

Biology 468: Food web ecology

We acknowledge and respect the lək̓ʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and W̱SÁNEĆ peoples whose historical relationships with the land continue to this day.

Instructor: Dr. Rana El-Sabaawi (She/her/hers)

Office hours: I am happy to set up appointments for individual zoom or in-person meetings as needed. Please email me to set up an appointment (rana@uvic.ca)

Class Time: Mondays-Thursdays 10:00 AM – 11:20 AM

Class location: Cunningham Building 146

Course description and learning outcomes:

Characterizing food web interactions is fundamental to Ecology. This course provides a comprehensive introduction to the most important methods used to characterize food web interactions in terrestrial and aquatic ecosystems. Topics will include: isotopic ecology, ecological stoichiometry, nutritional geometry, lipid tracers, and molecular tracers.

Learning outcomes:

- To understand, and be able to explain the foundations of food web methods studied in the course and their relevant ecological theories
- To use the foundational knowledge described above to make predictions and hypotheses about how food web tracers will behave in a given scenario (e.g. climate change, urbanization, etc.)
- The ability to critically evaluate food web data, presented either visually or in numbers.
- Calculating various food web metrics such as trophic position, contributions of dietary sources to consumer biomass, etc.
- Improved quantitative and statistical acumen by interpreting outputs of multivariate statistical methods such as PCA or NMDs

Readings and textbook: There is no textbook for the class.

Course delivery:

This is an in-person class. All course information including lectures PDFs will be posted on Brightspace. Please ensure that the email that use for Brightspace is the one you check most frequently.

Please be aware that whenever possible lectures will be recorded using Echo360 to accommodate students who are not able to attend because of illness. If you have other questions or concerns regarding class recording and privacy please contact privacyinfo@uvic.ca.

In-person attendance of lectures is expected. Recording technologies can fail, and there is no guarantee that any lecture will be recorded successfully. In other words, do not rely on videos as your primary methods for attending class. Some in class activities such as discussions or group exercises will not be recorded.

Evaluation:

Biology 468

Bi-weekly assignments	15% (Administered on Brightspace)
Midterm	35% (closed book*, in-person, Thursday 17th October during class time) Must be completed to be eligible to pass the course
Final exam	50% (closed book* cumulative, will be schedule by UVic during final exam period) Must be completed to be eligible to pass the course

*All examinations in this course are closed book, but students will be allowed “cheat sheets” for formulas, important notes, etc. Details TBA.

Assignments will be administered using Brightspace. They will usually comprise a few questions, such as multiple choice, calculations, and short answer question. They will become available on Thursdays (starting on 12th Sept), and will be due on Sunday (midnight) of the same week. The goal of the assignments is to help students keep up with the lecture material. Therefore I will give full marks for submitting the assignments, providing that the student has put in the effort and completed the assignment. The assignments will be automatically marked in Brightspace, and a marking scheme will be available on the following Monday. It is the student’s responsibility to check their answer against the marking scheme.

Medical absences and missed exams:

Medical documentation for short-term absences is not required (as approved by UVic Senate). However, attendance is important and is expected. Students who cannot attend due to illness are

asked to notify their instructors immediately. If a student misses a midterm, a deferred midterm will be scheduled in the following week. The deferred midterm might happen on an evening or on a Saturday to accommodate student schedules. Note that the marks from the midterm cannot be redistributed to the final exam or the assignments. Completing the midterm and final exam are required to be eligible to pass the course.

If illness, accident, or family affliction causes a student to miss the final exam students are required to submit a request for academic concession, with associated documentation, as outlined in the UVic Calendar (<https://www.uvic.ca/registrar/students/appeals/acad-concession/index.php>).

Academic regulation:

1. **VERY IMPORTANT:** UVic's policy on academic integrity (<https://tinyurl.com/ycjeyumu>)
2. Know your responsibilities as outlined in the calendar (<https://tinyurl.com/y3o8q586>)
3. The Center for Accessible Learning is here to help (<https://www.uvic.ca/services/cal/>)
4. Grades are assigned on a percentage scale in accordance with UVic policy as outlined in the calendar (<https://tinyurl.com/y7qydfyy>)
5. All course content and materials are made available by instructors for educational purposes and for the exclusive use of students registered in their class. The material is protected under copyright law, even if not marked with a ©. Any further use or distribution of materials to others requires the written permission of the instructor, except under fair dealing or another exception in the Copyright Act. Violations may result in disciplinary action under the Resolution of Non-Academic Misconduct Allegations policy (AC1300). Students may not distribute lecture notes or any exams or quizzes from the course without permission of the instructor, and to do so, through note-sharing sites or other means, violates the Policy on Academic Integrity
Please read UVic's policy on copyright (<https://www.uvic.ca/library/featured/copyright/>)
6. Important UVic dates including dates for adding and dropping course, holidays, etc. (<https://www.uvic.ca/calendar/dates/>)
7. Please read UVic's policy on plagiarism (<https://www.uvic.ca/library/research/citation/plagiarism/index.php>)
8. Important academic dates including add and drop dates can be found on the UVic website (<https://www.uvic.ca/calendar/dates/>)

Tentative schedule**Note that assignment dates and lecture topics might deviate from the schedule**

Day	Date	Session	Potential topic	Assignment
Thursday	5-Sep-24	1	Introduction	
Monday	9-Sep-24	2	Introduction to stable isotopes	
Thursday	12-Sep-24	3	Fractionation	A1
Monday	16-Sep-24	4	Fractionation during photosynthesis	
Thursday	19-Sep-24	5	Fractionation during photosynthesis	A2
Monday	23-Sep-24	6	Nitrogen fractionation in plants	
Thursday	26-Sep-24	7	Nitrogen fractionation in the ocean	A3
Monday	30-Sep-24		National Day for Truth and Reconciliation	
Thursday	3-Oct-24	8	Animal fractionation	A4
Monday	7-Oct-24	9	Food web isotopes	
Thursday	10-Oct-24	10	Food web isotopes	A5?
Monday	14-Oct-24		Thanksgiving	
Thursday	17-Oct-24	11	Midterm (IN CLASS)	
Monday	21-Oct-24	12	Isotopes and migration	
Thursday	24-Oct-24	13	Isotopes and paleoecology	A5?
Monday	28-Oct-24	14	Fatty acids	
Thursday	31-Oct-24	15	Fatty acids in fish	A6
Monday	4-Nov-24	16	Stoichiometry	
Thursday	7-Nov-24	17	Stoichiometry and nutrient recycling	A7
Monday	11-Nov-24		Remembrance day	
Thursday	14-Nov-24	18	Stoichiometry and nutrient recycling	A8
Monday	18-Nov-24	19	Stoichiometry and dietary imbalances	
Thursday	21-Nov-24	20	Metabolic ecology	A9
Monday	25-Nov-24	21	Nutritional geometry	
Thursday	28-Nov-24	22	TBA	
Monday	2-Dec-24	23	TBA	