Summer Session 2017

BIOE 440 Conservation Ecology

3 credits; Lectures, Labs, Field Work
Course dates: June 26–July 7, 2017
Instructor: Dr. Chris Frissell
Email leakinmywaders@yahoo.com
http://flbs.umt.edu/people

Prerequisites: One semester of college-level biology and an ecology course (can be met via BIOE342 Field Ecology at FLBS) or equivalents; or consent of instructor.

Course Description:

Principles and methods of conservation ecology applied to aquatic and terrestrial species and ecosystems with some emphasis on evolution, population genetics, and behavioral ecology as key attributes to be considered in the design and implementation of conservation. This course emphasizes the application of basic biological research and ecological principles to problems in conservation and management with an eye toward the interface between science and policy. There are four primary themes to the course: defining population units of conservation, the effects of introduced species (including invasive species, hybridization, and infectious disease), population viability and monitoring, and policy and politics. These themes are applied to a diversity of case studies that have been chosen to illustrate general issues in conservation. About half of the course time is spent meeting in the field with practicing conservation biologists who work for public agencies or for nongovernmental organizations. The other half focuses on a field-oriented project where students will work with the instructor at a specific field site to conduct a preliminary assessment and develop a proposal for an ecological investigation to address salient questions in conservation of special habitats or species.

Required Text: We will read parts of the following text: Groom et al., 2006, *Principles of Conservation Biology* 3rd edition, Sinauer Publ. Students are encouraged to bring this textbook if you own it, although a couple copies will be available in the classroom.

Reference Texts: Identification guides to local biota will be available; students are strongly encouraged to bring personal copies of field guides for mammals, amphibians, fishes, flowers, trees, and other biota in the northern Rocky Mountains region of the USA.

Course and Field Supplies/Equipment: (*available for purchase at the FLBS Bookstore)

- Plenty of pencils, regular or mechanical*
- permanent-ink, weather-resistant pens are acceptable
- Hot/cold mug*
- Rite in the Rain field notebook*
- Sunscreen, sun hat, and sunglasses
- Lunch pack-up container(s) (resealable)*
- Mess kit and utensils
- Packable water bottles (total capacity at least 2 liters)*
- Digital camera with zoom (optional)
- Hip boots or waders (optional)
- Bear spray (optional, but highly recommended)*
- Binoculars (optional but encouraged)
- Laptop (optional, but highly recommended)

- Required Overnight Field Gear and Other Items to Bring Checklists: (Click to view)

Expect to camp overnight at least two nights each week in the field. Food and cooking equipment will be provided. We may spend one night collecting frogs in the dark in a cold stream. You will need a good

headlamp, flashlight, hip boots or other good footwear for walking in a cold stream, and warm clothes (click above to view required overnight and field gear).

Student Learning Outcomes:

Grading:

Course Policies:

Schedule: (Tentative to be revised late Spring 2017.)

Date	Lectures/Lab/Field Work
26-Jun-17	Intro & Syllabus review, Field Lectures (Speakers TBA), Readings, field journal
27-Jun-17	Field trip to Bison Range, Field Lectures (Speakers TBA), Readings, field journal
28-Jun-17	Field trip to hatchery, Field Lectures (Speakers TBA); overnight Apgar, Glacier National Park (GNP)
29-Jun-17	Readings/discussions, Hidden Meadow hike, Field Lectures (Speakers TBA); overnight Apgar (GNP)
30-Jun-17	GNP hike to Howe Lake, Field Lecture (Speaker TBA) Midterm Exam and Field Journals due 10 PM, Work on papers over weekend
3-Jul-17	Readings, Logan Pass (GNP); Field Lecture (Speaker TBA); overnight Two Medicine (GNP)
4-Jul-17	Logan Pass (GNP) hike, Field Lecture (Speaker TBA); overnight Two Medicine (GNP)
5-Jul-17	Readings/discussions, Field Lecture (Speaker TBA); finish field journal
6-Jul-17	Research, Prepare MS Powerpoint/Prezi presentations, write paper, 10-12 AM instructor paper/slides review and field back; Email field journal to instructor
7-Jul-17	Student (5 minute) Oral Slide Presentations AM, work on paper, 3 PM final, paper due 5 PM