

## **Theoretical Ecology – WILD 595**

Spring Semester 2016

Instructor: Dr. Angie Luis (angela.luis@umontana.edu)

### **Suggested Readings**

*An Illustrated Guide to Theoretical Ecology*, Ted Case

*A Primer of Ecology*, Nicholas Gotelli

Additional readings will be assigned

### **Class meeting times: (subject to change)**

Lecture/ Lab    MW    11:10-12:30    Stone 107

Discussion    TBD    (50 min)

### **Office Hours**

by appointment

### **Tentative Schedule**

Week 1    **Introduction**

Weeks 2-5    **Individuals**  
(Optimality, dynamic programming, game theory)

Weeks 6-12    **Populations**  
(Structured and unstructured population models, matrix models, logistic growth, individual-based models, spatial models)

Weeks 12-14    **Communities**  
(Competition, predation, parasitism, multi-species models)

Week 15    **Student Project Presentations**

## GRADING

Grades will be based on 2 mid-term exams, the final exam, lab exercises and a project. Late assignments will be penalized 10% for each day late.

Mid-term exam 1:	20%
Mid-term exam 2:	20%
Final exam:	20%
Lab exercises:	20%
Project:	20%

## DISCUSSION SECTION

There will be a discussion section that meets for 50 minutes each week. Most weeks the discussion will be on a journal article related to the topics covered that week. Each week a student will be assigned to lead the discussion with a PowerPoint presentation of the article (approximately 10-15 minutes) and discussion points to keep the discussion going. All students are required to read the journal article each week and come prepared to discuss it. Occasionally, this time may be used to discuss student projects or other topics of interest.

## PROJECT

Each student will develop their own model for their system of interest. Their model can be built upon those models discussed in class or can be based on a different conceptual design (but cannot be purely statistical). The project will be presented both as a manuscript (Abstract, Introduction, Methods, Results, Discussion; suitable to submit to an ecological journal) and as a presentation (suitable to present at a conference such as the Wildlife Society or Ecological Society of America meetings). **Written manuscripts will be due May 2nd. PowerPoint presentation will be 15 minutes in length and occur during the last week of classes (May 2-6).**

## PLAGARISM

Plagiarism will not be tolerated and will result in failing the course.

## STUDENT CONDUCT CODE

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the [Student Conduct Code](#).

## STUDENTS WITH DISABILITIES

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students (DSS). If you think you may have a disability adversely affecting your academic performance, and you have not already registered with DSS, please contact DSS in Lommason 154 or 406.243.2243. I will work with you and DSS to provide an appropriate modification.

**GRADING OPTION**

Please note, this class is offered for traditional letter grade only, it is not offered under the credit/no credit option.

**GRADING SCALE:**

93-100: A  
90-92: A-  
88-89: B+  
83-87: B  
80-82: B-  
78-79: C+  
73-77: C  
70-72: C-  
68-69: D+  
63-67: D  
60-62: D-  
59- F