionary analysis, 5th ed.	35	4 lecture	1110 and 1210	UT and BPEC	Harper

PROGRAM CHANGES (or other Notes)

1. Enrollment is still low for our first year Biology UT courses and sections have been reduced.
2. All courses are in-person instruction for both lecture and labs with no online/hybrid option, except for two BIOL 1104 sections that are restricted for the Recreational Therapeutics program.
3. An online BIOL 1104 section has been added in the Winter semester for Health Sciences. One section will now run every semester, rather than just Fall/Summer.
4. For all first year A&P courses, our own Douglas College open-source textbook (Douglas College Open Anatomy and Physiology I and II) continues to be used as the main textbook used for this Academic year.
5. BIOL 3610 (Invertebrate Zoology) and BIOL 3620 (Vertebrate Zoology) alternate years, this year is BIOL 3610.
6. BIOL 3500 (Plant Biology) runs every second year and is not scheduled for 2024-2025.
7. Faculty changes: Dr. Cheryl Tautorus, Shamsa Jessa, and Terence Morris retired in Aug 2023.
8. Possible Costa Rica trip during Reading Break for BIOL 1110 students. This would be an optional add-on for any students enrolled in the course in Winter 2025.
9. Working through a proposed Associate Degree aimed at block transfer to Langara Bioinformatics program.

DOUGLAS COLLEGE BIOLOGY FACULTY

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http://www.kpu.ca/

Biology Articulation Committee Meeting, May 2 and 3rd, 2024
Host Institution: University of Victoria
Report from Kwantlen Polytechnic University
Articulation Rep: Monica De Boer
Email: monica.deboer@kpu.ca

BIOLOGY Qualifying

Course # (credits)	Course Name	Text(s)	2023-2024 Enrollment	Hours per week	Pre-requisites	Notes	Course Instructor(s)
BIOQ 1098 (4)	Foundations of Biology	Johnson, George. The Living World. McGraw-Hill. Latest edition.	Max 19 F2023 (not offered) S2024 9 Sum2024 14	4 hr lec 2 hr lab	English 12 *or equivalent (see Note 1)*	Classes: Blended Asynchronous; In-Person	Assogba Kaan
BIOQ 1099 (4)	Foundations of Human Biology	Johnson, George. The Living World. McGraw-Hill. Latest edition. (Assogba) OR Mader, Sylvia S. Inquiry into Life. McGraw-Hill. Latest edition. (Kaan)	Max 19/section F2023 2 sections:25 S2024 2 sections: 21 Sum2024 2 sections: 32 (as of 4/29)	4 hr lec 2 hr lab	Same as BIOQ 1098	Classes: Blended Asynchronous;Online Synchronous; In-Person	Assogba Kaan

Note 1 Prerequisites for BIOQ1098 and BIOQ 1099: One of the following: (a) English 12, (b) English 12 First Peoples; (c) English 11 (B), (d) ENGQ 1099; (e) ENGQ 1091, (f) ENGQ 1092, (g) ENGQ 1089, (h) ENGQ 0084 and ENGQ 0085, (i) ELST 0381 (B-), (j) Language Placement Index (LPI) Score (Essay 26 with EU 6+ and Reading Comprehension 16), (k) Academic and Career Preparation (ACP) English Assessment placement at Level 09, (l) KPU English Placement (EPT) into ENGQ 1091 or ENGQ 1092 or ENGQ 1099, (m) International English Language Testing System (IELTS) overall Band 6.0 (Listening Band 6.0, Reading Band 6.0, Writing Band 6.0, and Speaking Band 6.0), (n) Test of English as a Foreign Language (TOEFL) iBT Band 80

BIOLOGY NONMAJORS

Course # (credits)	Course Name	Text(s)	2023-2024 Enrollment	Hours per week	Prerequisites	Notes	Course Instructor(s)
BIOL 1112 (4)	Biology Today	1. Concepts in Biology. Open Stax, Fowler, Roush, and Wise. Latest edition. 2. BIOL1112 Laboratory Manual, Surrey, BC: Kwantlen Polytechnic University. Latest Edition	Max 35 F2023 18	3h lec 2h lab	None	Classes: Online Synch	Kaan

BIOLOGY Courses

Class size is **Max 35** unless otherwise stated

Course # (credits)	Course Name	Text(s)	2023-2024 Enrollment	Hours per week	Prerequisites	Notes	Course Instructor(s)
BIOL 1110 (4)	Introductory Biology I	1. Reese, J.B. et al. *Campbell's Biology*. Ontario, Canada: Pearson Canada Inc. Latest Canadian Edition. 2. *Biology 1110 Introductory Biology I Laboratory Manual*. Langley, Richmond & Surrey, BC: Kwantlen Polytechnic University. Latest Edition.	F2023 10 sections: 270 S2024 9 sections: 259 Sum2024 3 sections: 100 (as of 4/29)	4h lec 3h lab	English 12 (C+) or equivalent	Classes: In Person; Blended Synchronous	Schuetz J., Sim, Doering, Francis, Marcotte, Murray, Hobson, Tunbridge, Lange, Sorensen, Haratikia
BIOL 1160 (4)	Anatomy and Physiology I	1. Tortoro and Derrickson. Principles of Anatomy and Physiology, NY Wiley and Sons. Latest Edition 2. Biology Modules 1160. Langley, BC:Kwantlen Polytechnic University. Latest Edition. 3.Anatomy and Physiology (OpenStax) by Betts, Johnson, Wise, Young	Max 32 F2023 29 S2024 2 sections: 59 Summ2024 2 sections: 63 (as of 4/29)	4h lec 3h lab	Either (a) BIOL 1110 or (b) both (i) Biology 12(B) or Anatomy and Physiology 12 (B) or BIOQ 1099 (B) and (ii) Chemistry 11 (B) or CHEQ 1094 (B)	Blended Asynchronous	Kiraly, Inglis, Nyaeme, Zahiri
BIOL 1260 (4)	Anatomy and Physiology II	1. Tortoro and Derrickson. Principles of Anatomy and Physiology, NY Wiley and Sons. Latest Edition 2. Biology Modules 1260. Langley, BC:Kwantlen Polytechnic University. Latest Edition.	Max 32 F2023 17 S2024 21 Summ2024 2 sections: 64 (as of 4/29)	4h lec 3h lab	BIOL 1160	Blended Asynchronous	Kiraly, Inglis

BIOL 1210 (4)	Introductory Biology II	1. as per BIOL 1110. 2. *Biology 1210 Introductory Biology II Laboratory Manual*. Langley, Richmond & Surrey, BC: Kwantlen Polytechnic University. Latest Edition.	F2023 3 sections: 78 S2024 6 sections: 156 Sum2024 2 sections: 62 (as of 4/29)	4h lec 3h lab	BIOL 1110 and [English 12 (C+) or equivalent]	Classes: In Person	Doering, Schuetz M, De Boer, Sim, Inglis, Schuetz J, Francis, Sanchez Vazquez
BIOL 2320 (4)	Genetics	Sanders and Bowman. *Genetic Analysis: An Integrated Approach*, Latest Ed.	F2023 32 S2024 2 sections: 51 Sum2024 35	4h lec 3h lab	BIOL 1110 and BIOL 1210	Classes: In Person	Mokkonen, Doering, Lange
BIOL 2321 (4)	Cell Biology	1. Alberts et al,. *Molecular Biology of the Cell*. Latest Edition. 2. Cell Biology 2321 Laboratory Manual. Richmond & Surrey, BC. Latest Edition.	F2023 2 sections: 45 S2024 29 Sum2024 not offered	4h lec 3h lab	BIOL 1110 and BIOL 1210 and CHEM 1110	Classes: In Person	Magee
BIOL 2322 (4)	Ecology	1. Ricklefs, R.E. The Economy of Nature. New York, NY: Freeman. Latest Edition. OR 2. Cain et al. Ecology. Sunderland, MA, USA: Sinauer Associates, Inc. Latest Edition. 3. BIOL 2322 Lab Manual. Kwantlen Polytechnic University. Latest Edition	Max 20 F2023 2 sections: 22 Sum2024 8 (as of 4/29)	4h lec 4h lab	BIOL 1110 and BIOL 1210	Classes:In Person;	Marcotte Tunbridge, Sorensen
BIOL 2330 (4)	Microbiology	1. Wiley, Joanne M., Sherwood, Linda M., and Woolverton, Christopher J. *Microbiology*. McGraw-Hill Publishing Co. Latest Edition. 2. Harley, John P. *Laboratory Exercises in Microbiology.* McGraw-Hill Publishing Co. Latest Edition	Max 40 F2023 32 S2024 24	4h lec 3h lab	BIOL 1210 and CHEM 1110	Classes: In Person	De Boer
BIOL 2421 (3)	Cellular Biochemistry	Nelson and Cox. *Lehninger Principles of Biochemistry* Latest Ed.	F2023 20 S2024 17	4h lec	All of: BIOL 1110, BIOL 1210, BIOL 2321, CHEM 2320	Classes: Blended Asynchronous; in-Person	Magee

Third Year 3000-4000

Class Size is **Max 20** unless otherwise noted

Course # (credits)	Course Name	Text(s)	2023-2024 Enrollment	Hours per week	Prerequisites	Notes	Course Instructor(s)
BIOL 3110 (4)	Animal Behaviour	1. Alcock, J. *Animal Behaviour*. Latest Edition, or equivalent. 2. Biology 3110 Laboratory Manual. Surrey,BC: KPU. Latest Edition. 3. Martin and Bateson. *Measuring Behaviour: An Introductory Guide*. Latest Edition.	F2023 4	4h lec 3h lab	BIOL 2322 Corequisite BIOL 3180	Classes: In-Person	Marcotte
BIOL 3130 (4)	Foundations of Human Anatomy & Physiology	1. Marieb-& Hoehn. *Human Anatomy and Physiology Latest Edition* with Optional *Coloring Workbook.* 2. Wheater's Functional Histology. Latest Edition. 3. Biology 3130 Laboratory Manual. KPU. Latest Edition.	F2023 26	4h lec 3h lab	Both (a) BIOL 2321 and, (b) BIOL 2421 Corequisite BIOL 3321	Classes: In-Person	Francis
BIOL3165 (3)	Conservation Biology	Primack and Sher. An Introduction to Conservation Biology. Sinauer Associates, Inc. Latest Edition	F2023 not offered	4h lec	BIOL 2322		
BIOL 3180 (3)	Life Science Research Methods	Whitlock M.C., and Schluter D., *Analysis of Biological Data*. Latest Ed.	F2023 10 Sum2024 20 (as of 4/29)	4h lec	BIOL 1210 Corequisite MATH 2335	Classes: In person	Mokkonen, Lange
BIOL 3215 (4)	Zoology	Hickman, Keen and Larson Integrated Principles of Zoology *Latest ed.*	S2024 10	4h lec 3h lab	BIOL 2322	Classes: In person	Marcotte
BIOL 3225 (4)	Biology of Plants: An Ecological and Evolutionary Perspective	1. Ray, Eichhorn. *Biology of Plants. Latest ed.* 2. Pojar, MacKinnon. *Plants of Coastal British Columbia. Latest ed.*	S2024 9	4h lec 3h lab	BIOL 2322	Classes: In person	Schuetz M
BIOL 3320 (4)	Molecular Genetics	Griffiths, Wessier, Carol, Doebley. *Introduction to Genetic Analysis. Latest ed.*	F2023 8	4h lec 3h lab	BIOL 2320	Classes: In person	Adams

BIOL 3321 (4)	Advanced Cell and Molecular Biology	Alberts et al. *Molecular Biology of the Cell*. Latest Edition.	F2023 26 (Max 35)	4h lec 3h lab	BIOL 2321 BIOL 2421	Classes: In person	De Boer
BIOL 3330 (4)	Microbiology 2	Wiley, Sherwood, Wolverton. *Prescott's Microbiology Latest ed.*	S2024 20	4h lec 3h lab	BIOL 2330	Classes: In person	De Boer
BIOL 3421 (3)	Molecular Biochemistry	Nelson and Cox. Lehninger *Principles of Biochemistry Latest Ed.*	S2024 26 (Max 35)	4h lec	BIOL 2421 CHEM 2420	Classes: In person	Magee

Fourth Year 4000+

Class Size is Max 20 unless otherwise noted

Course #	Course Name	Text(s)	2022-2023 Enrollment	Hours per week	Pre-requisites	Notes	Course Instructor(s)
BIOL 4130 (4)	Human Cardiovascular, Respiratory and Nervous Systems	as per BIOL 3130	S2024 27	4h lec 3h lab	BIOL 3160 BIOL 3321	Blended Asynchronous	Kiraly
BIOL 4140 (4)	Animal Physiology	Moyes C. D and Schulte P.M. *Principles of Animal Physiology.. Pearson. Latest edition*	F2023 4	4h lec 3h lab	BIOL 2321 BIOL 3215	Classes: In Person	Myhre
BIOL 4150 (3)	Evolutionary Biology	Herron, J.C. and Freeman, S. *Evolutionary Analysis. Pearson. Latest Edition*	S2024 8	4h lec	BIOL 2320 BIOL 2322	Classes: In Person	Mokkonen
BIOL 4199/4990 (3)	Research Project 1/Honor's Thesis Research Project 1	None	Enrollment based upon number of faculty supervisors F2023 11	3h lec	BIOL 3180 and 2-four credit courses at the BIOL 3100 level or higher, and permission of the instructor	Classes: In person Required Proposal	Davison

BIOL 4230 (4)	Human Gastrointestinal, Excretory and Reproductive Systems	as per BIOL 3130	F2023 21	4h lec 3h lab	BIOL 3160 BIOL 3321	Classes: In person	Shin
BIOL 4235 (3)	Marine Biology	Levinton, J.S. *Marine Biology: Function, Biodiversity, Ecology. Latest edition*	S2024 3	2h lec 3h lab	BIOL 3215 BIOL 3180	Classes: In person Includes Marine Field Trip	Marcotte
BIOL 4245 (4)	Developmental Biology	1. Barresi and Gilbert. Developmental Biology. Latest edition. Sinauer Associates, Inc. 2. Biology 4245 Lab Manual, KPU, Latest Edition	S2024 20	4h lec 3h lab	BIOL 2320 BIOL 2421 BIOL 3180	Classes: In person	Myhre
BIOL 4255 (3)	Bioinformatics	Andreas D. Baxevanis and B.F. Francis Ouellette. *Bioinformatics, A Practical Guide to the Analysis of Genes and Proteins.* Wiley. Latest edition	Not offered	2h lec 2 h computer lab	BIOL 2320 BIOL 2421 BIOL 3180		
BIOL 4299/4995 (3)	Research Project 2/Honor's Thesis Research Project 2	None	S2024 11	Lab	BIOL 4199/4990	Required Project	Davison
BIOL 4320 (3)	Human Genetics	Tom Strachan and Andrew Read. *Human Molecular Genetics. Latest Edition*	S2024 5 (Max 35)	3h lec	BIOL 3320	Classes: In person	Doering
BIOL 4900 (3)	Special Topics (Climate Change Biology)	Text(s) at the discretion of the instructor	S2024 5	3h lec	4 courses in BIOL or HSCI at the 3000 level or higher including BIOL 3180, or permission of instructor	Classes: In-Person	Marcotte

Biology Department Faculty Members includes Health Science

Paul Adams PhD.
Barnabe D. Assogba PhD.
Aneisha Collins-Fairclough PhD, MPH
Ann Marie Davison PhD.
Leah DeBella PhD.
Monica De Boer PhD
Kelsie Doering PhD.
Colin Francis PhD
Ali Haratikia PhD
Jane Hobson PhD.
Nick Inglis PhD.
Amy Jeon PhD.
Philomena Kaan PhD
Michael Kiraly PhD
Christian Lange PhD
Kaylee Magee PhD
Megan Marcotte PhD.
Mika Mokkonen PhD.
Rylee Murray PhD
Layne Myhre PhD (**Biology Co-Chair Elect**)
Bassam Nyaeme MD
Diego Sanchez Vazquez MD, MPH
Johanna Schuetz PhD
Mathias Schuetz PhD
Jane Shin MEd MD CCIP
Carrie Sim PhD
Marjorie Sorensen PhD
Nicole Tunbridge MSc (**Biology Co-Chair Elect**)
Cayley Velazquez PhD RD (**HSCI Co-Chair Elect**)
Shahla Zahiri PhD

New Full-time Regular Faculty
Jane Shin MEd MD CCIP
Kelsie Doering PhD

We are presently conducting a search for one regular full-time faculty (Ecology) to join our Department for September 1st.

Program Changes
Changes that will go into effect September 2024:

i) The credit number total of our program will be reduced by 6 credits. Students need 132 credits to graduate as opposed to the previous 138 credits.

ii) We have increased choice flexibility of students in Years 3 and 4.

NEWS

Our Biology degree now has a BSc, Major in Biology, Cooperative Education Option and a BSc (Honours), Major in Biology, Cooperative Education Option. Intake of new declared Co-Op students will begin in the 2024/25 school year, to begin in Fall 2025.

There has been a change in the name of our Faculty. Our Department is now under the Faculty of Science (previously the Faculty of Science and Horticulture).

New Science course has been approved: BIOL 1492 Indigenous Perspectives in Biology.

snəẃeyəɬ leləm̓. THE COLLEGE OF HIGHER LEARNING.

Langara. THE COLLEGE OF HIGHER LEARNING.

Biology Articulation Committee Meeting, May 2-3, 2024

University of Victoria, Victoria, B.C.

Report from Langara College

Articulation Representative: Dr. Melisa Hamilton

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Changes noted with a "*".

Course # (credits)	Course Name	Text	Projected enrolment (annual)	Hours (/week)	Pre-requisites	Notes	Course instructor(s)
BIOL 1111 (4)	Concepts in Biology: Introduction to Human Biology (non-majors)	Campbell Concepts and Connections, Taylor et al.	1056	4 lect/2 lab	None	Very popular with first-term International Students	Multiple instructors
BIOL 1115 (4)	General Biology I	Biological Science, Freeman et al.	875	4 lect/2 lab	C in BIOL 1111, 1118, or 1218 OR C+ in Biology 11 or 12, Chemistry 11 or 12 or BIOL 1175, and English courses (see		Multiple instructors

					website for specific eligible courses)*		
BIOL 1118 (4)	Introduction to Environmental Ecology (non-majors)	Environmental Science: A Canadian Perspective. Freedman.	70	4 lect/2 lab	None		Kenneth Naumann/ Cameron MacDonald/ Kyra Janot
BIOL 1215	General Biology II	Biological Science, Freeman et al.	385	4 lect/2 lab	C in BIOL 1115		Multiple
BIOL 1218 (4)	Biodiversity and Conservation Biology (non-majors)	Environmental Science: A Canadian Perspective. Freedman.	70	4 lect/2 lab	None		Kenneth Naumann/ Cameron MacDonald/ Kyra Janot
BIOL 1175 (3)	Introduction to Human Biology (non-majors)	Campbell Concepts and Connections. Taylor et al.	140	online	None	Support course for Nutrition and Food Services Program	Kyra Janot/ Martha Nelson-Flower
BIOL 1190 (3)	Health Science I - Human Anatomy and Physiology I	Tortora and Derickson, Principles of Anatomy and Physiology.	680	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)	Pre-req for BSN	Multiple Instructors
BIOL 1191	Health Science	Tortora and	380	4 lect/ 2	C in BIOL 1190	Pre-req for BSN	Multiple

	II: Human Anatomy and Physiology II	Derickson, Principles of Anatomy and Physiology.		lab			Instructors
BIOL 2192 (3)	Health Science III: Pathophysiology I	Sunga P., et al. Pathophysiology: Major Disease Pathways.	160	4 lect	C+ in BIOL 1191	Support course for Nursing	Julia Wong, Paul Sunga
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 2292 (3)	Health Science IV: Pathophysiology II	Banasik and Copstead, Pathophysiology.	160	4 lect	C+ in BIOL 2192	Support course for Nursing	Melisa Hamilton, Rebecca Ko
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	140	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)	Comparative Vertebrate	Kardong, Comparative	24	4 lect/ 3 lab	Completion of 1115/1215		Anoush Dadgar,

	Anatomy	Anatomy and Function			with C+ or better		Martha Nelson-Flower
BIOL 2370 (3)	Microbiology I	Prescott's Microbiology, Willey et al	72	4 lect/ 2 lab	Completion of 1115/1215 with C+ or better; C grade in 2370 is prerequisite to Biol 2470		Chris Conway/ Ido Hatam/ Yukino Nitta
BIOL 2380 (3)	Introduction to Ecology	Smith & Smith. Elements of Ecology	48	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.	145	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 2470 (3)	Microbiology II	Prescott's Microbiology, Willey et al	24	4 lect/ 2 lab	Completion of BIOL 2370 with C or better		Chris Conway
BIOL 2480 (3)	Population Ecology	Smith & Smith. Elements of	0	4 lect/ 3 lab	Completion of 1115/1215	Not currently offered.	TBA

		Ecology			with C+ or better		
BIOL 3192 (3)	Health Science V: Pathophysiology III	Banasik and Copstead, Pathophysiology 7th ed.	160	4 lect	C+ in BIOL 2292	Support course for Nursing	Melisa Hamilton, Paul Sunga
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 BIOL 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/Course Changes:

- The following courses were discontinued:
  - BIOL 1100: The Science and Art of Biology
  - BIOL 1185: Human Ecology
  - BIOL 2286: Ecology of the Mekong River
- The Citation in Ecology was discontinued.
- BIOL 2480 (Population Ecology) is not currently offered (and hasn't been for the past ~10 years).
- Biology Field School (BIOL 2105) to Bamfield Marine Station has not run since 2019 due to changes in staffing/date availability.
- Did not run BIOL 4315 (Genomics and Transcriptomics) or BIOL 4415 (Proteomics and Metabolomics) because there was no 4th year Bioinformatics (BINF) cohort.
- Minor revisions to BIOL 1215 learning outcomes and labs.
- Currently undergoing Program Review; expecting significant changes to courses and programs in the next 1-3 years.

Enrollment Patterns:

- Our domestic enrollment in Summer 2024 is (once again) lower than in previous years. We are uncertain how our enrollment will fare next year, due to the new changes in international student permits.

Course delivery:

- All courses are fully F2F, except BIOL 1175, which has always been online.
- BIOL 1111, 1115, 1215, 1190, 1191, 2315, 2330 and 2415 are offered in all 3 terms; the more specialized second and third year courses are only offered 1 semester/year.

Instructor Changes:

- We currently have 31 faculty and 13 lab instructors. (https://langara.ca/programs-and-courses/programs/biology/faculty.html)
- Biology welcomed two new faculty, Dr. Sara Beiggi and Dr. Vinicius Cavicchioli Azevedo, and said farewell to lab instructor Emily Betz.

Administrative Changes:

- The Biology Admin Team (BAT) is composed of Dr. Melisa Hamilton (Chair), Dr. Kimberly Hruska (Assistant Chair – Faculty), Dr. Julia Wong (Assistant Chair – Scheduling/Admin), and Dr. Martha Nelson-Flower (Student Coordinator)
- Our Dean, Gerda Krause, is retiring at the end of this April. We will have an Interm Dean (Elizabeth Barbeau) until a new Dean of Sciences is hired.
- Full details of the Biology Program and Dept can be found at https://langara.ca/programs-and-courses/programs/biology/index.html

NORTH ISLAND COLLEGE

Report from North Island College
Biology Articulation Committee Meeting, May 2-3, 2024
University of Victoria

Articulation Representative: Aisling Brady
Aisling.Brady@nic.bc.ca
www.nic.bc.ca

Course # (credits)	Course Name	Text(s)	Projected Enrolment	Hours (/week)	Pre-requisites	Notes	Course Instructor
College Prep Courses (Provincial Level)							
BIO 060 (3)	Concepts in Biology I	Molnar & Gair. Concepts of Biology,1st Cdn. ed. OpenStax 2015 (Open Source via BC Campus)	128	3 lec/3 lab	English 11	Dual listed with BIO 110. Fulfills prereq for BIO 102/103 & 160/161	G. Harrison S. Milligan S. Racey A. Stroeder D. Suppnick
University Transfer (UT) Courses							
BIO 110 (3)	Concepts in Biology I	Molnar & Gair. Concepts of Biology,1st Cdn. ed. OpenStax 2015 (Open Source via BC Campus)	144	3 lec/3 lab	English 11	Non-Majors. Dual listed with BIO 060. Fulfils prereq for BIO 102/103 & 160/161	G. Harrison S. Milligan S. Racey A. Stroeder D. Suppnick
BIO 111 (3)	Concepts in Biology II	Fowler *et al.*, Concepts of Biology. OpenStax 2018 (Open Source via BC Campus).	16	3 lec/3 lab	English 12	Non-Majors	A. Stroeder
BIO 113 (3)	Introduction to the Marine Environment	No text, all readings provided	16	3 lec	C in English 11	Non-Majors	A. Stroeder (offered FA22)

BIO 102 (3)	Principles of Modern Biology	Reece, *et al.,* Campbell Biology, 3rd Cdn ed., Pearson, 2021.	48	3 lec/3 lab	C in Biology 11/12; C in Chemistry 11	Majors	A. Brady G. Harrison S. Milligan A. Stroeder
BIO 103 (3)	Principles of Modern Biology	Reece, *et al.,* Campbell Biology, 3rd Cdn ed., Pearson, 2021.	48	3 lec/3 lab	C in Biology 11/12; C in Chemistry 11	Majors	A. Brady G. Harrison S. Milligan S. Racey A. Stroeder
BIO 160 (3)	Human Anatomy and Physiology I	Saladin, Anatomy and Physiology: The Unity of Form and Function. 9th ed., McGraw-Hill, 2021.	80	3 lec/3 lab	C+ Biology 12 & Chemistry 11	BSc. Nursing	G. Harrison S. Milligan S. Racey A. Stroeder D. Suppnick
BIO 161 (3)	Human Anatomy and Physiology II	same as BIO 160	80	3 lec/3 lab	C+ Biology 12 & Chemistry 11	BSc. Nursing	G. Harrison S. Milligan S. Racey A. Stroeder D. Suppnick
BIO 170 (3)	Ethnobotany	Pojar & McKinnon, Plants of Coastal British Columbia.	16	3 lec/3 lab	English 12	Non-majors last offered Summer 2014	(not offered)
BIO 200 (3)	Cell Biology	Hardin & Bertoni, Becker's World of the Cell, 10th ed., Pearson, 2021.	16	3 lec/3 lab	BIO 102/103; CHEM 110/111	Majors	A. Brady
BIO 201 (3)	Biochemistry	Nelson & Cox, Lehninger's Principles of Biochemistry, Macmillan, 2021	16	3 lec/3 tutorial	BIO 102/103; CHEM 200 (organic) CHEM 201 must be taken concurrently	Majors	S. Milligan
BIO 203 (3)	Principles of Genetics	Pierce, B. Genetics: A Conceptual Approach, 7th ed., Macmillan, 2020, bundled with Achieve.	16	3 lec/3 lab	BIO 102/103; ~~CHEM 110/111~~	Majors	A. Brady
BIO 211 (3)	Invertebrate Zoology	Pechenik, J. Biology of the Invertebrates, 7th ed., McGraw Hill, 2015.	16	3 lec/ 3 lab	BIO 102/103 or BIO 110/111	Majors	A. Brady (offered WI23)
BIO 215 (3)	Microbiology	Prescott's Microbiology, ; Wiley, Sandman, and Wood 12th ed., McGraw Hill, 2023.	16	3 lec/3 lab	BIO 102/103 or BIO 160/161 or BIO 110/111	Majors	S. Milligan
BIO 230 (3)	Ecology	Relyea, R. Ecology- The Economy of Nature 9th ed. 2021	16	3 lec/3 lab	BIO 102/103	Majors	G. Harrison A. Stroeder

BIO 250 (3)	Directed Independent Studies in Biology	N/A	5	N/A	BIO 102/103 or BIO 110/111; CHEM 110/111; STA 115		various
BIO 260 (3)	Pathobiology I	Hannon & Porth, Porth Pathophysiology, 2nd Cdn Edition, Woltker's Kluwer, 2017	16	3 lec	C in BIO 160/161	To be included in Year 3 of Island Pre-Health Program (25/26)	A. Brady (not offered)
BIO 261 (3)	Pathobiology II	same as BIO 260 plus Foster *et al.,* Microbiology the Human Experience, Norton, 2018.	16	3 lec	C in BIO 260	as above	A. Brady (not offered)
BIO 301 (3) *new	General Biochemistry	Nelson & Cox, Lehninger's Principles of Biochemistry, Macmillan, 2021	16	3 lec/3 lab	C in BIO 200, BIO 201, and CHE 201	To be included in Year 3 of Island Pre-Health Program (25/26)	TBA
BIO 330 (3) *new	Introduction to Indigenous and Pharmaceutical Medicines	Ritter et al., Rang & Dale's Pharmacology, Elsevier, 2020	16	3 lec/3 lab	C in BIO 200 and BIO 260 Co-requisite of BIO 261	To be included in Year 3 of Island Pre-Health Program (25/26) Co-taught with Indigenous Medicine Knowledge Holder	TBA

Island Pre-Health Science Courses							
IPH 101 (1.5) *new	Island Pre-Health I: Intro to Health Science	Thompson, Health and Health Care Delivery in Canada, Elsevier, 2019	16	1.5 lec	Admission to IPH Program	To be included in Year 1 of Island Pre-Health Program (23/24);	S. Racey
IPH 102 (1.5) *new	Island Pre-Health II: Regional Issues in Health Science	Thompson, Health and Health Care Delivery in Canada, Elsevier, 2019	16	1.5 lec	Admission to IPH Program	To be included in Year 1 of Island Pre-Health Program (23/24);	S. Racey
IPH 201 (1.5) *new	Island Pre-Health III: Social Justice in Health Science	Thompson, Health and Health Care Delivery in Canada, Elsevier, 2019	16	1.5 lec	Admission to IPH Program	To be included in Year 2 of Island Pre-Health Program (24/25);	S. Racey
IPH 202 (1.5) *new	Island Pre-Health IV: Careers & Communication in Health Science	Thompson, Health and Health Care Delivery in Canada, Elsevier, 2019	16	1.5 lec	Admission to IPH Program	To be included in Year 2 of Island Pre-Health Program (24/25);	S. Racey
IPH 310 (3) *new	Epidemiology and Population Health	Celentano & Szklo, Gordis Epidemiology, 6th Edition, Elsevier, 2020	16	3 lec / 3 tutorial	C in STA 115 Priority seating for IPH Program studer	To be included in Year 3 of Island Pre-Health Program (25/26)	S. Racey
IPH 350 (3) *new	Island Pre-Health Applied Research	No text	16	3 other	Admission to the Advanced Diploma in Island Pre-Health Science. C in PSY 204	To be included in Year 3 of Island Pre-Health Program (25/26)	IPH Program Coordinator (A. Brady)

UPDATES & NOTES

- **New Hires**: We recently hired Dr. Sarai Racey, an epidemiologist with molecular biology background. We are looking to hire a PhD in biochemistry regular position for Fall 2024.
- **Bio203 Genetics:** CHE 110/111 (first year chemistry) has been removed as a pre-requisite to improve enrolment. Will keep the chemistry pre-requisite for 2nd year Cell Biology (BIO 200).
- **Enrolment Patterns:** Enrolment in biology majors' streams (first and second year) remain consistent since Covid at the Comox campus, with slightly lower numbers than pre-pandemic. There is lower enrolment in NIC's BIO 12 equivalent upgrading course, with lecture offerings only online for campuses outside of the Comox Valley. First year majors' biology is only offered in Comox Valley and Campbell River now (loss at Port Alberni), and Campbell River enrolments are much lower with many university transfer courses only offered online at that campus.
- **New Program Launch:** We welcomed our first cohort of Island Pre-Health Science, a 3-year program (full time), where students gain their Associate of Science degree and Advanced Diploma in Island Pre-Health Science. Students will have all credits, pre-requisite courses and admission requirements for a variety of professional health science programs, including medicine, dentistry, pharmacy, chiropractor, optometry, accelerated nursing (UBC), veterinary medicine, or transfer and complete BSc in Biology, Life Science, Health Science, or other related discipline. *We are seeking block transfer agreements*. It is a cohort program, 16 or 32 students (based on lab size limits). Based off Selkirk's Rural Pre-Med program. Link.
  Program Coordinator: Aisling Brady.
- **Lab Renovations**: Our Biology and Chemistry labs are getting a much-needed renovation this spring and summer.
- **New Residence**: The Comox Valley is building a new residence with anticipated opening in September 2025. Applications will be accepted beginning Fall 2024. Link.
- **Quality Assurance Process Audit:** the college went through the Quality Assurance Process Audit this past year. Our department is working on program learning outcomes and curriculum mapping exercises.

FACULTY and STAFF

Name and credentials	Role/courses instructed	Phone	email
FACULTY			
Aisling Brady, PhD Biology	Biology Faculty – Regular Comox Valley Campus	250-334-5047	aisling.brady@nic.bc.ca
Georgie Harrison, MSc Biology	Biology Faculty – Regular Comox Valley Campus (retiring this year)	250-334-5000 x4215	georgie.harrison@nic.bc.ca
Sandra Milligan, MSc Neuroscience	Biology Faculty – Regular Campbell River & Comox Valley Campus	250-923-9759	sandra.milligan@nic.bc.ca
Sarai Racey, PhD Epidemiology, Public Health, Molecular Biology	Biology Faculty – Regular All Campuses	250-334-4363	sarai.racey@nic.bc.ca
Amber Stroeder, MSc Marine Science	Biology Faculty – Regular All campuses	250-724-8718	amber.stroeder@nic.bc.ca
Dan Suppnick, DC Chiropractor	Biology Faculty - Sessional Comox Valley Campus		dan.suppnick@nic.bc.ca
STAFF			
Garnet Martens, MSc Biology	Senior Lab Technician Comox Valley Campus	250-334-5049	garnet.martens@nic.bc.ca
Sarah Thornton, MSc Oceanography	Lab Technician Comox Valley Campus		sarah.thornton@nic.bc.ca
Snehal Warne, BSc Pharmacy	Lab Technician Campbell River Campus	250-724-8719	snehal.warne@nic.bc.ca

Biology is in the Department of Math/Science in the Faculty of Arts, Science and Management

Chair of Math/Sciences – Alexandra Blair
Dean – Dr. Neil Cruickshank
Associate Dean – Ali Mayboudi

www.okanagan.bc.ca

Biology Articulation Committee Meeting, May 2 and 3, 2024

University of Victoria, Victoria B.C.

Report from Okanagan College

Articulation Rep: Morgan Martin

Phone: 778-628-6064 Email: mmartin@okanagan.bc.ca

Course (credits)	Name	Text	Projected Enrolment	Hours (/week)	Pre-requisites	Notes	Course Instructor if known
			University-Level Courses				
BIOL 111 (3)	Biology for Science Majors I	Reece et. al.; Campbell Biology Canadian Ed.	150 + 30 in the winter	3,3,0	Chem 11, Bio 11 or 12	majors	Kathy Bockhold, Nusrat Urmi, Bruce Campbell, Mike Mitsch, Bryan White, Stacey Sakakibara, Erin Radomske, Morgan Martin, Sharon Mansiere
BIOL 112 (3)	Evolution and Ecology	Campbell, et. al.; Biology: Concepts and Connections	60	3,3,0		non-majors	Bruce Campbell, Fawn Turner, Bryan White, Carson Keever, Sharon Mansiere

BIOL 116 (3)	Current Biotechnology Topics for Non-Science Majors	Thieman, W.J, and Palladino, M.A. Introduction to Biotechnology 4th edition (2019) Pearson Canada	10	3,3,0		Non-majors Offered in the summer	Nusrat Urmi, Kathy Bockhold
BIOL 121 (3)	Biology for Science Majors II	Reece et. al.; Campbell Biology Canadian Ed.	100 (+ 20 fall term)	3,3,0	BIOL 111	majors	Kathy Bockhold, Nusrat Urmi, Mike Mitsch, Bruce Campbell, Sharon Mansiere, Morgan Martin, Stacey Sakakibara, Bryan White
BIOL 122 (3)	Physiology of Multicellular Organisms	Campbell, et. al.; Biology: Concepts and Connections OR Belk, Maier; Biology: Science for Life	70	3,3,0		non-majors	Bruce Campbell, Carson Keever, Fawn Turner, Bryan White, Sharon Mansiere
BIOL 131 (3)	Human A&P I	Marieb; Anatomy & Physiology	80	3,3,0	Chem 11, 1 of Bio 11, Bio 12 or BIOL 122 Bio 12 or BIOL 122 recommended	Therapist Assistants, HKIN; Non-majors	Sandra Rosenberg, Kathy Bockhold, Bruce Campbell, Mike Mitsch, Carson Keever, Bryan White
BIOL 133 (3)	Human A&P II	Marieb; Anatomy & Physiology	60	3,3,0	BIOL 131	Therapist Assistants, HKIN; also offered summer session	Sandra Rosenberg, Kathy Bockhold, Bruce Campbell, Carson Keever, Mike Mitsch
BIOL 175 (3)	Environmental Biology	Campbell, et. al.; Biology: Concepts and Connections	20	3,3,0		Water Engineering Technology (WET)	Erin Radomske
BIOL 190 (3)	Human Physiology I for HKIN		40	3,3,0		HKIN	Sandra Rosenberg

BIOL 191 (3)	Human Physiology II for HKIN		30	3,3,0	BIOL 190	HKIN	Sandra Rosenberg
BIOL 202 (3)	Elementary Applied Statistics	Myra L. Samuels & Jeffrey A. Witmer; Statistics for the Life Sciences,	10 fall + 15 winter	4,0,0	MATH 112	cross-listed with STAT 230	
BIOL 203 (3)	Introduction to Ecology	Relyea Ecology: The Economy of Nature 9th edition	30	3,1.5,0.5	BIOL 121, or BIOL 112/122 or BIOL 175/275	majors	Carson Keever
BIOL 211 (3)	Cell Biology	Becker, Kleinsmith & Hardin: the World of the Cell, OR Alberts, Bray, Hopkin, Johnson, Lewis, Raff, Roberts and Walter; Essential Cell Biology	30	3,0,0	BIOL 121, CHEM 121 or 122	majors	Bryan White, Stacey Sakakibara
BIOL 220 (3)	Introductory Biochemistry	Lehninger:Principles of Biochemistry	10	3,0,1	BIOL 211 and CHEM 212	majors	Stacey Sakakibara
BIOL 224 (3)	Genetics	Griffiths, Wessler, Carroll and Doebley; Introduction to Genetic Analysis	30	3,1.5,0.5	BIOL 121	majors	Michael Mitsch, Fawn Turner
BIOL 228 (3)	Intro Microbiology	Madigan, Martinko, Stahl and Clark; Brock Biology of Microorganisms, OR Prescott's Microbiology	30	3,3,0	BIOL 121	majors	Michael Mitsch, Stacey Sakakibara, Nusrat Urmi
BIOL 251 (3)	Vascular Plants	Raven et.al.; the Biology of Plants	15	3,3,0	BIOL 121 or 112/122	majors	Fawn Turner
BIOL 254 (3)	Vertebrate Biology	Kardong; Vertebrates, OR Pough et al; Vertebrate Life	20	3,3,0	BIOL 121 or 112/122	majors	Fawn Turner Carson Keever
BIOL 260 (3)	Pathophysiology for Health Sciences	Van Meter, Hubert; Gould's Pathophysiology for the Health Professions	20	3,0,0	BIOL 133	HKIN	Sandra Rosenberg

BIOL 275 (3)	Freshwater Plants and Animals	Instructor-provided material; Guard; Wetland Plants of Washington and Oregon; Lemkuhl; How to know the Aquatic Insects	10	3,3,0	BIOL 121 or 175 or 112/122	WET	Erin Radomske
BIOL 278 (3)	Microbiology of Water and Wastewater	Instructor-provided material	15	2,3,0	BIOL 175	WET	Erin Radomske
BIOL 279 (3)	Limnological Methods	Instructor-provided material	10	3,3,0		WET	Sandra Rosenberg

NOTES:

Projected enrolments are similar to last year.

People:
Science and Tech portfolio has a new Dean, Halia Valladares.

Buildings:
New residences opening by fall for K, V, SA.

Other:
Technologies (including WET and HKIN are experiencing reductions in applications for next year)
BIOL 220 (biochemistry) lost some transferability to UBCO which will affect our enrollment in/offering of the course
We would like to change our first-year science majors biology courses to be 4 hrs of lecture/week

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Kathy Bockhold (Kelowna)	4542	kbockhold@okanagan.bc.ca
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Report from Selkirk College
Biology Articulation Committee Meeting, May 2-3, 2024

Articulation Rep: Stephen Seaborn
sseaborn@selkirk.ca

Course (credits)	Course Name	Text	Projected Enrolment	Hours (per week)	Pre-requisites	Notes	Instructor
		Academic Upgrading Courses					
BIOL 50 (3)	Biology: Advanced Level	Biology: Concepts and Connections Cdn ed Reece et al.		3 Lec 2 Lab	English 10, Chemistry 50 and English 50 concurrent	Also offered at other campuses through ABE	
BIOL 60 (3)	Biology: Provincial Level	Biology: Concepts and Connections Cdn ed Reece et al.		3 Lec 2 Lab	Biology 11 or Biology 50 or permission English 60/Chemistry 50 concurrent	Also offered at other campuses through ABE	
		University Level Courses					
BIOL 101 (3)	Biology for Nonmajors	Concepts of Biology OpenStax Fowler, Roush, Wise	24	3 Lec 2 Lab	English 12	Non-majors	Paula Vaananen

Course (credits)	Course Name	Text	Projected Enrolment	Hours (per week)	Pre-requisites	Notes	Instructor
BIOL 104 (3)	Biology I	Biological Science 4th Cdn ed Freeman et al.	72	3 Lec 3 Lab	Biology 12 and Chemistry 11	Majors	
BIOL 106 (3)	Biology II	Biological Science 4th Cdn ed Freeman et al.	48	3 Lec 3 Lab	Biology 12 and Chemistry 11	Majors	Stephen Seaborn
BIOL 164 (4)	Human Anatomy and Physiology I	The Unity of Form and Function 10e Saladin	60	3 Lec 3 Lab	Chemistry 11 and Biology 11 and one of Chemistry 12, Biology 12 or Physics 12	Nursing, Rural Premedicine	James Nicol
BIOL 165 (4)	Human Anatomy and Physiology II	Unity of Form and Function 10e Saladin	48	3 Lec 3 Lab	Biol 164	Nursing, Rural Premedicine	James Nicol
BIOL 200 (3)	Principles of Ecology	The Economy of Nature 9e Relyea	12	3 Lec 1.5 Lab		Majors	Stephen Seaborn
BIOL 202 (3)	Principles of Genetics	Concepts of Genetics 12e Klug et al.	16	3 Lec 1.5 Lab	BIOL 104 and 106	Majors	Andrea Kooznetsoff, Aubrey Demchuk
BIOL 204 (3)	Cell Biology	Becker's World of the Cell 10e Hardin and Lodolce	32	3 Lec 3 Lab	BIOL 104 and 106	Majors, Rural Premedicine	Andrea Kooznetsoff, Aubrey Demchuk

Course (credits)	Course Name	Text	Projected Enrolment	Hours (per week)	Pre-requisites	Notes	Instructor
BIOL 206 (3)	Principles of Biochemistry	Principles of Biochemistry 8e Nelson and Cox	24	3 Lec 3 Lab	BIOL 104 and 106 CHEM 125	Majors Rural Premedicine	Jason Da Costa
BIOL 210 (3)	Vascular Plants		0			Not currently offered	
BIOL 212 (3)	Microbiology	Prescott's Microbiology 11e Willey et al.	24	3 Lec 1.5 Lab	BIOL 104 and 106	Rural Premedicine	James Nicol
BIOL 214 (3)	Vertebrate Morphology		0			Not currently offered	
BIOC 302 (3)	General Biochemistry	Lehninger Principles of Biochemistry 8e Nelson and Cox	16	3 Lec 3 Lab	BIOL 204, BIOL 206 CHEM 212, CHEM 213	Rural Premedicine	Jason Da Costa

Selkirk College

Biology Department Articulation Representative

Stephen Seaborn
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FACULTY

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James Nicol BSc (Calgary) MSc (Calgary)	BIOL 164 Anatomy and Physiology I BIOL 165 Anatomy and Physiology II BIOL 212 Microbiology	1-888-953-1133 ext. 21464	jnicol@selkirk.ca
Stephen Seaborn BSc (Guelph) BEd (Toronto) MSc (Nebraska)	BIOL 106 Biology II BIOL 202 Principles of Ecology	250-365-1248	sseaborn@selkirk.ca
Paula Vaananen BSc Honours (Queens) MSc (Calgary)	BIOL 101 Current Issues in Biology (nonmajors) BIOL 104 Biology I	250-365-1430	pvaananen@selkirk.ca

2024 Biology Articulation Committee Meeting, May 2nd & 3rd – University of Victoria

Report from Thompson Rivers University

Articulation Representative - Natasha Ramroop Singh

Phone: 250-371-5587 Email: Nramroopsingh@tru.ca

B.Sc. Program Information

There are four majors programs offered in Biology at TRU: Biology, Animal Biology; Ecology and Environmental Biology; and Cellular, Molecular and Microbial Biology. In addition, we offer an interdisciplinary Major in Chemical Biology. All majors have a Co-op option and an Honors program. We accept approximately 240-300 students per year into the first-year majors courses (Biology 1110/1210) and also accept transfer students into the second, third and fourth years of the B.Sc. Approximately 60 students graduate from TRU with a Biology/Chemical Biology Major each year. Students in other areas of Science, Psychology or Arts may complete a Biology Minor, which currently consists of 12 upper level credits of Biology.

Courses Offered (with instructors for 2023/24); Enrollment = course cap = typical enrollment (23/24 enrollment)

Note: LTC = Long term (12-month contract (F= fall semester; W= winter semester; this year all lectures and labs F2F; all courses at Kamloops Campus except Williams Lake sections of Biol 1592/1594 and 1692/1694

Course Number (credits)	Course Name (Semester)	Text	Enrol. per Semester	Hrs/ Week	Prereqs	Notes	Course Instructor (in 23/24
Biol 1040 (3)	Biology of the Environment (F)	Withgott, J, S. Brennan & B. Murck. 2013. Environment – the Science behind the Stories. 2nd Canadian Ed. Pearson.	40 (37)	3 lecture 3 lab	None	Non-majors course with lab	D. Ferguson
Biol 1050 (3)	Biology of Humans (W)	Human Biology 16e - McGraw Hill CONNECT w/SmartBook Sylvia Mader and Michael Windelspecht	60 (56)	3 lecture 3 lab	None	Non-majors course with lab	D. Ferguson
Biol 1110 (3)	Principles of Biol 1 (F)	Freeman, et al. 2019, Biological Science 3rd Canadian Edition	300 (291)	3 lecture 3 lab; section @ 25 students	Biol 11 or 12, Chem 11	4 lecture sections; typically, 16 lab sections @ 20 students	-J. Van Hamme -E Bottos; -N. Ramroop Singh -J. Urban

Biol 1210 (3)	Principles of Biol 2 (W)	Freeman, et al. 2019, Biological Science 3rd Canadian Edition	240 (286)	3 lecture 3 lab	Biol 11 or 12, Chem 11	3 lecture sections; typically 13 sections @20 students each	M. Reudink,, Sessional: M. Jones (2 sections)
Biol 1592 (3)	Human Anatomy & Physiology 1 (F)	Martini, Fundamentals of Anatomy and Physiology 11th ed (Pearson)	220 (180)	3 lecture	Biol 12/0600 (C+) and Chem 11/0500	Lecture only version of Biol 1590	K. Ross
Biol 1592 (3)	Human Anatomy & Physiology 1 (F)	Martini, Fundamentals of Anatomy and Physiology 11th ed (Pearson)	12 (11)	3 lecture	Biol 12/0600 (C+) and Chem 11/0500	Lecture only version of Biol 1590—at Williams Lake Campus	Sessional Christian Lass
Biol 1594 (0)	Human Anatomy & Physiology 1 (F)	In house lab manual	100 (127)	2 lab	BIOL 1592 (co-req)	Lab for Biol 1592 (not req for all 1592 students) 1592 + 1594 is identical to Biol 1590	Margaret Sonnenfeld
Biol 1594 (0)	Human Anatomy & Physiology 1 (F)	In house lab manual	12 (10)	2 lab	BIOL 1592 (co-req)	Lab for Biol 1592. at Williams Lake Campus	Sheldan Myers
Biol 1692 (3)	Human Anatomy & Physiology 2 (W)	Martini, Fundamentals of Anatomy and Physiology 11th ed (Pearson)	180 (160)	3 lecture	BIOL 1592	Lecture only version of Biol 1690	K. Ross D. Kabelik

Biol 1692 (3)	Human Anatomy & Physiology 2 (W)	Martini, Fundamentals of Anatomy and Physiology 11th ed (Pearson)	12 (10)	3 lecture	BIOL 1592	Lecture only version of Biol 1690: at Williams Lake campus	Sessional: Christian Lass
Biol 1694 (0)	Human Anatomy & Physiology 2 (W)	In house lab manual	80 (85)	2 lab	BIOL 1692 (co-req)	Lab for Biol 1692 (not req for all 1692 students) 1692 + 1694 is identical to Biol 1690	Margaret Sonnenfeld
Biol 1694 (0)	Human Anatomy & Physiology 2 (W)	In house lab manual	12 (10)	2 lab	BIOL 1692 (co-req)	Lab for Biol 1692 (not req for all 1692 students) at Williams Lake Campus	Sheldan Myers
Biol 2130 (3)	Cell Biology (W)	Recommended but not required. 1- World of the Cell, Becker- 9th edition- Pearson 2- The Cell, Molecular Approach- 8th edition- Sinauer association 3- Molecular Biology of the Cell- 6th edition- Garland Science	90 (90)	3 lecture 1 sem* 3 lab*	Biol 1110 Chem 1500 and 1510 or 1520	labs and seminars in alternative weeks;5 lab sections with 15 students in each section/ 5 seminar sections with 18 students in each section	S. Irani (lecture; seminar; lab coordinator)

Biol 2160 (3)	Intro Microbiology (F)	Wessner, Dupont and Charles: Microbiology, 2013 Wiley.	96 (90)	3 lecture 3 lab	Biol 1110/1210 Chem 1500 and 1510 or 1520	Includes lab—6 lab sections at 16 students each Required for all Biology programs	N. Cheeptham (Ann) Lecture J. Urban (lab coordinator)
Biol 2170 (3)	Intro Ecology (F)	Smith RL, Smith TM (2015) Elements of Ecology, 9th Edition. Pearson, Toronto	72 (70)	3 lecture 3 lab	Biol 1110/1210	4 Lab sections @18	L. Gosselin (lecture) M. Jones (lab coordinator)
Biol 2280 (3)	Evol. and Ecol. of Land Plants (F)	No assigned text; readings from library ebooks assigned for each topic	72 (69)	3 lecture 3 lab	Biol 1110/1210	4 lab sections @18	Sessional: M. Jones
Biol 2290 (3)	Evolution of Animal Body Plans (W)	Ruppert EE, Fox RS, Barnes RD (2004) Invertebrate Zool. 7 ed. Saunders College	64 (79)	3 lecture 3 lab	Biol 1110/1210	5 lab sections @16	L. Gosselin
Biol 2340 (3)	Introduction to Genetics (W)	Open Genetics, Ramroop Singh N (2023) Thompson Rivers University	90 (90)	3 lecture 1 sem* 3 lab*	Biol 1110/1210	lab and seminar in alt wks	N. Ramroop Singh (lecture and seminar) D. Ferguson (lab coordinator)

Biol 3000 (3)	Biometrics (W + F) ****	No assigned text; selected readings	F 60 (60), W 40 (45)	3 lecture 2 lab	Math 1140/1240 or 1150/1250 BIOL 1110/1210	Separate sections offered fall and winter (3 labs in fall, 2 (3) in winter each @ 20)	E. Studd
Biol 3010 (3)	Bioinformatics (F)	Recommended but not required: V. Buffalo (2014) Bioinformatics Data Skills Reproducible and Robust Research with Open Source Tools, O'Reilly Media	20 (0)	2 lecture, 1 sem, 2 lab	Biol 1110 Comp 1090	none	J. Van Hamme
Biol 3030 (3)	Population Biology (W)	Recommended but not required: Smith TM, Smith RL, Waters I (2014) Elements of Ecology, Canadian Ed. Pearson	90 (91)	3 lecture 1 sem	Biol 2170	5 seminars	Sessional: M. Jones
Biol 3100 (3)	Intro to Animal Behavior (F)	De Waal, F. (2017) Are we smart enough to know how smart animals are? WW Norton	28 (34)	3 lecture 2 lab	Biol 1110/1210	2 lab sections @ 16	M. Reudink
Biol 3110 (3)	Field Ornithology** (W)	The Sibley Field Guide to Birds of Western North America, 2nd Edition	12 (15)	1 lecture, 1 sem, 4 lab (field course)	3rd year standing	Alt years (May 2023 next, last taught 2021)	N. Flood/S. Joly

Biol 3130 (3)	Introduction to Biochemistry (F)	Nelson DL and Cox MM (2017) Lehninger – Principles of Biochemistry, 7th Edition, W.H.Freeman and Company, New York	72 (81)	3 lecture	Biol 2130, Chem 2120/2220	Cross Listed as CHEM 3730	N. Ramroop Singh
Biol 3200 (3)	Immunology (F)	Parham (2014) "Immune System" (4th ed)	50 (51)	3 lecture	Biol 2130, Biol 2160 recommended	None	J. Urban
Biol 3210 (3)	Microbial Ecology (F)	Selected readings Barton & Northup (2011) Microbial Ecology. Wiley-Blackwell (Optional)	28 (22)	3 lecture	Biol 2160, 2130, Chem 2120/2220, Biol 3130/3230	None	E Bottos
Biol 3220 (3)	Natural History (F)	Baldwin, L. 2014. Finding Place. Mathews, D. 2003. Rocky Mountain Natural History	17 (16)	2 lecture, 4 lab	3rd year standing; taken by Arts students	Alt yrs (2020 last, 2022 next)	L. Baldwin

Biol 3230 (3)	Biochemistry (W)	Nelson DL and Cox MM (2017) Lehninger – Principles of Biochemistry, 7th Edition, W.H.Freeman and Company, New York	50 (28)	3 lecture	Biol 3130	None	N. Ramroop Singh
Biol 3260	Field Botany (W)	Selected Readings	16	1 lecture 1 sem 4 lab (field course)	Biol 2280 or 3430	Alt years (not offered 2021,next offering 2023)	L. Baldwin/M. Jones
(NRSC 3170) (3)	Ichthyology (W)	Instructor-provided material	48	3 lecture 3 lab	Biol 2170	Seats reserved for biology students	B. Heise (NRS Dept)
Biol 3310 (3)	Developmental Biology (F)	Gilbert's Developmental Biology (Sinauer)	20 (17)	3 lecture 3 lab	Biol 2130/2340 Co-req Biol 3130/3350		No longer offered
Biol 3350 (3)	Molecular Genetics (F)	Decoding the Language of Genetics David Botstein; recommended: Molecular Biology of the Gene (Seventh Edition) JD Watson TA Baker, SP Bell, A Gann, M Levine & R Losick Cold Spring Harbor Laboratory Press	68 (65)	3 lecture 1 sem	Biol 2130/2340 Co-req Biol 3130	4 seminar sections	D. Nelson

Biol 3400 (3)	Reading and Writing Great Biology (F + W) ****	The Sense of Style: Steven Pinker; Various readings	16 (18 in all sections)	1 lecture 2 sem	3rd yr standing	Req. for all bio majors; course offered in F & W 2 sections either F or W	E. Bottos D. Kabelik
Biol 3430 (3)	Plants and People (W)	Pollan, M. 2001. The botany of desire. Pollan, M. 2006. The omnivore's dilemma. Diamond, J. 1999. Guns, germs, and steel. Hanson, T. 2015. The triumph of seeds. Smith, A. and J.B. MacKinnon. 2007. The 100-mile diet. Vintage Canada. Toronto.	32	2 lecture 1 sem 2 lab	3rd year standing	In future, offered every year by request of other departments (to meet GenEd Requirements)	L. Baldwin
Biol 3510 (3)	Plant Physiology (F)	Taiz et al. Plant physiology and development. 6th edition- Sinauer Association. (Recommended not required)	12 (6)	3 lecture 3 lab*	Biol 2280	One lab section every week with 6 students	S. Irani (lecture and lab- lab coordinator)
Biol 3520 (3)	Cell Physiology (W)	Alberts B, Bray D, Lewis J, Raff M, Roberts K & Watson JD Molecular Biology of the Cell, 2008 (5th Ed), combined with Cooper, The Cell: a molecular approach. (Recommended not required)	48 (33)	3 lecture 3 lab*	Biol 3130	3 lab sections every week/ maximum 12 students in each lab section	S. Irani (lecture) J. Urban -Lab coordinator

Biol 3540 (3)	Human Physiology 1(F)	Derrickson 2nd edition "Human Physiology"	48 (46)	3 lecture 3 lab*	Biol 2130, co-req Biol 3130	4 lab sections/alternate weeks	M. Rakobowchuk
Biol 3550 (3)	Human Physiology 2 (W)	Derrickson 2nd edition "Human Physiology" Wiley	36 (31)	3 lecture 3 lab*	Biol 3450	2 lab sections/alternate weeks	M. Rakobowchuk
Biol 3800 (3)	Fermentation Processes in Food and Pharmaceutical Production (F)	Waites, M, J., Morgan, N.L., Rockey, J.S. and Higton, G. 2001. Industrial Microbiology: An Introduction. Blackwell Science. And selected Readings	24	3 hours lecture per week	Biol 2160 and 3130 Biol 3110 recommended)	Elective for CMMB	N. Cheeptham
Biol 3980 (1)	Introduction to Research (W)	Selected Readings	12 (7)	1 sem	3rd year standing in Biology	Req for Prospective Hons students	N. Cheeptham
(NRSC 3260) (3)	Limnology (F)	Instructor-provided material	48	3 lecture 3 lab	Biol 2170, 3000, 3030	Seats reserved for biology students	B. Heise (NRS Dept)
Biol 4090 (3)	Field Methods in Terrestrial Ecology (W)**	Selected Readings	15 (10)	125 hours (field course)	Biol 2170, 3000, 3030	Alt yrs.	L. Baldwin, E. Studd

Biol 4110 (3)	Advanced Microbiology Lab (W)	Selected Readings	12 (15)	1 lecture 1 sem 3 lab	Biol 2130, 2160, 4210, Chem 2120/2220		E. Bottos
Biol 4120 (3)	Evolution of Flowers (W)	Selected Readings	25 (18))	3 lecture	Biol 2130, 2160, 4210, Chem 2120/2220	BIOL 2280 or BIOL 3430	L. Baldwin
Biol 4130 (3)	Molecular Evolution (W)	An Introduction to Molecular Evolution and Phylogenetics: Edition 2 By Lindell Bromham Oxford University Press (available at TRU Bookstore and online) Additional and selected reading material from the primary literature will be provided.	26	3 hours lecture per week	Biol 3350	Required for CMMB program	N. Cheeptham
Biol 4140 (3)	Evolution (W)	Selected Readings, Instructor Provided Materials	47	3 lecture	Biol 2280 or 2290, Biol 2170 or 3030	None	M. Reudink
Biol 4150 (3)	Biochemical Techniques 1 (F)	Selected Readings, Instructor Provided Materials	20 (13)	1 lecture 1 sem 3 lab	Biol 3130, 3230	Required for CHBI	N. Ramroop Singh

Biol 4160 (3)	Conservation Biology (F)	Selected Readings	16 (17)	2 lecture 2 sem	Biol 3030	None	Sessional: M. Jones
Biol 4210 (3)	Microbial Physiology (W)	White, Drummond & Fuqua. 2012. The physiology and biochemistry of prokaryotes 3rd or 4th edition. Oxford University Press	14 (11)	3 lecture	Biol 2160, 3130, 3230, 3350, 3520	Required for CMMB	J. Van Hamme
Biol 4250 (3)	Biochem Techniques 2 (F + W) ****	Selected Readings Molecular Cloning: A Laboratory Manual J. Sambrook & D. Russell	12 & 14 ****	1 lecture 1 sem 3 lab	Biol 3130, 3350	Offered in both semesters	D. Nelson
Biol 4260 (3)	Plant Ecology (W)	Gurevitch, Scheiner, and Fox, 2002. The Ecology of Plants. Parish, Coupe & Lloyd. 1996. Plants of Southern Interior B. C.	32	3 lecture 3 lab	Biol 2170 and 2280	None	L. Baldwin
Biol 4270 (3)	Terrestrial Vertebrate Zoology (F)	Amphibian and Reptiles of British Columbia,The Sibley Guide to Birds. (Western Region), Mammals of Canada,selected readings	16 (16)	2 lecture 3 lab	Biol 2290	Alternate years	T. Dickinson

Biol 4350 (3)	Regulation of Gene Expression (W)	Latchman, D. 2010 Gene Control , 2nd Ed (Garland)	24 (16)	3 lecture 1 sem	Biol 3130/3350	None	N. Ramroop Singh
Biol 4480 (3)	Directed Studies (F + W)	Selected Readings	20 (15) ****			None	various
Biol 4490(a) (3)	Selected Topics in Biology (W) Medical Microbiology	Selected readings	24 (24)	1 lecture 2 sem	Depends on Topic	Elective	N. Cheeptham and J. Urban
Biol 4490 (4)	Selected Topics in Biology (Spring) International Field School Thailand - Microorganisms, Human Impacts, and Climate Change	Selected readings	12 (19)	2 weeks at TRU pre-departure and 2 weeks at Chiang Mai University Thailand.	Biol 2160	International Field School Every 2 years	N. Cheeptham and J. Urban
Biol 4980 (2)	Honors Seminar (F + W)	Selected readings	10 (11)	2 sem	Acceptance into Honors Program	Required for Honors students	L. Gosselin

Biol 4990 (6)	Honors Thesis (F + W)		10 (11)		Acceptance into Honors Program	Required for Honors students	various

* Denotes every second week

** Runs as a 2-week intensive course in May, lectures in Winter term, scheduled in Winter semester.

**** course run in both semesters (separate sections)

Faculty/Staff (regular, ongoing)

Co-Chairs: Rob Higgins; Lyn Baldwin; Mark Rakobowchuk

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FAX: (250) 828-5450; **Web Site:** http://www.tru.ca/science/programs/biology.html

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T" = tripartite (workload = teaching, research, service), "B" = bipartite (workload = teaching, service)

Institutional Report

Enrollments were fairly steady—some slight increase on average. The Infosilem scheduling software continues to be problematic - this year managing to overlap labs and lectures in the same course a few times and producing other overlap conflicts which means students have to take OL online classes to complete degree requirements.

We have successfully filled one vacancy – a physiologist/neuroendocrinologist, Prof. David Kabelik (bi-partite). We had one retirement - Christine Peterson (lab coordinator). Notably, Prof. Matt Reudink was awarded the 2024 TRU President's Distinguished Scholar Award; Prof. Naowarat Cheeptham was awarded the 2024 American Society for Microbiology (ASM) Future Leaders Mentorship Fellowship (FLMF) and Dr. Natasha Ramroop Singh was awarded the BCcampus Award for Excellence in Open Education (February 2024). Additionally, Natasha Ramroop Singh was awarded Tenure and was promoted to Associate Teaching Professor.

The three co-chairs (Rob Higgins, Lyn Baldwin and Mark Rakobowchuk) who began this administrative role on June 1st 2022 continue within their defined roles for this academic year.

This year, the Chair position came with 6 course releases; it remains complex and time consuming, involving computerized scheduling, HR, finance and other online systems and managing increasing numbers of TAs and sessional instructors. This year, Rob Higgins was 3/6 chair, Mark Rakobowchuk was 2/6 chair and Lyn Baldwin was 1/6 chair. In addition to course release for the position of chair, each year, 3 or 4 (those with tri-council funding who request it) of our faculty complement usually get 1 course release for research purposes.

The department has successfully completed its mandatory Program Review (which occurs every 5 years or so). External Reviewer visits occurred in Fall 2023 and Final Reports have been compiled and submitted. Some of the main recommendations which are actively being addressed by Faculty are as follows:

1) Consider reducing the number of required second year courses with labs. Additional credit could be given for courses with labs, while maintaining the current required number of lower-level credits.
2) Explore the advantages and disadvantages of the amalgamation of the four current majors (Cellular, Molecular and Microbial biology; Ecology and Environmental biology; Animal Biology; Biology) into a single degree in Biological Sciences.
3) Accreditation for RPBio is recommended, with the rationale that accreditation is actively sought by students to increase their post-graduation employment options in biological fields.

An action plan is being developed to refine goals and identify tasks, milestones, and responsible parties.

Work has begun to phase out the majors in favor of concentrations. The three areas of concentration identified are as follows:

1) Biodiversity, Ecology and Conservation
2) Physiological Systems
3) Cellular, Molecular and Biotechnology

Currently, Faculty are discussing the required (12 upper level) courses and also the suggested/recommended additional courses for each concentration. We are also identifying any additional courses that may be required to supplement the curriculum e.g. scientific writing.

The Department has decided to remove the Lab component of BIOL 2130 (Cell Biology) in an effort to reduce Year II lab requirements towards a more manageable student workload. The course will continue to utilize seminars and other engaging methods of effectively teaching this course content. Beginning from Fall 2024, we will offer Principles of Biology II in the Fall and Principles of Biology I in the Winter semester. This is in an effort to ease first year students into more manageable content as well as potentially incorporate Field Trips in first year in the Fall. This switch has necessitated re-shuffling of other course offerings as well, to compensate for faculty workload in each semester.

We are actively looking at requirements towards accreditation for RPBio, in conjunction with the remodeling of our Program and the introduction of concentrations.

We continue to refine our curriculum, particularly in light of the General Education model which incorporates eight (8) ILOs [Institutional Learning Outcomes]: teamwork, communication, lifelong learning, citizenship, knowledge, critical thinking and investigation, Indigenous knowledge and ways, and intercultural awareness."

For more details, please see https://www.tru.ca/vpacademic/curriculum_development_approval/general-education.html).

The requirement for a minor in Biology has been adjusted, from 18 required upper level credits, to 12. This was in an attempt to make the minor more accessible to students, especially those outside the Department and the Faculty at large.

Our graduates continue to do extremely well, with respect to first, entrance to and then, performance in, a variety of Graduate and Professional schools.

Articulation Rep: Elizabeth Zwamborn (Elizabeth.Zwamborn@twu.ca)

Course # (credits)	Course Name	Text	Projected Enrolment	Hours	Pre-requisites	Notes	Instructor
BIOL 103 (3)	Intro Biology I (non majors)	Campbell; Concepts & Connections	30	3 lec/3 lab	None	Can proceed to BIOL114 with a B	Dr. Clements
BIOL 104 (3)	Intro Biology II (non majors)	Campbell; Concepts & Connections	25	3 lec/3 lab	None		Dr. Onyango
BIOL 113 (4)	Intro Biology I (majors)	Campbell, Reece; Biology	107	3 lec/3 lab	Biology 11 or 12		Dr. Clements
BIOL 114 (4)	Intro Biology II (majors)	Campbell, Reece; Biology	105	3 lec/3 lab	Biology 11 or 12		Dr. Siame
BIOL 223 (3)	Cell Biology	Alberts; Essential Cell Biology	40	3 lec/3 lab	BIOL 113/114, CHEM 111/112		Dr. Mills
BIOL 226/ 326 (3)	Evolution	Zimmer and Emlen: Evolution: Making Sense of Life	20	3 Lec	BIOL114		Dr. Venema
BIOL 233 (3)	Medical Microbiology for Nurses	Tortora, Funke and Chase; Microbiology	60	3 lec	BIOL 241/242		Dr. Siame
BIOL 241 (3)	Human Anat/Phys I	Tortora and Derrickson; Principles of Anatomy and Physiology	1 30	3 lec/3 lab/1 tut	None		Dr. Luke
BIOL 242 (3)	Human Anat/Phys II	Tortora and Derrickson; Principles of Anatomy and	1 20	3 lec/3 lab/1 tut	BIOL 241		Dr. Luke

		Physiology					
BIOT 200 (2)	Biotechnology Practicum II	Internship	16	3 lec/3 lab/1 tut	BIOT 100		Dr. Mills
BIOL/BIOT 290 (3)	Introduction to Biotechnology	Thiemen and Palladino; Introduction to Biotechnology & Barran; Biotechnology and Beyond	2 0	3 lec/3 lab/1 tut	BIOL 113/114		Dr. Mills
BIOT 300 (3)	Biotechnology Practicum III	Internship	5	3 lec/3 lab/1 tut	BIOT 200		Dr. Mills
BIOL 308 (3)	Vertebrate Zoology	Pough and Janis, Vertebrate Life	2 0	3 lec/3 lab	BIOL 223 or BIOL 281		Dr. Steensma
BIOL 212/312 (3)	Biology of Vascular plants	Levetin and McMahon; Plants and Society	2 0	3 lec/3 lab	BIOL 113		Dr. Clements
BIOL 214/314 (3)	Biology of Non-vascular plants	Levetin and McMahon; Plants and Society	2 0	3 lec/3 lab	BIOL 113		Dr. Clements
BIOL 333 (3)	Medical Microbiology	Willey & Sandman, Joanne Willey, Principles of Microbiology 12th Ed	3 2	3 lec/3 lab	BIOL 223 or BIOL 281		Dr. Onyango
BIOL 334 (3)	Basic & Applied Microbiology	Willey & Sandman, Joanne Willey, Principles of Microbiology 12th Ed	2 0	3 lec/3 lab	BIOL 223 or BIOL 281		Dr. Onyango
BIOL 336 (3)	Immunology	Parham; The Immune System	2 0	3 lec	BIOL 223		Dr. Venema
BIOL 343 (3)	Human Histology	Young; Functional Histology	2 0	3 lec/3 lab	BIOL 223 or BIOL 281		Dr. Mills
BIOL 345 (3)	Vertebrate Physiology	Fox; Human Physiology	3 0	3 lec/3 lab	BIOL 223 or BIOL 281		Dr. Mills
BIOL 360 (3)	Invertebrate Zoology	Ruppert, E.E., R.S. Fox, R.D. Barnes; Invertebrate zoology.	2 0	3 lec/3 lab	BIOL 223 or BIOL 281		Prof. Steensma
BIOL 371 (3)	Introduction to Genetics	Sanders and Bowman, Genetic Analysis: An integrated approach	4 0	3 lec/3 lab	BIOL 223 or BIOL 281		Dr. Venema
BIOL/ CHEM 372 (3)	Molecular Genetics	Sanders and Bowman, Genetic Analysis: An integrated approach	3 2	3 lec/3 lab	BIOL 223		Dr. Lo
BIOL 281 (3)	General Ecology	Smith, R.L. and T.M. Smith. Ecology and field biology,	4	3 lec/3 lab	BIOL 113/114		Prof. Steensma
BIOL/CHEM 384 (3)	Biochemistry	Lehninger; Biochemistry	3 2	3 lec/3 lab	CHEM 221/222		Dr. Siame
BIOL/CHEM 386 (3)	Biosynthesis	Lehninger; Biochemistry	3 2	3 Lec	CHEM 221/222		Dr. Siame

BIOL 409 / 410 (3)	Senior Thesis	Current primary literature	10	3 Lec	Advanced standing		Prof. Steensma
BIOL 423 (3)	Advanced Cell & Molecular Biology	Current primary literature	15	3 Lec	BIOL 223, CHEM 221/222, one of BIOL BIOL 384 or BIOL 372		Dr. Venema
BIOL 433 (3)	The Microbiome	Current literature	20	3 Lec	BIOL 333 or BIOL 334		Dr. Onyango
BIOL 438 (3)	Virology	Flint et al., Principles of Virology, 5th Ed	20	3 Lec	BIOL 223, 333 and one of 372 or 386		Dr. Onyango
BIOL 440 (3)	Developmental Neurobiology	Fairbach, Developmental Neuroscience	15	3 Lec	BIOL 371		Dr. Venema
BIOL /BIOT 470 (3)	Bioinformatics	Lesk, Introduction to Bioinformatics	25	3 lec/3 lab	BIOL 223, 372, and a computing or statistics course		Dr. Tsang
BIOL 474 (3)	Neoplasia	Kleinsmith, Cancer Biology	20	3 Lec	BIOL372 or BIOL 386		Dr. Venema
BIOL 475 (3)	Protein Structure and Function	Current literature	15	3 lec	BIOL 384 or BIOL 386.		Dr. Lo
BIOL 484 (3)	Applied Ecology	VanDyke, F. Conservation Biology	20	3 lec/3 lab	BIOL 281		Prof. Steensma
BIOL 490 (3)	Advanced Biotechnology	Current literature	10	3 Lec	BIOT 290		Dr. Mills

Field courses

BIOL 316 (3)	Plant Ecology	Booth, et.al,, Invasive Plant Ecology				Salt Spring Is.	Dr. Clements
BIOL 318 (3)	Tropical Botany	Gustafson, et al., Hawaiian Plant Life				Hawaii	Dr. Clements
BIOL 362 (3)	Marine Ecology	Castro and Huber, Marine Biology				Salt Spring Is.	Prof. Steensma
BIOL 364 (3)	Coral Reef Ecology	Castro and Huber, Marine Biology				Hawaii	Prof. Steensma

Notes

New Faculty hire: Elizabeth Zwamborn

Biology Department Head: Anthony Siame (Anthony.siame@twu.ca)

Faculty & Staff: See listing online at http://www.twu.ca/academics/science/biology/

https://www.ucanwest.ca/

Biology Articulation Committee Meeting, May 2 and 3, 2024

University of Victoria, Victoria B.C.

Report from UCW

Articulation Rep: Zahra Moradi

Phone: 236-838-1884 Email: Zahra.moradi@ucanwest.ca

Course (credits)	Name	Text	Projected Enrolment	Hours (/week)	Prerequisites	Notes	Course Instructor
University-Level Courses							
BIOL 100 (3)	Modern Biology	Open Stax Biology 2 e	350	2-0-2	None	Non Major	Dr. Prashant Kumar Dr. Zahra Moradi Dr. Regan Zhang Dr. Mitra Panahi Dr. Sina Mahabadi Dr. Michael Baumann Dr. Evgeniy Panzhinskiy Dr. Jasmine Hue Dr. Sepideh Adabi
ECOL 100 (3)	Introduction to Ecology	Open Stax Biology 2 e	350	2-0-2	None	Non Major	Dr. Prashant Kumar Dr. Zahra Moradi Dr. Mitra Panahi Dr. Sina Mahabadi Dr. Michael Baumann Dr. Evgeniy Panzhinskiy Dr. Jasmine Hue Dr. Sepideh Adabi

PROGRAM CHANGES (or other Notes)

Other changes…faculty changes, lab changes, prerequisite changes etc.

- Dr. Sepideh Adabi Tahriri is a new instructor.
- Opening and equipping a new lab for science courses (Ecology, Biology, Geology and Physics) with the collaboration of science faculty for the first time after two decades.
- Hiring 2 lab assistants/technicians, Lenei Trao and Dewni Ramanayake to assist in the lab organization and setting.
- Expanding the sections of 3 different science courses to 16 for each, including Ecology (ECOL100), Biology (BIOL100), and Physical Geography (GEOG101).
- After two decades of rapid growth, our student numbers are plateauing around 14000
- Having four science courses: Biology, Ecology, Geology and Physics, which are part of the BCom, BABC and AA programs.

FACULTY and STAFF

Name and credentials	Role/courses instructed	Phone	email
George Drazenovic, Associate Professor	ACSS Department Chair	+17787760988	george.drazenovic@ucanwest.ca
Dr. Noosha Mehdian, Assistant Professor	ACSS Department Vice Chair	+16043456516	noosha.mehdian@ucanwest.ca
Dr. Prashant Kumar, Associate Professor	Instructor/Subject Lead/BIOL 100, ECOL 100	+17789517640	prashant.kumar@ucanwest.ca
Dr. Zahra Moradi, Assistant Professor	Instructor/BIOL 100, ECOL 100	+12368381884	Zahra.moradi@ucanwest.ca
Dr. Regan Zhang, Assistant Professor	Instructor/BIOL 100, ANTH 102		regan.zhang@ucanwest.ca
Dr. Mitra Panahi	Instructor/BIOL 100, ECOL 100		mitra.panahi@ucanwest.ca
Dr. Sina Mahabadi	Instructor/BIOL 100, ECOL 100		sina.mahabadi@ucanwest.ca
Dr. Michael Baumann	Instructor/BIOL 100, ECOL 100		michael.baumann@ucanwest.ca
Dr. Evgeniy Panzhinskiy	Instructor/BIOL 100, ECOL 100		Evgeniy.panzhinskiy@ucanwest.ca
Dr. Sepideh Adabi Tahriri	Instructor/BIOL 100, ECOL 100		sepideh.tahririadabi@ucanwest.ca
Lenei Trao	Science Lab Technician		lenei.trao@ucanwest.ca
Dewni Ramanyake	Science Lab Technician		dewni.ramanayake@ucanwest.ca

Institutional Update

General

UCW is pleased to share several updates since the 2023 report:

- Dr. Bashir Makhoul was instated as the new University President and Vice-Chancellor in October 2023.
- UCW is proud to be celebrating its 20th anniversary this year.
- UCW's MBA Games team finished 1st place in both the BC MBA Games (December 2023) and in the national MBA Games (January 2024).
    - First team in the history of the competition to hold both the provincial and national trophies.
    - As the competition winners, UCW will be hosting both the BC MBA Games and the national MBA Games this year.
- Recently partnered with 4stay to launch an off-campus housing initiative including 2 locations: downtown Vancouver and Main Street.
- Transitioned from Moodle Learning Management System (LMS) to Brightspace (D2L) LMS in September 2023.
- Established an Office of Research and Scholarship.
    - Developed new scholarly collaboration resources for faculty including faculty research interest directory, conference and association lists, and biweekly research seminar series.
    - New financial support resources for faculty research and scholarly activity through faculty research grants, student RA pool, GUS fellowship, and open access publishing grant.
- Established an Office of Academic Integrity and an Academic Integrity Review Committee.
    - Published an institutional statement on ethical and responsible use of Generative Artificial Intelligence (Gen AI).

Students/Enrollment

- Diversity:
    - Our student body currently represents over 110 nationalities with the top percentage of students coming from India (59.6%), Nigeria (5.42%), Sri Lanka (5.12%).
    - Other nationalities represented (up to 5%) include Nepal, Columbia, Bangladesh, Philippines, and Mexico.
- Enrollments:
    - Approximately 2400 new students joined UCW in the Winter 2024 term with approximately 15,000 students enrolled in total.
    - Approximately 14,500 students are registered for the upcoming Spring 2024 term, which includes approximately 1980 new students.
- Please see the student enrollment details in Table 1 below (enrollment figures include new starters and continuing students).

Table 1: Student Enrollments

Programs	Summer term 2023	Fall term 2023	Winter term 2024	Spring term 2024
MBA	9617	10701	10415	9568*
BCom	674	711	703	669*
BABC	228	243	225	276*

AA	2906	3278	3671	3975*
Total	**13425**	**14933**	**15014**	**14488***

**Final numbers are still subject to changes.*

Staffing

- There have been several high-level staffing changes within the university, which include both newly hired and internally promoted staff.
- Each department continues to expand support staff to increase services offered to students.
- Please see the staffing updates in Table 2 below and the UCW staff numbers in Table 3.

Table 2: Staffing Updates

Name of employees	Job Title	Start Date
Bashir Makhoul	President & Vice-Chancellor	Oct-23
Mazi Shirvani	Interim VP, Academic	Mar-24
Komil Mamajanov	VP, Strategic Development	Nov-23
Jenny Shickele	Associate VP, Finance	Oct-23
Annette O'Hara	Ombudsperson	May-23
Stewart Fast	Director, Office of Research & Scholarship	Aug-23
Susanna Wai Yun Chow	Director, Institutional Risk & Compliance	Nov-23
Heidi Rolfe	Director, Institutional Risk & Compliance (on leave)	Nov-23
Amy Hua	Director, Partnership & Pathways	Mar-24
Abrar Ahamed	Director, Digital Transformation	Feb-24
Brenda Mathenia	University Librarian	Oct-23
Eileen Wang	Associate Director, Career Development Centre	Feb-24
Shalini Vats Rajpal	HR Director	Feb-24

Table 3: UCW Staff Numbers

Department	Apr-23	Mar-24
Academic Affairs	54	60
Administration	11	10
BD - Recruitment	13	14
Finance	29	29

Human Resources	22	23
Health & Safety	n/a	2
Library & Learning Commons	12	23
IT	12	32
Facilities and Building Operations	n/a	6
Marketing & Communications	18	21
Office of the President	10	18
Registrar's Office	56	64
Student Affairs & Services	44	55
UAP Instructors	22	28
Faculty	416	657

Teaching & Learning Updates

- Faculty-Focused Programs and Services
    - Launched a Certificate Course "Teaching Excellence" providing faculty with in-depth training on influential learning theories, inclusive teaching practices, online delivery models, instructional design frameworks, assessment principles, and portfolio refinement.
    - Continuous workshops and micro credentials including but not limited to effective utilization of the LMS (Brightspace), addressing diversity through UDL, enhancing assessment validity and reliability, facilitating Online Guided Learning, and designing courses and instructional resources.
- Student-focused Programs and Services
    - 20 Learning for Success Workshops addressing students' academic needs.
    - One-on-one appointments with Learning Strategists for personalized support.
    - Launched re-designed Writing Coach Program with 1-1 academic writing support.

Library & Open Education Resources (OER) Updates

- Launched UCW's institutional repository, "UCW Wise".
    - UCW Wise is a digital portal for showcasing the work of UCW students, faculty, and staff.
    - The collections currently available include select coursework showcasing students' final research paper for MBAR 661 and 2 seasons of the Innovation Fuel podcast.
- The OER Committee:
    - Collaborated with the Associate of Arts (AA) program to increase the use and adoption of OERs and library licensed content across the program. As of March 2023, nearly 41% of AA courses use OER in at least one section.

    - Developed updated training materials for faculty interested in learning more about OERs including new promotional materials and videos in partnership with our Marketing / Communications team.
    - Working with BC Campus and BCOEL to highlight the work UCW is doing to adopt open access resources within our institution as well as support the growing OER community. UCW has recently been added to the Post-Secondary Directory providing a chance to showcase some of our initiatives as well as highlight UCW faculty's contributions to OER textbooks. The addition of UCW to this directory helps to elevate our profile within the province and acts to spur interest in OER adoption.
- The Library, Office of Research and Scholarship, and the OER Committee are collaborating on efforts to incentivise and support faculty publication in green and open access journal. The recently launched Article Process Charges Pilot Fund and the hiring of a Scholarly Communications and Copyright Librarian are associated with these efforts.

Curriculum & Course Development Updates

- CPA PROFESSIONAL EDUCATION PROGRAM (CPA PEP) articulation has been received, and all courses have been articulated. CPA website has UCW BCOM listed as having all the courses articulated.
- New specializations are under consideration for UCW's BCOM degree.
- University Access Program (UAP) is piloting Associate of Arts (AA) specific course sections to better address students' academic needs.
- UAP is conducting an internal self-study review with an external review to occur in June 2024.

New Program Update

- UCW is currently working on new program development within our graduate area**.** Two proposals have been put through to the Degree Quality Assessment Board (DQAB) for consideration.
    - Master of Entrepreneurship – currently up for consideration by the DQAB Board.
    - Master of Marketing – pending scheduling of the DQAB-appointed Expert Review Panel.

THE UNIVERSITY OF BRITISH COLUMBIA

https://www.ubc.ca/

Biology Articulation Committee Meeting, May 2 and 3, 2024

University of Victoria, Victoria B.C.

Report from (**University of British Columbia**)

Articulation Rep: Sunita G. Chowrira

Phone: 604-822-5508; Email: chowrira@mail.ubc.ca

Course (credits)	Name	Text	Projected Enrolment	Hours (/week)	Prerequisites	Notes	Course Instructor
College Prep (if applicable)							
University-Level Courses							
BIOL 111 (3)	Introduction to Modern Biology.	Cavallo-Medved et al., Life Matters: Connecting Biology to Your World	500	3	none		Associate Head Biology biology.associatehead@ubc.ca
BIOL 112 (3)	Biology of the Cell	Morris et al., Biology: How Life Works (custom)+Launch pad	2000	3	One of Bio 11, Bio 12, or BIOL 111 & and one of Chem 12 or CHEM 100, 110, or 111		Liane Chen liane.chen@ubc.ca Brett Couch bcouch@mail.ubc.ca

BIOL 121 (3)	Genetics, Evolution and Ecology	Freeman et al., Biological Science Can. ed. (custom)	2000	3	One of Bio 12, BIOL 111 or BIOL 112		Lynn Norman lynn1@mail.ubc.ca
BIOL 180 (2)	Thinking like a Life Scientist	Primary Literature picked by Instructors teaching	1500	1.5h Researcher-specific + 1.5h common to all in the course	None	Redesigned BIOL 140 to focus on cutting-edge research by UBC researchers, using an evidence-based approach to teaching scientific thinking called C.R.E.A.T.E. (**C**onsider, **R**ead, **E**lucidate hypotheses, **A**nalyze and interpret data, and **T**hink of the next **E**xperiment).	Blaire Steinwand blaire.steinwand@ubc.ca Chin Sun chin.sun@ubc.ca
BIOL 155 (6)	Human Biology without the lab	Martini, Ober, Nath, Bartholomew, Petti, Visual Anatomy & Physiology, 3nd ed.	480	3 lect 1 tut	none	155 has expanded tutorial content to ensure teaching of anatomy for programs that formerly required 153	Irene Ballagh iballagh@zoology.ubc.ca

BIOL 200 (3)	Fundamentals Of Cell Biology	Alberts et al., Essential Cell Biology (recommended)	1200	3 lect 1 tut	Either a) BIOL 112 & one of CHEM 123, CHEM 113 or b) SCIE 001 or c) 8 cr FY BIOL & 6 cr FY CHEM or d) BIOL 112 or BIOL 121 & CHEM 203 (as co-req)		Vivienne Lam vivienne.lam@botany.ubc.ca
BIOL 201 (3)	Fundamentals of Biochemistry	Nelson and Cox, Lehninger Principles of Biochemistry, 8th ed.	450	3 lect 1 tut	BIOL200 + CHEM 233 (or CHEM 203)		Sunita Chowrira chowrira@mail.ubc.ca
BIOL 203 (4)	Eukaryotic Microbiology		100	3 lect 3 labs	BIOL 140 & one of BIOL 121 or SCIE 001, BIOL 200 recommended		Patrick Keeling pkeeling@mail.ubc.ca Brett Couch (Labs) bcouch@mail.ubc.ca
BIOL 204 (4)	Vertebrate Structure and Function	Kardong, Vertebrates, 8th ed.	250	3 lect 3 labs	Either a) BIOL 121 & 140 or b) SCIE 001 & BIOL 140 or c) 8 cr FY BIOL		Angie O'Neill oneill@zoology.ubc.ca Charissa Fung (Labs) charissa.fung@ubc.ca
BIOL 205 (4)	Comparative Invertebrate Zoology	Brusca and Brusca, Invertebrates, 3rd ed.	250	3 lect 3 labs	Either a) BIOL 121 & 140 or b) SCIE 001 & BIOL 140 or c) 8 cr FY BIOL		Brian Leander bleander@mail.ubc.ca Charissa Fung (Labs) charissa.fung@ubc.ca

BIOL 209 (4)	Non-Vascular Plants	Recommended only - Raven et al., Biology of Plants -e-book 6 months rental also an option.	100	3 lect 3 labs	Either a) BIOL 121 or b) SCIE 001 or c) 8 cr FY BIOL		Jaclyn Dee deej@mail.ubc.ca Bridgette Clarkston bridgette.clarkston@botany.ubc.ca
BIOL 210 (4)	Vascular Plants	Raven et al., Biology of Plants	100	3 lect 3 labs	Either a) BIOL 121 or b)SCIE 001 or c) 8 cr FY BIOL		Shona Ellis (Lect) shona@mail.ubc.ca
BIOL 230 (3)	Fundamentals Of Ecology	Cain, Bowman, Hacker, Ecology, 6/e	570	3 lect 9 hours labs per term	BIOL 121 or SCIE 001		Rachel Wilson rwilson@zoology.ubc.ca Michelle Tseng mtseng@zoology.ubc.ca Rachel Germain rgermain@zoology.ubc.ca
BIOL 234 (3)	Fundamentals Of Genetics	Griffiths, et al., Introduction to Genetic Analysis 12th edition	~1000	3 lect 2 tut	Either a) BIOL 112 &121 or b) SCIE 001 or c) co-req CHEM 203 & BIOL 112 or 121		Craig Berezowsky craigber@mail.ubc.ca
BIOL 260 (3)	Fundamentals Of Physiology	Freeman et al., Biological Science Can. ed. (custom)	500-600	3	Either a) BIOL 112 & 121 or b) SCIE 001or c) 8 cr FY BIOL & 6 cr FY CHEM.		Trish Schulte pschulte@zoology.ubc.ca Abel Rosado (sabbatical in 2022W) abel.rosado@botany.ubc.ca

MICB 211 (3) NEW	(Foundations of Microbiology)	Custom notes package (posted online)	750 - 900	3	One of: BIOL 112, BIOL 200, SCIE 1, BMEG 245.	MICB 211 replaces MICB 201 effective 2022W.	Tracy Kion tracy.kion@ubc.ca
MICB 212 (3) NEW	Immunology and Virology	Custom notes package (posted online)	600	3	One of: BIOL 112, BIOL 200, SCIE 1, BMEG 245.	MICB 212 replaces MICB 202 effective 2022W.	Tracy Kion tracy.kion@ubc.ca
MICB 203 (3)	Basic Microbiology Laboratory	Custom notes package (posted online)	28	1 lect 2 labs	One of: BIOL 112, SCIE 001		Karen Smith karen.smith@ubc.ca
BIOL 336	Fundamentals of Evolutionary Biology	Futuyma and Kirkpatrick 5th Ed. (recommended)	540	3 lect 1 tut	One of BIOL 233 or 234		Jeannette Whitton jeannette.whitton@botany.ubc.ca Sally Otto otto@zoology.ubc.ca Lizelle Odendaal (Coordinator)

PROGRAM CHANGES (or other Notes)

Changes related to biology programming.

- No programming changes to report.
- New Associate Head starting July 1, 2024, Dr. Pam Kalas.

Other changes… faculty changes, lab changes, prerequisite changes etc.

UBC's big News: Workday Student is going live May 21st, 2024

FACULTY and STAFF

Name and credentials	Role/courses instructed	Phone	email

Biology Program Associate Head – Sunita G. Chowrira (until June 30, 2024)

Report from the University of Northern British Columbia

Biology Articulation Committee Meeting, May 2 – 3, 2024 – University of Victoria – Victoria, BC

Articulation Representative: Jenia Blair
jenia.blair@unbc.ca; 250-960-5843
unbc.ca/biology

Course #	Course Name	Text(s)	Projected Enrollment	Credit Hours	Pre-requisites	Notes	Course Instructor
BIOL 103-3†	Introductory Biology I	Biology: Exploring the diversity of life – Fenton et al.	300 (31 summer)	3	Biology 11 (50%) or Biology 12 (50%)	Lab portion (BIOL 123) is required for BIOL majors; summer is distance delivered, and the final exam for summer is online.	Preston/Sukdeo
BIOL 104-3†	Introductory Biology II	Biology: Exploring the diversity of life – Fenton et al.	220 (20 summer)	3	Biology 11 (50%) or Biology 12 (50%) or BIOL 103 Minimum Grade of D-	Lab portion (BIOL 124) is required for BIOL majors; summer is distance delivered, and the final exam for summer is online	Rea/Sukdeo

Course #	Course Name	Text(s)	Projected Enrollment	Credit Hours	Pre-requisites	Notes	Course Instructor
BIOL 123-1†	Introductory Biology I Laboratory	Biology: Exploring the diversity of life – Fenton et al. Course-specific lab manual.	250 (15 summer)	1	Co-requisite: BIOL 103	Lab portion can be completed separately from the lecture, assuming the lecture has been completed already.	Blair
BIOL 124-1†	Introductory Biology II Laboratory	Biology: Exploring the diversity of life – Fenton et al. Course-specific lab manual.	200 (15 summer)	1	Co-requisite: BIOL 104	Lab portion can be completed separately from the lecture, assuming the lecture has been completed already.	Migabo
BIOL 110-3†	Introductory Ecology	Elements of ecology – Smith and Smith	30 for summer (online) and 50 for fall (on campus)	3	BIOL 201 precluded	For non-majors	Pitt (May semester) Pitt (fall)
BIOL 111-3†	Introductory Ecology Laboratory	Course-specific lab manual	10 for summer (on-campus intensive lab)	3	BIOL 110 minimum Grade of D-, or being taken concurrently	For non-majors, not sure when or if this will be offered again	TBA
BIOL 201-3	Ecology	Elements of Ecology – Smith, Smith and Water	120	3	BIOL 102 Minimum Grade of D- or (BIOL 104 Minimum Grade of D- and BIOL 124 Minimum Grade of D-) and (BIOL 101 Minimum Grade of D- or (BIOL 103 Minimum Grade of D- and BIOL 123 Minimum Grade of D-))	Required tutorial	Dawson

Course #	Course Name	Text(s)	Projected Enrollment	Credit Hours	Pre-requisites	Notes	Course Instructor
BIOL 202-3	Invertebrate Zoology	Biology of the Invertebrates – Pechenik Course-specific lab manual	48	3	BIOL 102 Minimum Grade of D- or (BIOL 104 Minimum Grade of D- and BIOL 124 Minimum Grade of D-) and BIOL 101 Minimum Grade of D- or (BIOL 103 Minimum Grade of D- and BIOL 123 Minimum Grade of D-)	Required lab	Huber
BIOL 203-3	Microbiology	Prescott's Microbiology – Willey Couse-specific lab manual.	100	3	BIOL 101 Minimum Grade of D- or (BIOL 103 Minimum Grade of D- and BIOL 123 Minimum Grade of D-) and BIOL 102 Minimum Grade of D- or (BIOL 104 Minimum Grade of D- and BIOL 124 Minimum Grade of D-)	Required lab	Preston/Blair
BIOL 204-3	Plant Biology	Biology of Plants – Raven et al.	35 to 45	3	BIOL 102 Minimum Grade of D- or (BIOL 104 Minimum Grade of D- and BIOL 124 Minimum Grade of D-) and BIOL 101 Minimum Grade of D- or (BIOL 103 Minimum Grade of D- and BIOL 123 Minimum Grade of D-)	Required lab	Wood
BIOL 210-3	Genetics	Genetics: A Conceptual Approach - Pierce	110-120 (autumn) and 40 (winter)	3	BIOL 101 Minimum Grade of D- or (BIOL 103 Minimum Grade of D- and BIOL 123 Minimum Grade of D-) and (BIOL 102 Minimum Grade of D- or (BIOL 104 Minimum Grade of D- and BIOL 124 Minimum Grade of D-))	Required tutorial	Murray/Pitt
BIOL 301-3	Systematic Botany	Plant Identification Terminology – Harris and Harris Plants of Coastal BC – Pojar and MacKinnon Flora of the Pacific Northwest – Hitchcock and Cronquist	20	3	BIOL 101 Minimum Grade of D- or (BIOL 103 Minimum Grade of D- and BIOL 123 Minimum Grade of D-) and BIOL 102 Minimum Grade of D- or (BIOL 104 Minimum Grade of D- and BIOL 124 Minimum Grade of D-)	Required lab; alternating Prince George (lecture+lab-style) and Terrace (field-style, intensive) delivery.	Coxson

Course #	Course Name	Text(s)	Projected Enrollment	Credit Hours	Pre-requisites	Notes	Course Instructor
BIOL 302-3	Limnology	Dodds and Whiles (2019), Freshwater Ecology: Concepts and Environmental Applications of Limnology	20 to 40	3	BIOL 201 Minimum Grade of D-, delivered by video to Terrace campus, offered at least in alternating years, field trips to Tabor lake to collect limnological samples, which are processed and analyzed in labs.	Required lab	Martins/Spinola
BIOL 304-3	Plants, Society and the Environment	Structure and Function of Plants – MacAdam Plants & Society – Levetin & McMahone	10 to 20	3	BIOL 204 Minimum Grade of D-	Required lab	TBA
BIOL 307-3	Ichthyology and Herpetology	Fishes: An introduction to ichthyology – Moyle and Cech Biology 307 Laboratory Manual. UNBC Press.	42	3	BIOL 102 Minimum Grade of D- or (BIOL 104 Minimum Grade of D- and BIOL 124 Minimum Grade of D-) and BIOL 101 Minimum Grade of D- or (BIOL 103 Minimum Grade of D- and BIOL 123 Minimum Grade of D-)	Required lab	Shrimpton
BIOL 308-3	Ornithology and Mammalogy	Otter, K.A. Birds & Mammals: Comparative Evolutions of Terrestrial Endotherms. UNBC Press.	45-55	3	BIOL 102 Minimum Grade of D- or (BIOL 104 Minimum Grade of D- and BIOL 124 Minimum Grade of D-) and BIOL 101 Minimum Grade of D- or (BIOL 103 Minimum Grade of D- and BIOL 124 Minimum Grade of D-)	Required lab	Otter
BIOL 311-3	Cell and Molecular Biology	Essential Biology of the Cell - Alberts et al.	60 to 85	3	BIOL 210 Minimum Grade of D-; and CHEM 204 Minimum Grade of D- or CHEM 220 Minimum Grade of D-	Required tutorial	Sukdeo
BIOL 312-3	Molecular Cell Physiology	Essential Biology of the Cell - Alberts et al.	25 to 40	3	BIOL 311 Minimum Grade of D-	Lecture-based	Sukdeo

Course #	Course Name	Text(s)	Projected Enrollment	Credit Hours	Pre-requisites	Notes	Course Instructor
BIOL 315-3	Animal Diseases and Parasites	No text	25 to 35	3	BIOL 307 Minimum Grade of D- or BIOL 308 Minimum Grade of D-	Required lab	Dawson
BIOL 318-3	Fungi and Lichens	Mushrooms Demystified: A Comprehensive Guide to the Fleshy Fungi – Arora Macrolichens of the Pacific Northwest – McCune and Geiser	24	3	BIOL 101 Minimum Grade of D- or (BIOL 103 Minimum Grade of D- and BIOL 123 Minimum Grade of D- and BIOL 102 Minimum Grade of D- or (BIOL 104 Minimum Grade of D- and BIOL 124 Minimum Grade of D-)	Required lab; alternating Prince George (lecture+ lab-style) and Terrace (field-style, intensive) delivery.	Preston/Coxson
BIOL 321-3	Animal Physiology	TBD	35	3	BIOL 307 Minimum Grade of D- or BIOL 308 Minimum Grade of D-	Required lab	Rea
BIOL 322-3	Entomology	Insects: Their natural history and diversity – Marshall	10	3	BIOL 422 precluded	Required lab, offered in hy-flex (hybrid) format in autumn semester of alternate (even-numbered) years.	TBA
BIOL 323-3	Evolutionary Biology	Evolutionary Analysis – Freeman and Herron	65 to 70	3	Biol 201-3 and 210-3	Required tutorial	Dawson
BIOL 325-3	Ecological Analyses	Matthiopoulous, J. How to Be a Quantitative Ecologist: The `A to R` of Green Mathematics and Statistics. John Wiley & Sons, Ltd.	35 to 45	3	BIOL 201 Minimum Grade of D-; and MATH 240 Minimum Grade of D- or STAT 240 Minimum Grade of D-	Lectures focuses on principles of probability and statistical modeling. Labs prepare students to analzye data using R and collaborate on data analysis using GitHub.	Martins
BIOL 333	Field School	Content varies by year and location, but usually with an emphasis on organismal identification and ecology.	variable	3		Field-based	Various

Course #	Course Name	Text(s)	Projected Enrollment	Credit Hours	Pre-requisites	Notes	Course Instructor
BIOL 350	Ethnobotany	Ethnobotany, a phytochemical perspective – Schmidt and Cheng	36	3	None	Available to non-majors.	Wood
BIOL 402	Aquatic Plants	No text	10 to 20	3	BIOL 204 Minimum Grade of D-	Required lab	Wood
BIOL 404-3	Plant Ecology	The Ecology of Plants – Gurevitch et al. and/or other sources Plant Ecology: Origins, Processes, Consequences - Keddy	35	3	BIOL 201 Minimum Grade of D- or BIOL 204 Minimum Grade of D-	Required lab	Botten
BIOL 406-3	Fish Ecology	Fishes: An introduction to ichthyology – Moyle and Cech	24	3	BIOL 307 Minimum Grade of D- and BIOL 201 Minimum Grade of D-; BIOL-606 precluded	Required lab	Shrimpton
BIOL 409-3	Conservation of Aquatic Ecosystems	Silk & Ciruna (2002) A Practitioner's Guide to Freshwater Biodiversity Conservation	20	3	BIOL 201 Minimum Grade of D-, Students are required to write a mock proposal to request funds to support the conservation of an aquatic species or habitat of their interest.		Martins
BIOL 410-3	Population and Community Ecology	Primer of Ecology – Gotelli	40	3	BIOL 325 Minimum Grade of D-; BIOL 603 precluded	Required tutorial;	Otter/Johnson
BIOL 411-3	Conservation Biology	Principles of Conservation Biology – Primack	40	4	BIOL 201 Minimum Grade of D-; BIOL 601 precluded	Required lab; distance delivery to Terrace via videoconference with on-site labs	Johnson/Baerwald

Course #	Course Name	Text(s)	Projected Enrollment	Credit Hours	Pre-requisites	Notes	Course Instructor
BIOL 412-3	Wildlife Ecology	No text (course manual used instead)	40	3	BIOL 201 Minimum Grade of D- and BIOL 308 Minimum Grade of D-; BIOL 604 precluded	Required lab	Bryan
BIOL 413-3	Wildlife Management	The Wildlife Techniques Manual (volumes 1 and 2) – Silvy (optional)	30	3	BIOL 410 Minimum Grade of D- and BIOL 412 Minimum Grade of D-; BIOL 605 precluded	Required lab	Bryan
BIOL 414-3	Fisheries Management	No text	24	3	BIOL 406 Minimum Grade of D-; BIOL 602 precluded	Required lab	Shrimpton
BIOL 420-3	Animal Behaviour	Animal Behavior – Nordell and Valone	12 to 26	3	BIOL 202 Minimum Grade of D- or BIOL 307 Minimum Grade of D- or BIOL 308 Minimum Grade of D-; BIOL 620 precluded	Required tutorial	Otter/Huber/Baerwald
BIOL 421-3	Insects, Fungi and Society	Assigned readings	15	3	BIOL 102 Minimum Grade of D- or (BIOL 104 Minimum Grade of D- and BIOL 124 Minimum Grade of D-) and BIOL 101 Minimum Grade of D- or (BIOL 103 Minimum Grade of D- and BIOL 123 Minimum Grade of D-); BIOL 611 precluded	Offered in alternating years.	Cale
BIOL 423-3	Molecular Evolution and Ecology	An Introduction to Molecular Ecology and Phylogenetics - Bromham	10-18	3	BIOL 323 Minimum Grade of D-; BIOL 623 precluded	Required lab	Murray
BIOL 425-3	Applied Genetics and Biotechnology	No text. Various Readings	10-18	3	BIOL 311 Minimum Grade of D-; BIOL 625 precluded	Lab course	Murray

†Online courses (on-campus labs) are available in spring/summer semesters.

Faculty

Ken Otter, Professor and Chair
Darwyn Coxson, Professor
Russell Dawson, Professor
Dezene Huber, Professor
Chris Johnson, Professor
Kathy Lewis, Professor,
Mark Shrimpton, Professor
Scott Green, Professor
Brent Murray, Professor
Eduardo Martins, Associate Professor
Lisa Wood, Associate Professor
Erin Baerwald, Assistant Professor
Heather Bryan, Assistant Professor
Jonathan Cale, Assistant Professor
Michael Preston, Assistant Professor
Jenia Blair, Senior Lab Instructor
Saphida Migabo, Senior Lab Instructor
Roy Rea, Assistant Professor

Detailed information for the **Major in Biology**, the **BSc Honours - Biology**, the **Minor in Biology**, and the **Minor in Biology and Conservation** can be found here: www.unbc.ca/calendar/undergraduate/biology

NOTES:

- Following university-wide restructuring from two Colleges to five Faculties, the BIOL B.Sc. is now housed within the Department of Ecosystem Science and Management within the Faculty of Environment. Dr. Nicola Koper is the Dean.

- We are continuing work on assessing the sequencing and content of all of our courses, as well as reassessing the various prerequisite requirements to better align course and prerequisites with student needs and shifts in instruction and material over the past several years.

- We are in the midst of an external review.
- In the fall of 2023 long time faculty member, Dr. Lisa Poirier, passed away.

Information found in the current UNBC calendar supersedes any information found in this report.

More information on the UNBC Biology program can be found at http://www.unbc.ca/biology.

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https://www.ufv.ca/biology/

Biology Articulation Committee Meeting
May 2 - 3, 2024
University of Victoria, Victoria B.C.
Report from University of the Fraser Valley
Articulation Rep: Justin Lee
Phone: 604-851-6377 Email: Justin.Lee@ufv.ca

Course (credits)	Name	Text	Projected Enrolment	Hours/week lec-lab-tut	Prerequisites	Notes	Course Instructor
College Prep (if applicable)							
BIO 083 (3)	Adult Basic Education (ABE) Advanced Biology					Upgrading and University Prep Course	
BIO 093 (3)	Provincial-Level Biology					Upgrading and University Prep Course	

University-Level Courses							
BIO 105 (4)	Human Biology	Goodenough; Biology of Humans	338	3-3-0	None	Non-majors	Bainard, Guichon, Janmaat, Schmaltz, Shin
BIO 106 (4)	Ecology from an Urban Perspective	n/a (not offered)	n/a (not offered)	3-2.2-0.8	None	Non-majors	n/a (not offered)
BIO 111 (5)	Introductory Biology I	Freeman, Scott; Biological Science w/Mastering Biology	400	3-3-0.8	One of the following: ([one of Life Sciences 11, Biology 11, or BIO 083 with a C+ or better] and [one of Chemistry 12, CHEM 093, or CHEM 110 with a C or better]) or ([one of Anatomy and Physiology 12, Biology 12, or BIO 093 with a C+ or better] and [one of Chemistry 11, Chemistry 12, CHEM 083, CHEM 093, or CHEM 110 with a C or better])	Majors	Lee, Leon, Wheeler, Varankovich, Navon, Barrett, Ziegler, Reid, Dzal, Tourlakis
BIO 112 (5)	Introductory Biology II	Freeman, Scott; Biological Science w/Mastering Biology	176	3-3-0.8	BIO 111	Majors	Johansen, Varankovich, Barrett, Reid, Leon, Gillies, Janmaat

BIO 201 (4)	Cell Biochemistry/ Metabolism	Hardin; Becker's World of the Cell	99	3-3-0	One of the following: (BIO 112 and CHEM 114, both with a C+ or better) or (BIO 111, [CHEM 110 or CHEM 113], and [two of AGRI 123, AGRI 124, AGRI 129, AGRI 163, AGRI 203, AGRI 204, or AGRI 220], all with a C+ or better)	Majors	Schmaltz, Leon, Ziegler, Bialas
BIO 202 (4)	Cell Signaling/ Gene Regulation	Hardin; Becker's World of the Cell	89	3-1.3-1.6	One of the following: (BIO 112 and CHEM 114, both with a C+ or better) or (BIO 111, [CHEM 110 or CHEM 113], and [two of AGRI 123, AGRI 124, AGRI 129, AGRI 163, AGRI 203, AGRI 204, or AGRI 220], all with a C+ or better)	Majors	Leon, Lee, Ziegler, Bedard, Tourlakis
BIO 210 (4)	Introduction to Ecology	Bowman, Hacker, Cain; Ecology	79	3-3-0	One of the following: (BIO 112 and CHEM 114, both with a C+ or better) or (BIO 111, [CHEM 110 or CHEM 113], and [two of AGRI 123, AGRI 124, AGRI 129, AGRI 163, AGRI 203, AGRI 204, or AGRI 220], all with a C+ or better)	Majors	Gillies, Gillespie, Reid
BIO 219 (4)	Biogeography		14			Planning, Geography, and Environmental Studies	Hughes

BIO 220 (4)	Genetics	Klug; Concepts of Genetics	77	3-3-0	One of the following: (BIO 112 and CHEM 114, both with a C+ or better) or (BIO 111, [CHEM 110 or CHEM 113], and [two of AGRI 123, AGRI 124, AGRI 129, AGRI 163, AGRI 203, AGRI 204, or AGRI 220], all with a C+ or better)	Majors	Bialas, Leon, Thomas, Tourlakis
BIO 301 (4)	Anatomy and Physiology of Invertebrates	n/a (not offered)		3-3-0	Any two Biology courses 200-level and above	Non-majors	n/a (not offered)
BIO 305 (4)	Structural and Functional Anatomy of Vertebrates	No Text	31	3-3-0	Any three 200-level biology course	Non-majors	Stea, Dzal
BIO 306 (4)	Vertebrate Organ Systems	No text	21	3-3-0	Any three 200-level biology courses. Note: BIO 305 is recommended	Non-majors	Stea
BIO 307 (4)	Anatomy & Diversity of Plants	n/a (not offered)		3-3-0	BIO 210	Non-majors	n/a (not offered)
BIO 308 (4)	Plant Physiology	n/a (not offered)		3-3-0	BIO 201 and 220	Non-majors	n/a (not offered)
BIO 309 (4)	Microbiology I	Bauman; Microbiology with Diseases by Body Systems	84	3-3-0	BIO 111, BIO 112, and 8 credits of 200-level or above Biology	Non-majors	Bedard, Tabatabaee
BIO 310 (3)	Conservation Biology	Sher; An Introduction to Conservation Biology	60	2.6-0-0 (0.3 field experience)	BIO 210	Majors	Gillies
BIO 312 (3)	Developmental Biology	Free On-line Text	50	3-3-0	(BIO 202 or BIO 220) and two other 200-level Biology courses	Majors	Stea, Navon

BIO 319 (4)	Swamps and Bogs		14			Planning, Geography, and Environmental Studies	Hughes
BIO 320 (3)	Biochemistry	Berg: Biochemistry w/ Achieve 1 Term Access	58	3-0-0	BIO 201 and CHEM 213	Majors	Lee
BIO 330 (4)	Plants and Animals of British Columbia	Varner: The Flora and Fauna of Coastal BC and the Pacific Northwest	18	3-3-0	60 university-level credits, including BIO 210	Non-majors	Reid
BIO 333 (3)	Bioinformatics I	No Text	11	1.6-0-1.3	BIO 220	Non-majors	Navon
BIO 335 (4)	Freshwater Ecology	n/a (not offered)		1-1.3-0 (2 seminar-1.6 field experience)	BIO 210 or GEOG 202	Non-majors	n/a (not offered)
BIO 340 (4)	Population and Community Ecology	Mittelbach: Community Ecology	10	3-3-0	BIO 210 and MATH 111	Non-majors	Gillespie, Barrett
BIO 350 (3)	Medical Genetics	Bamshad: Medical Genetics	26	3-0-0	BIO 201, BIO 202, and BIO 220	Non-majors	A. Bedard, Fenske
BIO 357 (4)	Conservation GIS		22			Planning, Geography, and Environmental Studies	Mapili
BIO 360 (4)	Insect Biology	Gullan: The Insects: An Outline of Entomology Jaques/Bland: How to Know the Insects (Pictured Key Nature Series)	19	3-3-0	Any two 200-level or above Biology courses	Non-majors	Wheeler

BIO 370 (4)	Introduction to Mycology	n/a (not offered)	n/a (not offered)	3-3-0	BIO 210 and two other 200-level or above Biology courses	Non-majors	n/a (not offered)
BIO 380 (4)	Ornithology	n/a (not offered)	n/a (not offered)	3-3-0	BIO 210 and 45 university-level credits	Non-majors	n/a (not offered)
BIO 383 (3)	Human Physiology	Silverthorn; Human Physiology with Mastering	14	3-0-0	BIO 201 and BIO 202	Non-majors	Schmaltz
BIO 385 (3)	Neurobiology	Crossman; Neuroanatomy	26	3-0-0	BIO 111, BIO 112, and BIO 201	Non-majors	Nyaeme
BIO 390 (4)	Animal Behaviour	Nordell, Valone: Animal Behaviour: concepts, methods & applications	18	3-3-0	BIO 210	Non-majors	Janmaat
BIO 401 (3)	Molecular Biology	No Text	13	2.6-0-0.4	BIO 201, BIO 202, and BIO 220	Non-majors	Bialas
BIO 403 (4)	Molecular Techniques I	n/a (not offered)	n/a (not offered)	1.6-4.3-0	BIO 202, BIO 220, BIO 309, and one of the following: BIO 312, BIO 320, BIO 425, or BIO 401	Non-majors	n/a (not offered)
BIO 406 (3)	Advanced Genetics	No text	8	3-0-0	BIO 202 and BIO 220	Non-majors	Tourlakis
BIO 407 (3)	Applied Biotechnology	***Suggested:*** *Thieman, Palladino: Introduction to Biotechnology*	20	3-0-0	BIO 201 and BIO 220. BIO 320 is recommended	Non-majors	Tabatabaee
BIO 408 (3)	Directed Studies in Biology I	No Text	12-BIO 3-BIOC	0-0-0 (3 student directed)	(B+ or better in three of BIO 201, BIO 202, BIO 210, or BIO 220), and instructor's permission	Non-majors	Various

BIO 409 (6)	Directed Studies in Biology II	No Text	19-BIO 8-BIOC	0-0-0 (6 student directed)	(B+ or better in three of BIO 201, BIO 202, BIO 210, or BIO 220), and instructor's permission	Non-majors	Various
BIO 410 (4)	Plant Ecology	Gurevitch, Scheiner: The Ecology of Plants	23	3-3-0	BIO 210 or GEOG 219/BIO 219	Non-majors	Gillies
BIO 412 (3)	Advanced Metabolism	No Text	26	3-0-0	BIO 320/BIOC 320. Note: 6 credits of 200-level or higher Chemistry are recommended	Non-majors	Lee
BIO 414 (3)	Genomics	Lesk; Introduction to Genomics	16	1.6-0-1.3	BIO 201, BIO 202, and BIO 220	Non-majors	J Bedard
BIO 415 (3)	Cancer Biology	Weinberg: The Biology of Cancer	16	3-0-0	BIO 201, BIO 202, and BIO 220	Non-majors	Bialas
BIO 416 (3)	Evolution	Futuyma; Evolution	15	1-0-0 (2 seminar)	BIO 210, BIO 220, and one 300-level or above Biology course	Majors	Navon
BIO 418 (4)	Ethnobotany	Leventin/McMahon: Plants and Society	20	3-3-0	60 university-level credits including BIO 210	Non-majors	Reid
BIO 419 (4)	Paleoecology	n/a (not offered)	n/a (not offered)			Planning, Geography, and Environmental Studies	n/a (not offered)
BIO 420 (3)	Special Topics in Biology	No text	20	3-0-0	Any three 200-level or above Biology courses	Non-majors	Bondar
BIO 421 (4)	Special Topics in Applied Biology	No text	2	3-3-0	Any 3 biology courses numbered 200 or above	Non-majors	Gillies

BIO 425 (4)	Introductory Medical Microbiology	Madigan: Brock Biology of Microorganisms	18	3-3-0	BIO 309	Non-majors	Tabatabaee
BIO 426 (4)	Environmental Microbiology	n/a (not offered)	n/a (not offered)	3-3-0	BIO 201 and 309	Non-majors	n/a (not offered)
BIO 427 (3)	Plants and Drugs	Daunce/, Larsson: Plants That Kill Dauncey/ Howes, Plants That Cure	22	3-0-0	60 university-level credits	Non-majors	Reid
BIO 430 (3)	Forest Ecology	No Text	27	1.6-0-0 (1.3 seminar)	75 university-level credits, including BIO 210	Non-majors	Gillies
BIO 433 (3)	Bioinformatics II	No Text	9	1.6-0-1.3	BIO 333	Non-majors	Navon
BIO 442 (8)	Biological Field School	n/a (not offered)	n/a (not offered)	1-3-2 (6 experiential)	Any three BIO courses numbered 200 or above and permission of the department	Non-majors	n/a (not offered)
BIO 448 (3)	Immunology	n/a (not offered)	n/a (not offered)	2.4-0-0.6	BIO 201, BIO 202, and BIO 220	Non-majors	n/a (not offered)
BIO 477 (4)	Traditional Ecological Knowledges		20			Indigenous Studies	Gillies
BIO 496 (1)	Advanced Biological Topics	No Text	1	0-0-0 (1 seminar)	Any three 200-level or above Biology courses and permission of the faculty supervisor	Non-majors	Janmaat
BIO 498 (2)	Advanced Biological Topics	No Text	4	0-0-0 (1 seminar-1 student directed learning)	Any three 200-level or above Biology courses and permission of the faculty supervisor	Non-majors	Wheeler, Gillies, Janmaat, Dzal

BIO 499 (9)	Honours Research Thesis	No Text	6	0-0-0 (0.3 seminar-8.6 student directed learning)	Admission to the Biology Honours and 10 credits of 300-level or above Biology	Majors	Gillies, Bedard

PROGRAM CHANGES (or other Notes)

Changes related to biology programming.

Other changes…faculty changes, lab changes, prerequisite changes etc. **Retirements/Emeritus** – Terry Starr, Steve Thomas **New Hires** – Jennifer Barrett, Lab Instructor, Dr. Yvonne Dzal, Dr. Mitra Tabatabaee, Dr. Marina Tourlakis, Natallia Varankovich, Lab Instructor, Caroline Majeau, Department Coordinator Dilan Praat (Lab Technician), Dylan Ziegler, Instructor LTA (sessional)

FACULTY and STAFF

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Biology Department Head: Dr. Gregory Schmaltz

Advisors: Karen Cooper, Rilla Apostolakis

University of Victoria

Report from University of Victoria
Biology Articulation Committee Meeting, May 2-3, 2024

Articulation Rep: Barbara Ehlting
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Course (Credits)	Course Name	Required text or readings	Enrollment in 2023/2024	Hours (/week)	Prerequisites	Notes	Course Instructor
BIOL 150A (1.5)	Modern Biology I	*OpenStax Biology 2e by Clark*	561 (202309)	3 lec	na	non-majors course	Punzalan, Beaulieu, Neal,
BIOL 150B (1.5)	Modern Biology II	*OpenStax Biology 2e by Clark*	396 (202401)	3 lec	na	non-majors course	Beaulieu
BIOL 184 (1.5)	Evolution and Biodiversity	*OpenStax Biology 2e*	726 (202309)	3 lec 3 lab	One of Biology 11, Biology 12, 150A, 150B, 186		Punzalan, von Aderkas
BIOL 186 (1.5)	Physiology and Cell Biology	*Campbell's Biology,* 3rd Canadian edition	767 (202401)	3 lec 3 lab	One of Biology 11, Biology 12, 150A, 150B, 184		Ehlting B., Marx, Ehlting J., Awatramani
BIOL 215 (1.5)	Principles of Ecology	recommended: recent texts on reserve; or *Ecology*, Molles Cahill, Laursen, 5th edition	239 (202309)	3 lec 3 lab	184 or 190B; and 186 or 190A		Reimchen
BIOL 225 (1.5)	Principles of Cell Biology	*Becker's World of the Cell*, 10th edition, Hardin & Lodolce	485 (202309)	3 lec 3 lab	one of 186, 190A; pre or coreq one of 184, 190B, MICR 200A	offered in both fall and summer	Briant
BIOL 230 (1.5)	Principles of Genetics	*Genetics Analysis and Principles,* Brooker, 7th edition	342 (202401)	3 lec 3 lab	225; coreq chem 231		B. Ehlting, Owens
BIOL 307 (1.5)	Chordate Zoology	*Vertebrates*, *Comparative Anatomy, Function*. 8th edition, Kardong (optional)	80 (202401)	3 lec 3 lab	184 or 190B; and 186 or 190A		Punzalan
BIOL 309 (1.5)	Developmental Biology	*Developmental Biology*, 13th edition, Gilbert; current literature	36 (202401)	3 lec 3 lab	225 & BIOC 299, or 230, or BIOC 300B,	currently offered in alternating years with Biol	Chow

						404	
BIOL 311 (EOS 311) (1.5)	Biological Oceanography	*current literature, Biological Oceanography – An Introduction*, 2nd edition, Lalli and Parsons, (optional)	69 (BIOL, 311) + 27 (EOS 311) (202309)	3 lec 3 lab	One of CHEM 101 or 150; CHEM102; Two of MATH 100, 101, 102, 109, 151; One of PHYS 102, 102A&102B, 110&111, 112, or 120 & 130. Minimum 3rd year standing	credit only for one biol311, biol311B, EOS 311	Hamme, Wyatt
BIOL 312 (1.5)	Entomology	Peer reviewed scientific papers	62 (202309)	3 lec 3 lab	184 and 186, or 190B; and 215		Winchester
BIOL 319 (1.5)	Marine Ecology	current literature	60 (202401)	3 lec 3 lab	215 and 321; one of STAT255, 260		Neal
BIOL 321 (1.5)	Survey of Invertebrates	*Biology of the Invertebrates*, 7th edition, Pechenik (recommended)	103 (202309)	3 lec 3 lab	184 or 190B; and 186 or 190A; and 225		Neal
BIOL 322 (1.5)	Biology of Marine Invertebrates	current literature	59 (202401)	3 lec 3 lab	321		Bates
BIOL 324 (1.5)	Biology of Land Plants	*Biology of Plants*, 8th edition, Raven (recommended) + readings	80 (202401)	3 lec 3 lab	184 or 190B; and 186 or 190A		Hawkins
BIOL 325 (1.5)	Tree Biology	*Conifer Reproductive Biology,* Williams Claire 2009	26 (202309)	3 lec 3 lab	225 (B or better)		von Aderkas, Hawkins
BIOL 326 (1.5)	Development and Genetics of Model Plants	current literature	Not offered	3 lec 3 lab	215, 225, 230	only offered every second year	J. Ehlting van Aderkas
BIOL 329 (1.5)	Biology of the Vertebrates of British Columbia	current literature	56 (202401)	3 lec 3 lab	215, 3rd year	offered in both fall and summer	Reimchen
BIOL 330 (1.5)	Study Design and Data Analysis	*The Analysis of Biological Data*, 3rd edition, Whitlock and Schluter	76 (202401)	3 lec 3 lab	One of STAT 255, 260; 3rd year; One of BIOL215,225,230	credit only for one of Biol330, ES310, 344	Punzalan

BIOL 334 (1.5)	Plants and People	*Plants and Society*, 8th or 9th edition, Levetin and McMahon	153 (202401)	3 lec	3rd year	cannot be taken for upper-level biology credit	Sessional (Gourlay)
BIOL 335 (1.5)	Ichthyology	many optional and recommended sources	56 (202401)	3 lec 3 lab	215, 3rd year	credit for only one of Biol335,431A, MRNE412	Reimchen
BIOL 336 (1.5)	Biology of Algae	*Algae,* 3rd edition, Graham *et al.*	0 in 2023	3 lec 3 lab	215 and 225	credit for only one of Biol336,203,323	Varela
BIOL 345 (1.5)	Animal Behaviour	*Animal Behaviour*, 12th edition, Rubenstein (recommended) selected publications	117 (202309)	3 lec 3 lab	184 or 190B; and 186 or 190A; and 3rd year; and 215 or declared major or Honours in Anthropology or declared major or Honours in Combined Biology and Psychology	Students with credit in MRNE446 may take this course for credit	Reimchen
BIOL 346 (1.5)	Freshwater Ecosystems	Current literature	79 (202309)	3 lec	215 or ES 240 or GEOG 272		El-Sabaawi
BIOL 351 (1.5)	Biology behind the News	*Science Fictions*, Stuart Ritchie	0 in 2023	3 lec	3rd year standing	Not counted toward any biology program requirement except as an elective	Beaulieu
BIOL 355 (1.5)	Evolution	Current literature	188 (202401)	3 lec	230	formerly Biol 455	Perlman
BIOL 359 (1.5)	Food, Disease and People	Microbiology and Technology of Fermented Food, Hutkins; Course pack	0 in 2023	3 lec	3rd year standing	Credit for this course will not be counted toward any Biology program requirement except as an elective	Roy
BIOL 359 (1.5)	Food, Disease and People	Microbiology and Technology of Fermented Food, Hutkins;	0 in 2023	3 lec	3rd year standing	Credit for this course will not be counted	Roy

		Course pack				toward any Biology program requirement except as an elective	
BIOL 360 (1.5)	Cell Biology	*Molecular Biology of the Cell*, 7th edition, Alberts *et al*	111 (202309	3 lec	One of 230, BME200 & BME201; one of BIOC 299, BIOC 300A, 300B		B Ehlting, Gawryluk
BIOL 361 (1.5)	Molecular Genetics and Genomics	current literature	75 (202401	3 lec	230; one of BIOC 299 or prereq or coreq BIOC 300A or 300B		J Ehlting, Gawryluk
BIOL 362 (1.5)	Practical Skills in Genomics		17 (202401	1 lec 3 lab	230; pre or coreq BIOC 299 or 300A or 300B		Gawryluk
BIOL 365 (1.5)	Animal Physiology	*Principles of Animal Physiology*, 3rd edition, Moyes and Schulte (required)	174 (202309)	3 lec 3 lab	184 and 186, or 190B; and 225 and 3rd year; pre or coreq BIOC 299 or 300A or 300B		Nashmi
BIOL 366 (1.5)	Plant Physiology	*Plant Physiology and Development*, Taiz et al. 7th edition	30 (202401	3 lec 3 lab	225, 3rd year; pre or coreq BIOC 299, 300A, 300B	Credit for only one of Biol366, 331A ,331B	J.Ehlting, Sessional (Gourlay)
BIOL 367 (1.5)	Neurobiology: Molecules to Behaviour	*Neuroscience*, Purves *et al*. 5th or 6th edition	117 (202401)	3 lec	One of 360, 365, BME200, BME201	Formerly 409A	Delaney,
BIOL 370 (1.5)	Conservation Biology	*An Introduction to Conservation Biology*, Sher, 3rd edition	35 (BIOL 370) + 4 (ES 320) (202401)	3 lec	186 or 190a; and 215 & 230; and STAT255 or 260	crosslisted with ES 320, credit for only one of Biol370, ER313, ES318, 320, 348	Winchester
BIOL 400 (1.5)	History of Biology	posted readings	250 (202401)	3 lec	3rd year	only one of biol400 and 489 counted as upper level credit	Beaulieu

BIOL 404 (1.5)	Sensory Biology	current literature	42 (202309)	3 lec	Biol365 or Biol367 or Biol409A		Awatramani
BIOL 409B (1.5)	Experimental Neurobiology	current literature	7 (202309)	2 lec 4 lab	Biol367 or permission		Delaney
BIOL 415C (1.5)	Mycology	current literature	36 (202401)	3 lec	215 and 225 and 230	Credit only for one of Biol415C, 415, 415A, 415B, 470, Forb515	De LaBastide
BIOL 418 (1.5)	Forest Ecology	current literature	40 (202401)	3 lec 3 lab	215, 3rd year		de la Bastide, Hawkins
BIOL 432 (1.5)	Molecular Endocrinology	*Greenspan's Basic and Clinical Endocrinology*, Gardner and Shoback, 9th edition, (recommended); current literature	140 (202401)	3 lec	one of 360, 365, BIOC 299, 300A, 300B		Walter, Templeman
BIOL 435 (1.5)	Molecular Evolution	current literature	23 (202401)	3 lec	230; pre or coreq one of 355, 439, BIOC 300A, 300B,		Taylor
BIOL 438 (1.5)	Nutrient Cycling and Prokaryotes	*Brock, Biology of Microorganisms*, Madigan et al., 13th edition, recommended + other recommended references	65 (202309)	3 lec	two of 215, 225, 230; or MICR 200A and 200B; or permission		Roy
BIOL 439 (1.5)	Molecular Epidemiology	readings	51 (202401)	3 lec	225, 230; STAT255 or STAT260		Taylor
BIOL 447 (1.5)	Ion Channels and Disease	current literature	70 (202401)	3 lec	366 or 367		Nashmi
BIOL 448 (1.5)	Neuroethology	*Neuroethology*, Camhi; *Behavioural Neurobiology*, Carew	57 (202309)	3 lec 2 tut	one of 345, 365, 305A, 305B		Marx
BIOL 449 (1.5)	Flowering Plant Diversity	current literature on reserve	30 (BIOL 449) + 11 (ES 425) (202401)	3 lec 3 lab	184 or 190B, 186 or 190A; 3rd year	formerly BIOL 318, crosslisted with ES425, credit only for one of	Hawkins Sessionals (MacKinnon & Miskelly)

						Biol449, 318, ES425	
BIOL 457 (1.5)	Paleoecology and Environmental Change	current literature	28 (202309)	3 lec	215 or EOS330, 3rd year; or permission	Credit only for one of BIOL 457, BIOL 557	Lacourse
BIOL 458 (1.5)	Plant Biochemistry and Biochemical Ecology	*Plant Biochemistry*, Heldt 3rd or 4th ed, *Plant Physiology*, Taiz and Zeiger (optional)	21 (202309)	3 lec	Bioc299 or bioc300A or bioc300B	not for students with credit in 490A	Constabel, Ma
BIOL 459 (1.5)	Human Microbial Diseases	*Brock, Biology of Microorganisms*, Madigan et al., 13th edition, *Public Health in the Age of Anxiety. Relidious and Cultural Roots of Vaccination Hesitancy in Canada,* Bramadat	66 (202309)	3 lec	two of 215, 225, 230		Roy
BIOL 460 (1.5)	Honours Seminar		30 (202309)				Chow, Hawkins
BIOL 461 (1.5)	Fisheries Ecology and Management	*Marine Fisheries Ecology,* Jennings *et al.;* current literature	34 (202309)	3 lec 1 tut	one of 330, 370, ES320, 344; permission of department		Juanes
BIOL 462 (1.5)	Community and Ecosystem Ecology	primary literature (current and classical)	0 in 2023	3 lec 1 tut	215; pre or coreq 330 or ES344		Bates
BIOL 465 (1.5)	Molecular Basis of Cancer	*Biology of Cancer,* Weinberg (recommended); current literature	42 (202309)	3 lec	225, 230, and one of 360, BIOC300A, 300B		Walter, Lum
BIOL 466 (1.5)	Frontiers in Marine Biology	current literature	18 (202401)	3 lec	one of 311, 319, EOS311; pre- or co-req 330 or ES344		Epstein
BIOL 467 (1.5)	Neural Development	current literature	47 (202401)	3 lec	one of 309, 360, 367		Chow
BIOL 468 (1.5)	Food Web Ecology		34 (202401)	3 lec	215, 3rd year	Credit only one of Biol468, 470	Stevens, Fryxell

BIOL 470 A01 (1.5)	Advanced Topics: Clinical Cancer	current literature	16 (202309)	3 lec			Koop, B. Nelson
BIOL 470 A02 (1.5)	Advanced Topics: Applied Molecular Biology	current literature	29 (202309)	3 lec	230		B. Ehlting,
BIOL 470 A03 (1.5)	Advanced Topics: Models in Ecology	*Modeling Biological Systems,* Haefner 2nd ed; *Ecological Models and Data in R.,* Bolker	16 (202309)	3 lec 1 lab	one of Math110, 102, 109, one of Stat255, 260, Biol215, 3rd year, Biol550B, permission		Lewis,
BIOL 470 (1.5)	Advanced Topics: Computational Genomics		13 (202401)	3 lec 3 lab			Owens
BIOL 490A-K (3.0)	Directed Studies		16 (202309) + 19 (202401)				Briant, Owens
BIOL 499A/B (3.0)	Honours Thesis		30				Perlman, Hawkins

NOTES

Recent retirements

Kim Juniper retirement

New Faculty

Budget cut for 2024/25
Healthy domestic enrolment, but international undergraduate enrolment lowest it has been in over 10 years (at 11% overall enrolment) → $13 million reduction required (implement 4% reduction of operating budget)

Challenge:
Increase of 'CAL students' (students with accommodations) from about 4-5% before COVID to now 15% in 2024. CAL centre does not have the capacity anymore to host all students for exams and instructors are encourage to offer online/take home exams/alternative evaluations. Number of lab-related accommodations on the rise (including: "Student may or may not be able to present in front of a group", "Student may or may not be able to participate in group work").

Third party platforms
Instructors need to request permission to use third party platforms at the LTSI (Teaching and Learning Centre)
-> instructors dropped TopHat and Backpack because of that administrative burden to get approval
Approval to use LabFlow for Biol186 labs for summer 2024: any comments/experiences from other institutions?

First year Challenges

→ Biology Chair reduced cost/TA budget about 30% in first year labs Biol186 in spring 2024 (and Biol184 is on the list to reduce its TA budget for fall 2024) to free up TA/money for upper level courses (it has been difficult to find enough TAs who are graduate students, so in recent years we hired 3rd/4th year undergrad students)
→ question for the group: please let me know if you have any experience with a self-directed format for observational labs in 1st year
→ any recommendations to run 1st year labs with 700-1000 students providing experiential learning with reduced budget (please contact me)

FACULTY and STAFF

New hire (Retirement replacement): lab technician for biol184 and 186 labs: Connor Nelson

Complete listings of Department of Biology faculty and staff can be found at these sites:

http://www.uvic.ca/science/biology/people/home/faculty/index.php

http://www.uvic.ca/science/biology/people/home/staff/index.php

1155 East Broadway, Vancouver V5T 4V5
250 West Pender Street, Vancouver V5T 4V5

Biology Articulation Committee Meeting - May 2&3 2024
University of Victoria

Articulation Rep: Maria Morlin
604 728 4580 email: mariacoho@telus.net

Course (credits)	Course Name	Text	Enrolment	Hours (/week)	Pre-requisites	Notes	Course Instructor
BIOL 1100 (4)	Biology 1	Campbell Biology	12	5 lec 2.5 lab	Biol 11 or 12 Min C+ Recommended: Biol 11 & 12 Chem 11 Precalc 11		Maria Morlin
BIOL 1200 (4)	Biology 2	Campbell Biology	12	5 lec 2.5 lab	Biol 11 or 12 Min C+ Recommended: Biol 11 & 12 Chem 11 Precalc 11		Maria Morlin
BIOL 2104 (3)	Intro to Ecology	Smith, G.M. et al Elements of Ecology Canadian Edition		3 lec 1 tut	Biology 1 & 2		
EVSC 1100 (3)	Intro to Environmental Science	Miller G. Tyler et al Living in the Environment Canadian Edition	6	3 lec 1 tut	Biol 11 & 12 Chem 11 Precalc 11		Elaine Lum

BIOL 1120 (4)	Anatomy and Physiology, I	Marieb	160	5 lec 2.5 lab	Biol 11 & 12 Chem 11 Precalc 11 All with at least C+		M. Morlin, B. Clarkson, M. Curry, J. Shehadeh Z. Gallagher, J. Gordon, N. Joseph
BIOL 1220 (4)	Anatomy and Physiology II	Marieb	138	5 lec 2.5 lab	A&P 1120		B. Clarkson, M. Curry, J. Shehadeh Z. Gallagher, J. Gordon, N.Joseph

VCC is building a Centre for Clean Energy and Automotive Innovation. An Indigenous ground-breaking ceremony took place with members from the xʷməθkʷəy̓əm (Musqueam), Sḵwx̱wú7mesh (Squamish), and səlilwətaɬ (Tsleil-Waututh) Nations.

Post July 2023: Vancouver, B.C., – Members of Vancouver Community College (VCC), were proud to participate in an announcement today from Premier David Eby, alongside Minister of Post-Secondary Education and Future Skills, Selina Robinson and Minister of State for Workforce Development, Andrew Mercier, about the Province of British Columbia's plans to move forward in partnership with VCC on the new Centre for Clean Energy and Automotive Innovation at the Broadway campus. The province is contributing $271.3 million towards the new centre with a total projected capital cost of $291.3 million.

The Centre, as a catalyst project for VCC's Campus Plan, will not only revitalize VCC campuses, it will transform the Broadway and Great Northern Way corridor for the surrounding communities.

It will provide teaching and experiential learning for VCC students in important clean energy fields that are in high demand and support the province's training, labour market, and environmental goals for a clean and sustainable future for next generations.

The Centre will also reflect VCC's commitment to Truth and Reconciliation. The exterior and interior design of the new building will tell the story of Musqueam, Squamish, and Tsleil-Waututh Nations, and of the Coast Salish people who are the stewards of these lands. Thank you to Chief Ian Campbell, our Indigenous cultural advisors, and council for their guidance on our path forward.

Today marks the beginning of a bold new chapter for VCC, for a strong BC together with the Province, the City, our neighbours – and with the college community.

Some info about VCC.

VCC registration 2022/2023 – 13,700

Students: 489 Indigenous (self-declared). Students from 137 countries. 37 average age of domestic students, 35 average age of international students.

34% male, 64% female, 0.20% nonbinary, 1.65% prefer not to answer

3 bachelor degrees

2 advanced certificates

12 apprenticeships

5 short certificates

3 post diplomas

90 certificates

33 diplomas

3 UT associate degrees

About the brand identity: The Longhouse is a defining feature of Coast Salish society, acting as a centre for cultural and communal life. As the community grew, the structure expanded to meet the evolving needs of its members. Like the Longhouse, VCC is continuously evolving, serving as a place where diverse groups of individuals come together and learn. The Longhouse embodies the very essence of what it means to be part of the VCC community. Its distinctive shed roof is at the heart of VCC's brand identity and forms the basis of VCC's new logo.

VANCOUVER ISLAND UNIVERSITY

Biology Articulation Committee Meeting, May 2-3, 2024

UVic- Victoria
Report from Vancouver Island University
Articulation Rep: JOSLYNN AFFLECK
250-753-3245 ext 2734 / Joslynn.Affleck@viu.ca

Course (credits)*	Course Name	Text	Projected Enrolment	Hours (/week)	Pre-requisites	Notes	Course Instructor
University Level Courses							
BIOL 121 (4) or BIOL 121A (3), BIOL 121L (1)	Introductory Zoology	Hickman et al., Animal Diversity	180	3 lec 2 lab	BIO 11, LS 11, BIO 12 OR A&P 12	EVERY YEAR	Loudon, Gorrell
BIOL 123 (4) or BIOL 123A (3), BIOL 123L (1)	Introduction to Molec. Cell. Biol.	Morris et al. How Life Works	140	3 lec 2 lab	BIO 11, LS 11, BIO 12 OR A&P 12; CHEM 11 OR 12	EVERY YEAR	Affleck, Josefsson
BIOL 156 (4) or BIOL 156A (3), BIOL 156L (1)	Anatomy & Physiology (Nurs.)	Saladin, 9th ed., Anatomy & Physiology: The Unity of Form and Function. McGraw-Hill, 2021	100	3 lec 3 lab	BIO 12 OR A&P 12; CHEM 11 OR 12	EVERY YEAR	Sanders, McGrogan
BIOL 157 (4) or BIOL 157A (3), BIOL 157L (1)	Anatomy & Physiology (Nurs.)	Saladin, 9th ed., Anatomy & Physiology: The Unity of Form and Function. McGraw-Hill, 2021	100	3 lec 3 lab	BIOL 156	EVERY YEAR	Sanders, McGrogan
BIOL 200	Cell Biology	Alberts, Essential Cell Biology	48	3 lec 1 ½ lab	BIOL 201; ORG CHEM 1	EVERY YEAR	Thomson

*Unless otherwise marked all courses are 3 credits

BIOL 201	Biochemistry I	Tymoczco, Berg and Stryer Biochemistry: A Short Course	64	3 lec 1 ½ lab	INTRO CHEM (O CHEM pre- or co-req)	EVERY YEAR	Thomson
BIOL 202	Ecology	Relyea, Ecology: The economy of nature. 9th ed.	48	3 lec 1 ½ lab	BIOL 121	EVERY YEAR	Janes
BIOL 210 (4)	Microbiology I	Wiley et.al., Prescott's Microbiology	48	3 lec 2 lab	BIOL 123, 201, AND ORG CHEM 1	EVERY YEAR	Hernandez
BIOL 212	Genetics	Hartwell et al., Genetics	48	3 lec 1 ½ tut	BIOL 201	EVERY YEAR	Affleck
BIOL 223	Botany	Freeman Biological Science	48	3 lec 1 ½ lab	BIOL 123	EVERY YEAR	Josefsson
BIOL 305	Animal Physiology	Sherwood et al. Animal Physiology: From genes to organisms	32	3 lec 1 ½ lab	BIOL 200, 201	EVERY YEAR	McGrogan
BIOL 310	Invertebrate Zoology	Pechenik, Biology of the Invertebrates	16	3 lec 1 ½ lab	BIOL 202	ALT. YEARS	TBD
BIOL 315	Parasitology	Goater, Goater & Esch, Parasitism: The Diversity and Ecology of Animal Parasites	16	3 lec 1 ½ lab	BIOL 202	ALT. YEARS	TBD
BIOL 320 (4)	Aquatic Ecosystems	Kalff, Limnology	16	3 lec 3 lab	BIOL 202	ALT. YEARS	Demers
BIOL 322	Terrestrial Ecosystems	Chapin et al., Principles of Terrestrial Ecosystem Ecology	16	3 lec 1 ½ lab	BIOL 202	ALT. YEARS	Janes
BIOL 325	Ornithology	Gill, Ornithology	16	3 lec 1 ½ lab	BIOL 202	ALT. YEARS	Demers
BIOL 332	Microbial Ecology	Barton & Northrop, Microbial Ecology	16	3 lec 1 ½ lab	BIO 210	EVERY YEAR	Loudon
BIOL 333 (4)	Laboratory Techniques	Winfrey, Unraveling DNA & other sources	16	3 lec 3 lab	BIOL 210, 212; ORG CHEM 1	ALT. YEARS	Hernandez
BIOL 334	Virology	Acheson, Fundamentals of Molecular Virology	16	3 lec 1 ½ lab	BIOL 210	ALT. YEARS	Hernandez

BIOL 336	Bacterial Genetics	Snyder, Molecular Genetics of Bacteria	16	3 lec 1 ½ lab	BIOL 210, 212	ALT. YEARS	Hernandez
BIOL 341	Molecular Cell Biology	Lodish, Molecular Cell Biology	16	3 lec 1 ½ lab	BIOL 200, 212	ALT. YEARS	Affleck
BIOL 342	Biochemistry II	Lehninger, Principles of Bioch.	16	3 lec 1 ½ lab	BIOL 201, ORG CHEM 1	EVERY YEAR	Josefsson
BIOL 345	Molecular Ecology	Selected readings	16	3 lec 1 ½ lab	BIOL 202, 212	ALT. YEARS	Gorrell
BIOL 348 (4)	Genomics and Bioinformatics	Selected readings	16	3 lec 3 lab	BIOL 123, 212	ALT. YEARS	Janes
BIOL 350	Plant Biology	Taiz & Zeiger, Fundamentals of Plant Physiology	16	3 lec 1 ½ lab	BIOL 212, 223	ALT. YEARS	Josefsson
BIOL 351	Pop. & Community Ecology	Krebs, Ecology	16	3 lec 1 ½ lab	BIOL 202	ALT. YEARS	Gorrell
BIOL 357	Entomology	Gullan and Cranston, Outline of Entomology	16	3 lec 1 ½ lab	BIOL 202	ALT. YEARS	TBD
BIOL 360	Animal Behaviour	Alcock, Animal Behaviour	16	3 lec 1 ½ lab	BIOL 202	ALT. YEARS	Gorrell
BIOL 365	Biotechnology	Selected readings	16	3 lec	BIOL 123, 212	ALT. YEARS	Affleck, Josefsson, Loudon
BIOL 372	Plant Ecology	Gurevitch et al. The Ecology of Plants Selected readings	16	3 lec 1 ½ lab	BIOL 202, 223	ALT. YEARS	Janes
BIOL 375 (4)	Ecological Methodology	Selected readings	16	3 lec 3 lab	BIOL 202, MATH 203	ALT. YEARS	Gorrell
BIOL 398	Advanced Topics in Biology		16	3 lec	6 cr. 2ND BIOL	OCC.	TBD
BIOL 402	Evolution	Bergstrom & Dugatkin: Evolution (optional) & Selected readings	32	3 lec	4TH YEAR	EVERY YEAR	Janes
BIOL 403	Current Topics in Biology	Selected readings	32	3 lec	4TH YEAR	EVERY YEAR	Sanders
BIOL 432 (4)	Applied Microbiology	Selected readings	16	3 lec 3 lab	BIOL 210	ALT. YEARS	Loudon

BIOL 434	The Microbiome	Selected readings	16	3 lec 1 ½ lab	BIOL 210	Alt. YEARS	Loudon
BIOL 435	Immunology	Kuby, Immunology	16	3 lec 1 ½ lab	BIOL 200	ALT. YEARS	Thomson
BIOL 436	Pathogenic Microbiology	Salyers & Whit, Bacterial Pathogenesis	16	3 lec 1 ½ lab	BIOL 210	ALT. YEARS	Hernandez
BIOL 437	Epidemiology	TBA/Selected readings	16	3 lec 1 ½ lab	BIOL 202, 210	ALT. YEARS	Sanders
BIOL 440	Cancer Biology	Selected readings	16	3 lec	BIOL 200, 212	OCC.	Stringham
BIOL 443	Developmental Biology	Gilbert, Developmental Biology	16	3 lec 1 ½ lab	BIOL 200, 212	ALT. YEARS	Affleck
BIOL 445	Molecular Genetics	Strachan & Read, Human Molecular Genetics	16	3 lec 1 ½ lab	BIOL 200, 212	ALT. YEARS	Josefsson
BIOL 457	Biodiversity & Conservation Biology	Cardinale et al., Conservation Biology. Schneider, Biodiversity Conservation in Canada.	16	3 lec	BIOL 202	ALT. YEARS	Janes

BIOL 465	Endocrinology	Readings from the primary literature	16	3 lec 1 ½ lab	BIOL 200	ALT. YEARS	Thomson
BIOL 480	Work Experience in Biology	NA			15 UL BIOL CRED.	OCC.	all
BIOL 490	Directed Studies	NA			12 UL BIOL CRED.	OCC.	all
BIOL 491 (6)	Undergraduate Res (2 semesters)	Pechenik, A short guide to writing about Biology	16		18 UL BIOL CRED.	EVERY YEAR	all
BIOL 492	Teaching Undergraduate Biology	NA			Min. "A-" in BIOL course of assignment & instructor permission		all

Changes have been made to the Biology Program that necessitate changes to our portion of the flexible pre-major (FPM):

- 1st-year courses offered as separate lecture and lab courses:
  - BIOL 121 (4) = BIOL 121A (3) & BIOL 121L (1)
  - BIOL 123 (4) = BIOL 123A (3) & BIOL 123L (1)

Detailed information for the Biology Program can be found here: https://scitech.viu.ca/biology
A list of Biology courses can be found here: https://scitech.viu.ca/biology/biology-courses

Biology Department Faculty at Vancouver Island University 2024

Teaching Faculty

CO-CHAIR/BIOLOGY ADVISOR: Eric Demers, Ph.D.
Limnology, fish ecology, ornithology, environmental monitoring.

CO-CHAIR: Joslynn Affleck, Ph.D.
Genetics, molecular biology.

Jamie Gorrell, Ph.D.
Vertebrate ecology, behavioural & population ecology, molecular ecology.

Mercedes Hernandez, Ph.D.
Microbiology, genetics, molecular biology.

Jasmine Janes, Ph.D.
Plant ecology, genomics, bioinformatics, evolutionary biology.

Caroline Josefsson, Ph.D. (on leave)
Plant biology, biochemistry, molecular genetics.

Andrew Loudon, Ph.D.
Microbial ecology, genomics.

Ita McGrogan, Ph.D.
Anatomy and physiology.

Susan Sanders, DVM, Ph.D.
Anatomy and physiology, epidemiology.

Catherine Thomson, Ph.D.
Anatomy and physiology, immunology, cell & molecular biology.

Emeritus Faculty

Tim Goater, Ph.D.
Invertebrate zoology, ecological parasitology.

Jane Watson, Ph.D.
Marine & community ecology, marine mammal biology, conservation biology.

Laboratory Technicians

Martin Angelstad, M.Sc.	Zoology, ecology, instrumentation.
Hitomi Kimura, B.Sc.	Anatomy and physiology, botany, ecology
Keith Reidy, M.Sc.	Molecular biology, cell biology, genetics
Olivier Mathieu, B.Sc.	Microbiology, molecular biology

www.yukonu.ca

Biology Articulation Committee Meeting, May 9-10, 2024

University of Victoria

Report from Yukon University

Articulation Rep: Kate Chatfield-Reed

Ph: (867) 456-8563 Email: kchatfieldreed@yukonu.ca

Course (credits)	Course Name	Text	Estimated Enrolment	Hours lec:lab	Pre-requisites	Notes	Instructors
College Prep							
BIOL 050 (3)	Introducing Biology I (Biology 11)	Molnar and Gair, OpenStax	10	3:1	ENGL 050 Science 10 (over 65%)	Fall	Sessionals
BIOL 060 (3)	Introducing Biology II (Biology 12)	Miller, Human Biology, Pressbooks	10	3:1	BIOL 050 or Biology 11	Winter	Sessionals
University-Level Courses							
BIOL 101 (3)	Ecology, Evolution and Diversity	*Campbell Biology 3rd Canadian Ed.*	20	3:3	Bio 11 or 12	Fall	Tara Stehelin Kate Chatfield-Reed
BIOL 102 (3)	Cellular Biology and Physiology	*Campbell Biology 3rd Canadian Ed.*	20	3:3	Bio 11 or 12	Winter	Kate Chatfield-Reed
BIOL 201 (3)	Cell Biology	Becker's World of the Cell, 9th Ed.	5	3:3	Biol 101 and 102	Fall	Kate Chatfield-Reed

BIOL 202 (3)	Introduction to Genetics	Klug, Essentials of Genetics 10th Ed.	5	3:2	Biol 101 and 102	Winter	Kate Chatfield-Reed
BIOL 203 (3)	Microbiology	Prescott's Microbiology, 12th Ed.	5	3:3	Biol 101 and 102	Fall	Kate Chatfield-Reed
BCHM 200 (3)	Biochemistry	*Lehninger Principles of Biochemistry, 8th Ed.*	5	3:3	CHEM 210 and BIOL 201	Winter	?
BIOL 210 PLSC221* (3)	Introduction to Northern Botany	*Plant Biology*, K. R. Stern, 12th Ed.	15	3:3	BIOL 101 and BIOL 102 or equivalent	Every other year	Krystal Isbister
BIOL 220 (3)	Ecology	Molles and Laursen *Ecology: Concepts and Applications, 2020* Canadian Ed.	20	3:3	BIOL 101 and BIOL 102	Fall	Scott Gilbert
BIOL 225/ RENR 401* (3)	Ornithology: Introduction to the Biology of Birds	Bird guide and various readings	15	3 lec/lab combined	BIOL 101	Winter	Kathryn Aitken
BIOL 230/ RENR 364* (3)	Conservation Biology	Sher, A and Primack, R. B. 2nd Ed. 2020	15	3 + 2 Field trips	BIOL 101	Winter	Tara Stehelin
BIOL 290 (3)	Beringia: its Pleistocene environment & Paleoecology	Various readings	0	3:0	BIOL 101	Every other year	Tyler Kuhn
BIOL 310/ RENR401* (3)	Animal Behavior	Dugatkin, L. A. *Principles of Animal Behavior 2nd edition*	10	3:0	BIOL 101 and BIOL 102		Kathryn Aitken

PROGRAM CHANGES

We are changing some learning outcomes for Biol101 and Biol102. Genetics is being moved to the 'Ecology, Evolution and Diversity' course and chemistry is being moved to the 'Cellular Biology and Physiology' course. These changes should help us teach the concepts in a more logical manner.

NOTES

1. Still relying on sessional instructors for core programming: Our ASD (upgrading) department, in particular, has lost permanent faculty to instruct the BIOL and CHEM 11- and 12-level courses, which may impact our programming.

*Also described in University of Alberta Calendar as part of the Northern Environmental and Conservation Sciences degree (B.Sc.) program

FACULTY School of Science

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