

## Seminar in Ecological and Evolutionary Theory

**Course information:** Classes (3 hours) will be held weekly during the winter term. An organizational meeting will be held in early January. Classes will follow a flipped classroom approach, and will consist of student-led presentations and discussion.

**Max enrolment:** 12

**Professor:** Robert Buchkowski

**Overview:** Rapid biodiversity loss and climate change are the two leading problems facing humanity today. In order to inform societal action to address these problems, we will need to draw on ecological and evolutionary theory. As we struggle to solve these problems amidst an overwhelming and contradictory body of evidence a core question emerges: how do we judge the quality of evidence and its applicability to applied problems? In this course, we will engage in deep reading and discussion of major topics in ecological and/or evolutionary theory, including those that are foundational and of emerging importance. Students will form discussion groups, build up a resource library for the course, and prepare and lead two seminars.

**Grading:** Students will be graded on two seminars (worth 35% each), overall preparation for seminars (15%), and participation and engagement during discussions and seminars (15%). For each seminar, students will prepare a 2 page handout ('cheat sheet') with a list of key papers, select 2-3 key papers for class reading, and run a class with a combination of lecture, discussion, and active learning. Students will share their written perspectives about the readings in advance of the seminar. Specifically, students will answer three questions about the readings:

1. What do you think is the most important concept in the paper?
2. What is the evidence supporting the main conclusions from the current paper and from supporting literature?
3. What do you think is the main application of the theory presented in the paper, in terms of current applied problems?

The instructor will provide guidance on the topic and format of the seminars. Weekly participation goes beyond mere attendance, and will be determined by a student's level of engagement and contribution to discussion (oral and written) throughout the semester. Students will work in assigned groups but will be graded independently. Independent grading will be conducted based on student submitted summaries of their contribution to group work completed for each group assignment.