

Meeting time and place: 5:00 - 6:50 PM, Thursdays, BC 2202

Instructor: Jim Loughry

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Office hours: 9:30-10:30 AM T & R, or any other time by appointment

General course description: This is a seminar course involving in-depth examination of current issues in ecology and evolution. You will present a critique of a certain part of that topic that will be the starting point for a full discussion by all members of the seminar. Educational outcomes associated with this course include numbers 1 and 2 as specified by the VSU Biology Department for its Master's program, and general outcomes numbers 3, 4, 5, and 7 as specified by the University.

This year's topic: Great Debates in Ecology and Evolution

There are a number of long-standing controversies in biology that are rooted in philosophy and cannot easily be resolved empirically. In the first part of the course we will discuss some of these. I will provide one or more short readings relevant to each topic that introduce the issue at hand; your job will be to find a recent peer-reviewed paper that advocates each side of the argument and lead a classroom discussion of all the issues involved. In the second part of the course, you will identify a current controversy in your own area of specialization, provide readings relevant to the topic and lead a classroom discussion of it.

Required books: None

Completion of the course requires the following:

1. Presentations: As described above, each of you will lead two classroom discussions during the semester: one in the first half dealing with a historical controversy, and one in the second half that covers a current controversy in your own area of specialization.

During the first class meeting we will fill in a schedule for the presentations. Presentations should be relatively brief (~ 30-45 minutes) and highlight what you view as the main issues for debate. **DO NOT** just recap what is in the papers; everyone will have read them already and we will not require a blow-by-blow retelling. Rather, try to focus on points of controversy, unanswered questions and so on. Each presentation will be worth a maximum of 50 points and will be graded by me. Emphasis will be placed on the clarity of your presentation and your effectiveness in leading the class discussion.

2. Review Paper: Each of you must write a review paper about one of the topics discussed in class. You must get your topic approved by me no later than midterm (**Thursday, March 1**) and all papers must be turned in by **5 PM, Monday, April 23**. Topics will be assigned on a first-come, first-served basis, so if you have a particular area you wish to cover, sign up soon. Papers

must be written in the style of a journal article (the *Quarterly Review of Biology* and *Annual Review of Ecology and Systematics* provide excellent models) and be exhaustive reviews of the subject. One critical part of this paper will be to provide an extensive bibliography of the literature pertaining to your topic.

3. Peer-review: You will provide a 1-2 page critique of a subset of the review papers submitted. Each paper will be reviewed by 2 other members of the class. Imagine that these papers have been submitted to a scientific journal for possible publication and you have been asked to review them. Your reviews should emphasize the strengths and weaknesses in each paper and what the author could do to improve it. As the last part of the review, you must assign a numerical grade, based on a maximum total of 50 points. All reviews of all papers are due no later than **Tuesday, May 1**. I will then send each of you all the reviews of your paper and its averaged reviewer score (individual point scores will remain anonymous).

Grading: Grades will be based on a total of 300 points as described below. In addition, you need to be aware that there is a punitive attendance policy. The seminar requires active participation by all of you. So, if you are not here, the class will suffer dramatically. Consequently, for each unexcused absence, you will lose one letter grade off your final grade.

Presentations:	100 points
General participation:	50 points
Review paper:	100 points (calculated as the average of the peer-review scores + 50 possible points from my own evaluation of your paper)
Peer review critiques	50 points (based on my evaluation of all the reviews you submit)
Total	300

Evaluating the above is admittedly subjective. I will start the seminar assuming everyone has an A. So long as you do your job, that will not change. However, if you don't show up or don't participate, then your grade will start to fall. If you don't show up for one of your presentations or don't turn in your paper, then you automatically fail the course. Late submissions of any assignments will be penalized at the rate of 10% per day.

Final grades will be based on the following point totals:

$$A = 270 - 300$$

$$B = 240 - 269$$

$$C = 210 - 239$$

BIOL 7010 Course Schedule

Month	Day	Topic	Discussion Leader
January	11	Organizational meeting	NA
	18	Reductionism versus Holism	Loughry
	25	Teleology	Student 1
February	1	Adaptation	Student 2
	8	The Nature of Natural	Student 3
	15	Theory of Mind	Student 4
March	22	Nature versus Nurture	Student 5
	1	Causality	Student 6
	8	Relationship between behavior and morphology in evolutionary innovation	Loughry
	15		SPRING BREAK
	22	TBD	Student 1
	29	TBD	Student 2
April	5	TBD	Student 3
	12	TBD	Student 4
	19	TBD	Student 5
	26	TBD	Student 6