Biology 468: Food web ecology (Split with Bio550: Directed studies in Ecology)

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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.

Pre-requisits: Biology 190A, Biology 190B, Biology 215, third-year standing

Time: Mondays-Thursdays 1:00 PM – 2:20 PM MacLaurin Building D101

Readings and textbook: There is no textbook for the class. Classroom Readings and lectures will posted on Coursespaces

Evaluation:
Biology 468 (Undergraduate students):
Midterm 1 (Thursday 10th Oct in class, 25%)
Non-cumulative Midterm 2 (Thursday Nov 7th in class, 25%)
Final 50% (date and time to be announced)

Biology 550 (graduate students): Class seminar 30%
Midterm 1 (Thursday 10th Oct in class, 10%)
Non-cumulative Midterm 2 (Thursday Nov 7th in class, 10%)
Final paper 50%

Academic regulation:
1. **VERY IMPORTANT**: UVic's policy on academic integrity (https://web.uvic.ca/calendar2019-09/undergrad/info/regulations/academic-integrity.html)
2. Know your responsibilities as outlined in the calendar (https://www.uvic.ca/registrar/students/policies/student-responsibilities/index.php)
3. **Important information:**

1. The Center for Accessible Learning is here to help (https://www.uvic.ca/services/cal/)
2. If you miss the midterm due to a medical reason (with valid documentation) then your final exam grade will be used in place of your midterm mark in the final grade assignment.
4. Grades are assigned on a percentage scale in accordance with UVic policy as outlined in the calendar (https://web.uvic.ca/calendar2018-01/undergrad/info/regulations/grading.html)
5. Please read UVic's policty on copyright (https://www.uvic.ca/library/featured/copyright/)
6. Important UVic dates including dates for adding and dropping course, holidays, etc. (https://web.uvic.ca/calendar2019-05/general/dates.html)
7. Please read UVic's policy on plagiarism (https://www.uvic.ca/library/research/citation/plagiarism/index.php)

Tentative schedule (note final order of lectures might differ):

Dates	Day	Number	Topics
5-Sept	Thur	1	Welcome, course introduction and survey
9-Sept	Mon	2	Stable isotopes: introduction and notation
12-Sept	Thur	3	Stable isotopes fractionation
16-Sept	Mon	4	Fractionation during photosynthesis
19-Sept	Thur	5	Photosynthesis continued
23-Sept	Mon	6	Nitrogen fractionation in primary producers
26-Sept	Thur	7	Stable isotopes in animals
30-Spet	Mon	8	SIA food web analysis
3-Oct	Thur	9	SIA applications: animal migration
7-Oct	Mon	10	SIA applications: Paleoecology
10-Oct	**Thur**		**Midterm 1**
14-Oct	Mon		Thanksgiving
17-Oct	Thur	11	Fatty acids: principles and foundations
21-Oct	Mon	12	Fatty acids: application
24-Oct	Thur	13	Case study: Fatty acids in tropical fish
28-Oct	Mon	14	Ecological stoichiometry Introduction
31-Oct	Thur	15	Ecological stoichiometry consumer-mediated nutrient recycling
4-Nov	Mon	16	Ecological stoichiometry Nutritional imbalances
7-Nov	**Thur**		**Midterm 2**
11-Nov	Mon		Remembrance day
14-Nov	Thur	17	Case study: Detritus in stream ecosystems
18-Nov	Mon	18	Metabolic theory
21-Nov	Thur	19	Nutritional geometry
25-Nov	Mon	20	Case study: Tropical armoured catfish
28-Nov	Thur	21	Case studies: Marine Coral fish
2-Nov	Mon	22	Future directions
5-Dec	Thur	23	Review session