



BIOL 125, Section 101

Biology for Science Majors II (3 credits)

2024W T2 (spring 2025)

section 101: TTh 5:00pm-6:20pm PST, COM 201

Instructor:

Dr. Matthew K Nelson

SCI 160

Phone: 250-807-9683

matthew.nelson@ubc.ca

website: <http://www.natureboy.com>

Office Hours: 1:00-3:00pm Tuesday, Thursday

Laboratory Coordinator/Instructor:

Name: Tristyn Hay

tristyn.hay@ubc.ca

Course Description:

BIOL 125 (3 credits) (Biology for Science Majors II)

Continuation of BIOL 116. Introduction to biological concepts necessary for second-year biology.

Physiology of reproduction, gas exchange, inter-organ transport, inter-organ coordination in plants and animals, and excretion and movement in animals. Ecosystem, population, community, and behavioural ecology are discussed. Credit will not be granted for both BIOL 116/125 and BIOL 117/122. [3- 3-0]

Prerequisite: BIOL 116

Corequisite: One of CHEM 113, CHEM 123 is recommended.

Course Objectives:

This is the second of a pair of first year Biology courses for Science majors. The objectives of this pair of courses are:

1. To prepare students for upper level biology classes by introducing the basic concepts underlying ecology, genetics, physiology, and cell function. Evolutionary theory will be a unifying theme.
2. To provide students with a basic knowledge of the physiology, ecology, and taxonomy of plants, animals, and microorganisms.
3. To familiarize students, through discussion and experience, with the process of scientific inquiry, hypothesis testing, and methods for dealing with biological variability.

Course Format:

BIOL 125 has both a lecture and laboratory component. *Students must pass both components to pass the course.* In order to be successful, I would recommend that you read the material first, and take a few notes. (Basically outline the chapter and make sure you know the words in bold.) When you attend lecture, use your chapter outline and take notes. Then, when it is time to study for the exam, study your notes. (I would not go back and re-read the chapter.)



On Canvas, the home page for the course will have links to most of the important material for the course, including modules, lecture recordings, practice quizzes, and review sheets. You may notice that some material is linked to <http://www.natureboy.com>, which is my website. Material on Canvas will be updated as we go, so you will need to be sure that you are looking at it often. If I need to communicate with you, I will do so using announcements on Canvas, so be sure that you have it set to send you these as emails.

Laboratory Meeting times (see course schedule):

Note: Attendance at labs is mandatory unless there is a valid medical or compassionate reason. Students who are late and miss the introductory lecture without a valid excuse will not be allowed into the lab, and will receive a mark of zero for that laboratory assignment. Students must pass both the lecture and laboratory part of a course to pass the course; please refer to the Repeat Course Policy.

Required Materials:

Text: *Biological Science*, Freeman, Harrington, & Sharp. 4th Canadian edition

Website: <http://www.natureboy.com>

official class calendar: <http://canvas.ubc.ca>

Course Evaluation:

Midterm #1	20%	feb 11
Midterm #2	20%	mar 18
Laboratory	30%	
Final	30%	TBA
<hr/>		
Total	100%	

Final grades will be based on the evaluations listed above and the final grade will be assigned according to the standardized grading system outlined in the UBC Okanagan Calendar. **I will not change the weighting of components just because you didn't do well on one of them.**

EXAM FORMAT:

The exams for this course will be given in-person, on-campus, in COM-201. They will consist of mostly multiple choice questions, with perhaps a few fill in the blank, and perhaps one or two short answer.

The final exam will be approximately 60-70% new material, and 30-40% cumulative material.

Academic Integrity:

The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct)



lead to the break-down of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred to the President's Advisory Committee on Student Discipline. Careful records are kept in order to monitor and prevent recurrences. A more detailed description of academic integrity, including the policies and procedures, may be found at:

<http://okanagan.students.ubc.ca/calendar/index.cfm?tree=3,54,111,0>

If you have any questions about how academic integrity applies to this course, please consult with your professor.

Missed Assignments and Exams:

From UBC Okanagan Academic Calendar/Policies and Regulations/Academic Concession:

"Students who, because of unforeseen events, are absent during the term and are unable to complete tests or other graded work, should normally discuss with their instructors how they can make up for missed work, according to **written guidelines given to them at the start of the course**. Instructors are not required to make allowance for any missed test or incomplete work that is not satisfactorily accounted for. If ill health is an issue, students are encouraged to seek attention from a health professional. Campus Health and Counseling will normally provide documentation only to students who have been seen previously at these offices for treatment or counseling specific to conditions associated with their academic difficulties. Students who feel that requests for consideration have not been dealt with fairly by their instructors may take their concerns first to the Head of the discipline, and if not resolved, to the Office of the Dean. Further information can be found at:

<http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,48,0,0>.

Guidelines for BIOL 125: Students are responsible for attending (or viewing) all lectures, labs, and are responsible for completing all assignments and examinations. If you know that you will be absent for any component of the course for which you will be evaluated you **MUST** make arrangements with the instructor prior to your absence. If you are absent due to unforeseen circumstances you **MUST** see the instructor immediately upon your return to determine if arrangements can be made to make up any missed assignments or tests. Students may be excused from scheduled exams only with a physician's certificate verifying illness or other supporting documents for a compassionate leave. If a student is unable to complete a midterm examination for a good and verifiable reason, it may be possible for the comprehensive final to be increased in value accordingly. **YOU NEED TO COME SEE ME TO DISCUSS.**

STUDENT RESPONSIBILITIES

- A. Familiarize yourself with the course syllabus
- B. Attend class regularly. I will not take attendance, but if you do not show up for class, I will have no sympathy when you fail the tests.
- C. Assume responsibility for your own learning
- D. Adhere strictly to standards of academic honesty
- E. Show respect for instructor and fellow students at all times



Tentative Lecture Outline:

Date	Topic	Readings
Jan 7	intro/syllabus	
Jan 9	Systematics / Trees	<i>CH 25.1, 25.3, 25.4, "understanding trees"</i>
Jan 14	Tree of Life	<i>CH 26.3, 26.4, 27.4, 28.3, 28.4</i>
Jan 16	Plant form and function	<i>CH 34</i>
Jan 21	Plant transport	<i>CH 35</i>
Jan 23	transport in plants/nutrition	<i>CH 35,36</i>
Jan 28	Plant sensory/Reproduction	<i>CH 37,38</i>
Jan 30	Plant Reproduction	<i>CH 38</i>
Feb 4	finish plants, Tree of Life 2 (Animals)	<i>CH 38, 30</i>
Feb 6	Protostomes/deuterostomes	<i>Chapter 31-32</i>
FEB 11	MIDTERM 1	<i>trees, CH 25, TOL, CH 34,35,36,37,38</i>
Feb 13	Protostomes/deuterostomes, pt 2	<i>Chapter 31-32</i>
Feb 17-21	Midterm BREAK	
Feb 25	Animal Form and Function	<i>Chapter 39</i>
Feb 27	Water and Osmoregulation	<i>Chapter 40</i>
Mar 4	Animal Nutrition	<i>Chapter 41</i>
Mar 6	Digestion	
Mar 11	Gas Exchange and Circulation	<i>Chapter 42</i>
Mar 13		
Mar 18	MIDTERM 2	<i>CH 30-32, 39-42</i>
Mar 20	Reproduction	<i>Chapter 47</i>
Mar 25		
Mar 27	Immune Systems	<i>Chapter 48</i>
Apr 1		
Apr 3	Ecology, Population Ecology	<i>Chapter 49,51</i>
Apr 8	Behavioral Ecology	<i>Chapter 50</i>
TBA	FINAL EXAM	70% ch 47-51 30% comprehensive



Repeat Course Policy:

Students who fail either the lecture or lab portion of [BIOL/BIOC XXX], receive a 49% as their final grade, and will be required to repeat the course in order to receive credit. Students who wish to repeat the course for a more favorable grade, or a student who wishes to repeat the failed portion of the course may do so, if, and only if, the following requirements are met:

- If the student failed the laboratory portion of the course, but achieved a grade of at least C (60%) in the lecture portion of the course, the student may opt to repeat only the laboratory portion.
- If the student failed the lecture portion of the course, but achieved a grade of at least C (60%) in the laboratory portion of the course, the student may opt to repeat only the lecture portion.
- The course must be taken again within two years of the term in which the student was originally enrolled in the course (e.g., if the course was originally taken in the Fall term of 2021, the last possible term in which the student can repeat the course is Fall of 2023).
- In situations where the weighting of the lab/lecture component changes from year to year (e.g., 30% lab, 70% lecture in one year; 40% lab, 60% lecture in another year), it will be at the discretion of the instructor teaching the course the second time to decide the weighting in the calculation of the new grade.
- The student must complete the "Repeat Course" form, which can be found on the Biology Dept Resources page on their website. The form must be returned to the Department Assistant in SCI 154, or by email to biology.okanagan@ubc.ca by the add/drop deadline.

Please note that the university policy is that the student must register and pay for the complete course, and not just a portion of the course.

Grading practices:

Faculties, departments, and schools reserve the right to scale grades in order to maintain equity among sections and conformity to university, faculty, department, or school norms. Students should therefore note that an unofficial grade given by an instructor might be changed by the faculty, department, or school. Grades are not official until they appear on a student's academic record. www.calendar.ubc.ca/okanagan/index.cfm?tree=3,41,90,1014

Final Examination:

Students are expected to make themselves available to take final exams at the scheduled times. In the event of an exam clash (i.e., two exams schedule at the exact same date and time) students must inform the instructors as soon as possible, so that alternate arrangements can be made. In the event of an exam hardship (i.e., 3 or more exams that start and end in a 27-hour period, must notify the instructor of the second formal examination no later than one month prior to the examination date for courses in the Winter Session (whether in December for Term 1 or April for Term 2), and no later than two weeks prior to the examination date for courses in the Summer Session. For more information, please see the BC Okanagan Academic calendar, regarding exam clashes and hardships.

Note: Any requests for changes to final exams must be sent to the office of the Associate Dean of Students (bsasdeansoffice.ubco@ubc.ca).



Academic Integrity:

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The use of generative AI tools, including ChatGPT and other similar tools, to complete or support the completion of any form of assignment or assessment in this course is not allowed and would be considered academic misconduct.

A more detailed description of academic integrity, including the policies and procedures, may be found at: <http://okanagan.students.ubc.ca/calendar/index.cfm?tree=3,54,111,0>

If you have any questions about how academic integrity applies to this course, please consult with your professor.

Copyright disclaimer: Diagrams and figures included in lecture presentations adhere to Copyright Guidelines for UBC Faculty, Staff and Students <http://copyright.ubc.ca/requirements/copyright-guidelines/> and UBC Fair Dealing Requirements for Faculty and Staff <http://copyright.ubc.ca/requirements/fair-dealing/>. Some of these figures and images are subject to copyright and will not be posted to **Canvas**. All material uploaded to **Canvas** that contain diagrams and figures are used with permission of the publisher; are in the public domain; are licensed by Creative Commons; meet the permitted terms of use of UBC's library license agreements for electronic items; and/or adhere to the UBC Fair Dealing Requirements for Faculty and Staff. Access to the **Canvas** course site is limited to students currently registered in this course. Under no circumstance are students permitted to provide any other person with means to access this material. Anyone violating these restrictions may be subject to legal action. Permission to electronically record any course materials must be granted by the instructor. Distribution of this material to a third party is forbidden.

Disability Resource Centre

The Disability Resource Centre (DRC) facilitates disability-related accommodations and programming initiatives that ameliorate barriers for students with disabilities and/or ongoing medical conditions. If you require academic accommodations to achieve the objectives of a course, please contact the DRC at:

UNC 215 250.807.8053

Email: drc.questions@ubc.ca

Web: <https://students.ok.ubc.ca/academic-success/disability-resources/>



Equity and Inclusion Office

Through leadership, vision, and collaborative action, the Equity & Inclusion Office (EIO) develops action strategies in support of efforts to embed equity and inclusion in the daily operations across the campus. The EIO provides education and training from cultivating respectful, inclusive spaces and communities to understanding unconscious/implicit bias and its operation within in campus environments. UBC Policy 3 prohibits discrimination and harassment on the basis of BC's Human Rights Code. If you require assistance related to an issue of equity, educational programs, discrimination or harassment please contact the EIO.

UNC 325H 250.807.9291

Email: equity.ubco@ubc.ca

Web: <https://equity.ok.ubc.ca/>

Resources for Indigenous Students:

Indigenous Programs & Services provides community and culturally appropriate services and support to First Nation, Métis, and Inuit Students. You belong here.

The Indigenous Centre, located on the second floor of the University Centre building (UNC 210), provides a sense of belonging and community to First Nations, Métis, and Inuit students. This home away from home is committed to enriching the quality of the student experience for Indigenous students by promoting access, providing capacity building opportunities, and celebrating success.

Website: <https://students.ok.ubc.ca/indigenous-students/>

Office of the Ombudsperson for Students

The Office of the Ombudsperson for Students is an independent, confidential and impartial resource to ensure students are treated fairly. The Ombuds Office helps students navigate campus-related fairness concerns. They work with UBC community members individually and at the systemic level to ensure students are treated fairly and can learn, work and live in a fair, equitable and respectful environment. Ombuds helps students gain clarity on UBC policies and procedures, explore options, identify next steps, recommend resources, plan strategies and receive objective feedback to promote constructive problem solving. If you require assistance, please feel free to reach out for more information or to arrange an appointment.

UNC 217 250.807.9818

Email: ombuds.office.ok@ubc.ca, Web: www.ombudsoffice.ubc.ca

Student Learning Hub

The Student Learning Hub is your go-to resource for free math, science, writing, and language learning support. The Hub welcomes undergraduate students from all disciplines and year levels to access a range of supports that include **tutoring in math, sciences, languages, and writing, as well as help with academic integrity, study skills and learning strategies**. Students are encouraged to visit often and early to build the skills, strategies and behaviours that are essential to being a confident and independent learner. For more information, please visit the Hub's website.

LIB 237 250.807.8491

Email: learning.hub@ubc.ca

Web: <https://students.ok.ubc.ca/academic-success/learning-hub/>



Student Wellness

At UBC Okanagan health services to students are provided by Student Wellness. Nurses, physicians and counsellors provide health care and counselling related to physical health, emotional/mental health and sexual/reproductive health concerns. As well, health promotion, education and research activities are provided to the campus community. If you require assistance with your health, please contact Student Wellness for more information or to book an appointment.

UNC 337 250.807.9270

Email: healthwellness.okanagan@ubc.ca, Web: <https://students.ok.ubc.ca/health-wellness/>

Students' Union of UBC Okanagan (SUO):

Consisting of a group of elected student representatives, the SUO provides support and advocacy for students.

SUO Office: Found on the first floor of the UNC building.

Website: <https://www.suo.ca/>

- Indigenous Peoples Collective: <https://www.suo.ca/resource/indigenous-peoples-collective/>
- Pride Resource Centre: <https://www.suo.ca/resource/pride-resource-centre/>
- Women's Resource Centre: <https://www.suo.ca/resource/womens-resource-centre/>
- The UBC Black Caucus: <https://www.instagram.com/ubcblackcaucus/?hl=en>
- African and Caribbean Student Club: <https://www.instagram.com/ubcoacsc/?hl=en>
- UBCO Asian Students Association: <https://www.instagram.com/ubcoasa/?hl=en>
- UBCO Punjabi Student Association: <https://www.instagram.com/psa.ubco/>
- Additional Student Clubs: <https://www.suo.ca/student-associations/>
- Legal Aid: <https://www.suo.ca/services-student-legal-aid/>
- The SUO Food Pantry: <https://www.suo.ca/pantry/>

Independent Investigations Office (IIO):

If you or someone you know has experienced sexual assault or some other form of sexual misconduct by a UBC community member and you want the Independent Investigations Office (IIO) at UBC to investigate, please contact the IIO. Investigations are conducted in a trauma informed, confidential and respectful manner in accordance with the principles of procedural fairness. You can report your experience directly to the IIO (investigationsoffice.ubc.ca):

Email: director.of.investigations@ubc.ca

Telephone: 604.827.2060

SAFEWALK

Don't want to walk alone at night? Not too sure how to get somewhere on campus?

*Call Safewalk at **250-807-8076**.*

For more information, see: <https://security.ok.ubc.ca/safewalk/>