

# BIOL 462 — Spring 2020

## Community & Ecosystem Ecology

Lectures: Tu, W, Fr 10:30-11:20

Synchronous

Instructor: Dr. Brad Anholt

Email: banholt@uvic.ca

Office hours: W 1-3:30 pm  
or by appointment

*Course Rationale and Format* — The goals of this course are twofold: 1) to broaden and deepen your understanding of the field of ecology, 2) to develop skills you need in order to become an independent scientist. Among these skills are:

- Understanding the process of scientific research and discovery. This involves developing your abilities in critical thinking and hypothesis testing;
- Learning to read and critically evaluate scientific papers;
- Communicating your ideas about science clearly.

### Topics

**to be adjusted with your input**

- diversity and its origins
- Counting species
- describing communities
- niches and niches
- competition
- predation
- mutualism
- indirect effects
- top down and bottom up control
- The role of behaviour

- evolutionary considerations
- species extinctions
- species invasions
- community effects on ecosystems
- global change effects
- etc.

*Lectures* on TW will provide an overview of a theme, including its conception, theoretical underpinnings, and development within the field of ecology. I hope for (and have already seen) lots of discussion and questions.

*Readings* of the primary literature will require reading classic and contemporary papers in the field of ecology. An annotated Bibliography of those readings is a Major assignment.

*Review Papers* Each student will write both a short and a long review paper (3 pages and 8 pages double spaced maximum, not including references) on an ecological topic of interest. Students are required to submit a paper proposal before writing the paper

Examples might include:

- What is the history of the diversity/stability debate and where does it stand now?
- What is the evidence for top-down control versus bottom-up control in ecosystems
- How do we incorporate evolutionary dynamics into a community ecology framework
- What makes a good invasive species
- Can invasion ecology teach anything to restoration ecology

Note that these are all framed as questions to be answered; not necessarily definitively, but with due attention to the literature.

## Course Evaluation

minor paper 3 pages proposal (5%) by 30.Jan paper due 24.Feb .....	15%
Annotated bibliography of at least 60 papers due 3.Apr .....	40%
Major paper 8 pages, proposal (5%) due 12.Mar paper due 3.Apr .....	35%

Papers submitted by the deadline are eligible for a rewrite to improve the grade. Papers submitted more than 1 week after the deadline will not be graded.

Grading Scale: Final grades will be assigned on the basis of the official UVic grading scale:

<https://web.uvic.ca/calendar2020-01/undergrad/info/regulations/grading.html>

## Academic integrity

I draw your attention to the UVic Academic Integrity Policy which you agree to by continuing in this course

<https://www.uvic.ca/students/academics/academic-integrity/index.php>

While I encourage collaboration such as discussion of readings or reviewing and editing each other's work, all submitted work **must** be your own.

No material submitted for grading may be or have been submitted to another course for grading.