Biology 470: Food web ecology (Split with Bio550B: 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 to 2:20 PM **Room**: ECS 130

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

Evaluation:
Biology 470 (Undergraduate students): Midterm 1 (Thursday 9th Feb in class, 25%)
Non-cumulative Midterm 2 (13th March in class, 25%)
Final 40% (date and time to be announced)
Final paper 10% (topic due Feb 6th, Bibliography is due Feb 20th, paper is due 03rd April)

Biology 550 (graduate students): Class seminar 30%
Midterm 1 (Thursday 9th Feb in class, 10%)
Non-cumulative Midterm 2 (13th March in class, 10%)
Final paper 50%

Academic regulation:
1. **VERY IMPORTANT**: UVic's policy on academic integrity (http://web.uvic.ca/calendar2016-09/undergrad/info/regulations/academic-integrity.html)
2. Know your responsibilities as outlined in the calendar (http://web.uvic.ca/calendar2016-09/undergrad/info/registration/index.html)

Important information:
1. If you have any special needs please speak to me or contact staff at the Resource Center for students with a Disability (http://www.uvic.ca/services/rcsd/) so that appropriate accommodations can be made to ensure that you succeed in the course.
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.
3. The last day to withdrawal without a penality (an "F") is Tuesday 28 Feb 2017
4. Grades are assigned on a percentage scale in accordance with UVic policy as outlined on page 64 of the 2016-17 calendar (http://web.uvic.ca/calendar2016-09/pdfs/undergraduate-201609.pdf)
5. Read UVic's policty on copyright (https://www.uvic.ca/library/featured/copyright/)

Tentative schedule:

Day	Day	Number	Lecture
5-Jan-17	Thur	1	Welcome and Introduction
9-Jan-17	Mon	2	Stable isotopes: introduction and notation
12-Jan	Thur	3	Stable isotopes fractionation
16-Jan	Mon	4	Fractionation during photosynthesis
19-Jan	Thur	5	Photosynthesis continued
23-Jan	Mon	6	Nitrogen fractionation in primary producers
26-Jan	Thur	7	Stable isotopes in animals
30-Jan	Mon	8	SIA food web analysis
2-Feb	Thur	9	SIA applications: animal migration and paleoecology
6-Feb	**Mon**	**9**	**Midterm 1**
9-Feb	Thur	11	Midterm review
13-Feb	Mon		Reading break
16-Feb	Thur		Reading break
20-Feb	Mon	12	Fatty acids 1
23-Feb	Thur	12	Fatty acids 2
27-Feb	Mon	13	Ecological stoichiometry Introduction
2-Mar	Thur	14	Ecological stoichiometry consumer-mediated nutrient recycling
6-Mar	Mon	15	Ecological stoichiometry Nutritional imbalances
9-Mar	Thur	16	Nutritional geometry
13-Mar	**Mon**		**Midterm 2**
16-Mar	Thur	17	Nutritional physiology
20-Mar	Mon	18	Special topics: Tropical armoured catfish
23-Mar	Thur	19	Special topics: Marine Coral fishes
27-Mar	Mon	20	Special topics: Detritus in stream ecosystems
30-Mar	Thur	21	Special topics: food webs and evolution
3-Apr	Mon	22	Review