BIOL 603
Advanced Ecology
Department of Biological Sciences University of Alberta
Course Syllabus - Winter 2021

Instructors

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Venue and Time

Synchronously via Zoom: Tuesday 0930-1200, Jan 11-Apr 6 2020

COURSE DESCRIPTION

★ 3 (fi 6) (either term, 0-3s-0) Designed for new graduate students in environmental biology to foster critical thinking and discussion and to introduce them to issues of experimental design and analysis and different approaches to ecology. The course involves student discussion of papers, lectures by faculty members on their research, seminars by students and a written assignment. Prerequisite: consent of instructor. Preference will be given to students in Biological Sciences.

COURSE OBJECTIVES AND ANTICIPATED LEARNING OUTCOMES:

Objectives

1. Gain foundational knowledge and develop skills of a practicing ecologist
2. Expose students to a variety of disciplinary types, methodological approaches, and4 applications of ecology
3. Facilitate skill development in:
    - critical and synthetic reading, thinking, leadership, review, and discussion
    - group facilitation and meeting planning
    - planning and implementation of ecological research
    - Science communication, writing, and publication
4. Support development of a peer group to enhance graduate experiences

Learning Outcomes

- Pose insightful questions to knowledge holders and researchers
- Participate meaningfully in conversations about the primary literature
- Formulate testable questions and hypotheses
- Contribute to the design of rigorous scientific studies
- Select appropriate methodology to address a scientific question
- Distinguish scientific evidence from interpretation; develop and critique scientific arguments
- Become effective and efficient critical readers of the scientific literature
- Use modern verbal and visual scientific communication skills to reach diverse audiences

COURSE GRADING SCHEME

Paper discussions (20%)
Students will work in pairs to lead one class discussion on a topic of their choice (this could be a paper/series of papers, a new "issue" in science, a management/conservation issue, a general statistical technique, a philosophical approach).

Research proposal (20%)
Students will be asked to submit a draft proposal that will be evaluated by 2-3 reviewers. Reviews will be collated by the instructors and provided back to the student who will then use this information to develop a final proposal which will be graded. See the course schedule and assignment description for more details and due dates.

Oral presentation (20%)
Students will provide a short oral presentation on their thesis proposal to the class. The presentation must contain a brief history of the discipline that their thesis fits in. The brief history should bring all of the class up to speed on the discipline outlining the core foundation, 2-3 major advances, and the current "cutting edge" of the discipline. The remainder of the presentation will be devoted to the proposal itself. See the course schedule and assignment description for more details and due dates.

Participation (20%)
There will be a series of ecology faculty presentations and students will be expected to do background work to get a basic grasp of the presenters' background and to formulate questions to be put to the presenter. Engagement with presenters (students and faculty) will constitute the "participation" component of the course. See the assignment description for more details.

Peer Evaluation (20%)
Each student will provide a review of 2 draft proposals and evaluation of 2 presentations. Each evaluation will be worth 5% (20% in total).

Note: assignment details will be supplied at the beginning of term. Tentative due dates are provided in the schedule. Written assignments must be submitted on eClass. Due dates/times and grading rubrics will be provided in the assignment descriptions. Unless an extension has been formally granted, late written assignments will lose 15% of their total value for each day late.

Grade Evaluation:
The term summary mark will be used to assign a final letter grade, based on the grade boundaries outlined below. Grades are unofficial until approved by the Department and/or Faculty offering the course.

Letter Grade	Percentage
A+	90-100
A	85-89
A-	80-84
B+	76-79
B	72-75
B-	68-71
C+	64-67
C	60-63
C-	55-59
D	50-54
F	0-49

Past and/or Representative Evaluative Material:

As there are not examinations in this course; no evaluative material will be provided.

Format of Exams:

There are no examinations in this course

**NOTE: A term assignment that cannot be completed by the stated deadline due to incapacitating illness, severe domestic affliction, or other compelling reasons can warrant an application for a deferral to another assignment. Deferral of term work is a privilege and not a right; there is no guarantee that a deferral will be granted.

Missed Assignments:
For an excused absence where the cause is religious belief, a student must contact the instructor(s) within two weeks of the start of Winter classes to request accommodation for the term (including the final exam, where relevant). Instructors may request adequate documentation to substantiate the student request.

A student who cannot write a term examination or complete a term assignment due to incapacitating illness, severe domestic affliction or other compelling reasons can apply for deferral of the weight of the missed term work or extension of time to complete an assignment.

Student Responsibilities:
ACADEMIC INTEGRITY: "The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (online at www.governance. ualberta.ca) and avoid behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion."

All forms of dishonesty are unacceptable at the University. Any offence will be reported to the Associate Dean of Science who will determine the disciplinary action to be taken. Cheating, plagiarism and misrepresentation of facts are serious offences. Anyone who engages in these practices will receive at minimum a grade of zero for the exam or paper in question and no opportunity will be given to replace the grade or redistribute the weights. As well, in the Faculty of Science the sanction for **cheating** on any examination will include **a disciplinary failing grade** (NO EXCEPTIONS) and senior students should expect a period of suspension or expulsion from the University of Alberta.

STUDENTS ELIGIBLE FOR ACCESSIBILITY-RELATED ACCOMMODATIONS
(students registered with Student Accessibility Services - SAS): Eligible students have both rights and responsibilities with regard to accessibility-related accommodations. Consequently, scheduling exam accommodations in accordance
with SAS deadlines and procedures is essential. Please note adherence to procedures and deadlines is required for U of A to provide accommodations. Contact

SAS (www.ssds.ualberta.ca) for further information.

STUDENT SUCCESS CENTRE: Students who require additional help in developing strategies for better time management, study skills or examination skills should contact the Student Success Centre (2-300 Students' Union Building).

RECORDING AND/OR DISTRIBUTION OF COURSE MATERIALS: Audio or video recording, digital or otherwise, of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as a part of an approved accommodation plan. Student or instructor content, digital or otherwise, created and/or used within the context of the course is to be used solely for personal study, and is not to be used or distributed for other purpose without written consent from the content author(s).

Disclaimer: Any typographical errors in this Course Outline are subject to change and will be announced in class.

Draft Schedule

Date	Content
Jan 12	Organizational meeting: Who are we? Elevator pitch, ecological discipline Logistics, assignments, scheduling Discussion topics
Jan 19	Leading an effective discussion (Steph and Stan provide example) Introduction to philosophy of science (Stan) Primer on facilitation skills (Steph)
Jan 26	*Student led-discussions- groups 1 & 2* Researcher presentation on related topic
Feb 2	*Student led-discussions- group 3* Researcher presentation on related topic Workshop: effective proposals
Feb 9	*Student led-discussions- group 4* Researcher presentation on related topic Workshop: advanced literature searching and review techniques
Feb 16 CW313	Reading week - NO CLASS

Feb 22	Peer-review process: journal types & selection (Evie Merrill, tentative) Workshop: reviewer skills **DUE: Draft proposal due for feedback**
March 2	*Student-led discussions- groups 5&6* Researcher presentation on related topic
Mar 9	Workshop: Primer on presentation skills; Science communication overview **DUE: Peer feedback due on proposals**
March 16	Workshop: TBD
March 23	Workshop: TBD **DUE: Final proposals due (for instructor evaluation)**
March 30	Student proposal presentations part 1 **Upload presentation to eClass if you present today*
April 6	Student proposal presentations part 2 **Upload presentation to eClass if you present today* Course wrap up