Field Biology 372

**Time:** T/Th 12-12:50, lab Thurs. 1-3:50  
**Classroom:** Heustis 129  
**Taught by** Prof. Bitty Roy  
  Office: Room 461b Onyx Bridge (enter 461 and go through a pocket door to the left)  
  Tel. 346-4520  
  E-mail: bit@uoregon.edu  
  Please use 372 in the subject header

**Office Hours:**  
Official office hour: Tuesdays 3:30-5, or by appointment, or feel free to drop-in, though it is always wise to call to be sure I am in.

**GTF**  
Lorien Reynolds  
Office hour: Weds 10-11 in Huestis 129.

**Goals**  
Upon successful completion of Biology 372, a student will:  
1. Be able to identify plants, insects, and birds  
2. Know how to keep a field journal, and know the value of it.  
3. Be able to use surveys and experiments to understand the distributions and behaviors of organisms.  
4. Understand the connections between geology, ecology and culture in shaping the environments of Oregon.

**SYLLABUS**

**Wk 1 Mar 28-Apr 1 Oregon Biogeography and Phenology**  
Tues Mar 29: Introduction & Oregon Biogeography

Please read BEFORE the lecture on Thursday (all readings are on Canvas):  
a. The information in the syllabus about the Phenology project and Field notebooks.  
b. Kleptoparasitism of a coyote by Jung et al 2009  
c. The botany help sheet  
d. Letters to the future by John Perrine and James Patton (ignore the first page of the pdf and start reading on page 211).

Thurs Mar 31: 12-1 Phenology and Field notebook lecture in Huestis  
1-3:50 FIELDTRIP Phenology Project (leave from classroom)

Useful websites:  
Plant identification and information:  
http://www.oregonflora.org/  
http://plants.usda.gov/java/  
Phenology: https://www.usanpn.org/

**Wk 2 Apr 4-8 Cryptogams (plant-like organisms that reproduce by spores)**  
Tues Apr 5: Lecture on Mosses and Lichens
Please read BEFORE the lab on Thursday (all readings are on Canvas):

a. Guidance notes: lichens, algae and mosses
b. The information on the Moss & Lichen exercise

Thurs Apr 7: 12-3:50  FIELDTRIP (leave from classroom) to the Cemetery; make measurements of cryptogams, then in lab, statistics 101

very useful websites:
Local Mosses: http://www.fernzenmosses.com/BryoByHabitats/Habitats.html
Local lichens: http://gis.nacse.org/lichenland/synopticKey/index.php

**Wk 3 Apr 11-15 Birds and Fossils**
Tues Apr. 12: Lecture on Wetlands and Rivers

Please read BEFORE the lab on Thursday (all readings are on Canvas):

a. Begin to familiarize yourself with bird identification by studying the Cornell Lab of Ornithology "Using field marks to identify birds" (and see useful website below)

b. Read about fossils in the Eugene area, especially pages 51 & 53 in Steer. 1958; and have a look at the more recent (and more technical) Retallack paper

c. Read the information on the fieldtrip

Thurs Apr. 14 lecture and Lab: 12-3:50 FIELDTRIP Willamette River, birds and fossils (Leave from the lab at 12:00).

**Thurs Homework due: Exercise 1, Lichens and Mosses**

Useful websites:
Birds: http://www.birds.cornell.edu/AllAboutBirds/birding123/identify/index_htmlb.

**Wk 4 Apr 18-22 Rivers link to the coast**
Tues 19 Apr: Lecture on Rivers & Salmon

Tues. Homework due: BRING Field Journals for Review= first third of term=100pts (back to you by Thursday)

Please read BEFORE the lab on Thursday (all readings are on Canvas):


b. Aquatic invertebrates handout (and study the pictures!)

Thursday 21 Apr: 12-3:50 FIELDTRIP after a short lecture (leave from classroom) Willamette River, compare aquatic invertebrate communities in river and millrace

Useful websites:
Salmon: http://www.fws.gov/salmonofthewest/salmon.htm
General resources for Pacific Northwest; http://www.nwnature.net/macros/resources.html

**SAT April 23rd Coast FIELDTRIP** (meet across Franklin in the parking lot near the Millrace; be early; we leave on time at 7am and return by 7pm)

**Wk 5 Apr 25-29 Prairies I**

Tues Apr 26: Gophers, Guest Lecture by Jim Reichman

Please read BEFORE the lab on Thursday (all readings are on Canvas):

b. the Gopher exercise

*Thurs. Homework due: coast trip*

Thurs Apr 28: 12-3:50 FIELDTRIP (leave from Millrace Parking lot)

Pisgah Estimating Gopher populations and their consequences

Useful websites:
Mammals of Oregon: [http://www.dfw.state.or.us/species/mammals/](http://www.dfw.state.or.us/species/mammals/)

**Wk 6 May 2-6 Prairies II**

Tues May 3: Lecture on The future, humans, prairies and the Willamette Valley

Please read BEFORE the lab on Thursday (all readings are on Canvas):

a. the metapopulation material you bought from SimUText

Thurs May 5: 12-3:50 FIELDTRIP (leave from Millrace Parking lot) WEW Lupines and Metapopulations

*Thurs. Homework due: gophers & the metapopulation exercise*

Useful websites:
West Eugene Wetlands plan: [https://www.eugene-or.gov/1766/West-Eugene-Wetlands-Plan](https://www.eugene-or.gov/1766/West-Eugene-Wetlands-Plan)
Rivers to Ridges: [https://www.eugene-or.gov/650/Rivers-to-Ridges-Partnership](https://www.eugene-or.gov/650/Rivers-to-Ridges-Partnership)

**Wk 7 May 9-13 Urban and Pollination Ecology**

Tues May 10: Urban Ecology: millrace

*BRING Field Journals for Review= 2nd third of term=100pts (back to you by Thursday)*

Please read BEFORE the lab on Thursday (all readings are on Canvas):

a. The pollination exercise

Thurs May 12: 12-3:50 FIELDTRIP near river (leave from classroom) Insects and Pollination
Sunday 15th of May is wildflower show at Mt Pisgah Arboretum

Useful websites:
Insect identification: http://bugguide.net/node/view/15740
Pollinators in the PNW: http://www.xerces.org/pollinators-pacific-northwest-region/
Urban botany: https://placesjournal.org/article/the-flora-of-the-future/?gclid=CjwKCAiAx--2BRDO6q2T84_aS2YJSJABWAbfrSa6KdpMV6G1QYuEEAkJShRfienjMYF7kxGmKy7jPORoCLQDw_wcB

**Wk 8 May 16-20 High Desert**

Tues May 17: Lecture on Oregon's High desert, Sagebrush

Please read BEFORE the fieldtrip on Saturday (all readings are on Canvas):
 a. the field trip information and exercise
 b. skim "The shrinking sagebrush sea" by Mark Salvo 2008.

Thurs May 19: Lecture: Pollination discussion, galls and herbivory. Lab: Catch-up day and help session. Computers will be in the lab and we will be there to help with analyses and identifications

*Thurs Homework due: pollination*

**21 May Saturday East side FIELDTRIP**, leaving at 7am from Millrace Parking lot
Data: Galls on sagebrush, geology, cascade transect

Useful Websites:
Oregon Natural Desert Association: http://onda.org/

**Wk 9 May 23-27 Forests**

Tues May 24: Lecture on What is a forest? and Worldwide Forest Dieback

Please read BEFORE the fieldtrip on Saturday (all readings are on Canvas):
 a. Skim the Mohawk Research Natural Area guidebook

Thurs May 26: 12-3:50 FIELDTRIP Mohawk Forest (leave from Millrace Parking lot at 12:00)
Old growth forest, bird and plant practice

*Homework due: East side trip*

**Wk10 May 30-June 3 Predators**

Tues 31May: Lecture on Predators

*BRING Field Journals for Review= last third of term=100pts (back to you by the final)*

Thurs 2 June: 12-3:50 FIELDTRIP (leave from classroom). Everyone reports on their phenology projects in Alton Baker Park

**Final Exam: 8:00 Tuesday, June 7. The exam will be on organisms. June 7 is also the day when your final phenology project is due.**
Methods
Field Biology is designed to teach you how to become a naturalist. A naturalist is an advocate of the doctrine that the world can be scientifically understood. Naturalists are knowledgeable about natural history, in particular of botany and zoology. We will be asking: how do we identify the plants and animals (including insect and birds) that we see and what are the biotic, abiotic and historical factors affecting the composition and distributions of organisms in the major physiographic regions of Oregon? Basic ecological principles will be taught, including adaptation, competition, mutualism, and invasion biology, using local examples. Not only will you learn to identify organisms and to see biological patterns, but you will also learn to test hypotheses about what you see.

A large component of this class is the experiential learning that will take place during field study. Most of the three-hour “lab” periods will be spent in the outdoors, and there will also be two day-long weekend trips. We will focus on the Willamette Valley prairies, coastal rivers, dunes and mudflats and we will take one trip through the Cascades to the high desert of Eastern Oregon. These fieldtrips and labs are designed to gain hands-on experience with different organisms and habitats. A large portion of the grade for this class is the field journal in which you will make observations and reflect on what you see and do in the field.

Required Materials:
1. You are required to buy a write-in-the-rain field journal and a hand lens (for looking at small things, like flowers). You will also be keeping a field journal. The form that this takes is up to you. See examples in class.
2. For field identifications you will need either a Western US bird App for your phone OR a bird book. You will also need an Oregon plant APP or an Oregon plant book. Here are our recommendations:

APPS:
   a. the Oregon Flora Project, which is $9.99; there is an iphone and an Android version https://itunes.apple.com/us/app/oregon-wildflowers/id828499164?mt=8
   b. b. the Sibley eguide to the birds of North America, which is $19.99 https://itunes.apple.com/us/app/sibley-eguide-to-birds-north/id354101483?mt=8

These apps will be your constant companions on every field trip and hopefully for the rest of your lives.

OR Books:
   d. Either the Sibley guide to birds of Western N America OR the National Geographic Birds of Western North America.

3. SimUText Exercise on Metapopulations
4. A camera is strongly recommended. Cell phones take ok snapshots, but are less good for birds and very small things. If you have your own binoculars, bring them to every lab (we only have 12 to loan).

**Field Trips:**
1. Most weeks our lecture and "lab" time on Thursday is a fieldtrip, so come prepared with:
   - rain jacket (and rain pants if you have them)
   - hand lens and field notebook
   - camera and binoculars
   - closed toe shoes-NO SANDALS (strictly enforced)
   - expect to get dirty
   - long pants (poison oak and blackberries are everywhere)
2. There are two required Saturday trips (see grading).
3. Several of our lectures will be outdoors, so come to class prepared to go outside (see syllabus).

**Field Notebook and Field Journal:** see write-up for more detail. Briefly, you will keep notes and data from field trips and any additional fieldwork you do in your write-in-the rain field notebook. You will also keep a formal field journal where your notes are fleshed out.

**Phenology Project:** see write-up for more detail. You will be given a plant species to follow over the course of the spring.

**Grading**
500 pts (50%) 5/6 Exercises (I drop the lowest score, which means you can miss one or do badly on one)

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300 pts (30%) Field Journal (which should include your data AND additional materials)
100 pts (10%) Phenology Project
100 pts Final Lab Exam

**Participation** will aid your success in the class, and will make it more enjoyable for all. You all have skills that you can share and there are many ways you can contribute.
**Plagiarism will not be tolerated.** You are expected to do your own work on assignments. You are encouraged to discuss ideas and identifications with each other and to study together, but do not copy someone else’s work, or allow them to copy yours. Penalties for cheating range from receiving a zero score on the relevant test, quiz or exercise to receiving an F grade in the class. The student conduct code can be found at:
http://studentlife.uoregon.edu/LinkClick.aspx?fileticket=puLfAzFDbsg%3D&tabid=69

**Late Policy:** There are NO LATE ASSIGNMENTS and NO MAKE UP EXAMS, except for genuine **Emergencies and crises.** When crises do occur, I will work with you to make arrangements and accommodations. I don’t ever want anyone lying in a hospital bed worrying about class! Documentation may be requested.

**STUDENTS WITH SPECIAL NEEDS**
We do our best to support students with special needs. If you have special needs, such as test accommodations, note-taking, and sign language interpretation, please contact Disability Services so that their personnel and I can work together to help you learn comfortably in this class. The Disability Services office is located in 164 Oregon Hall. Telephone 541 346-1155. TTY: 541 346-1083. Fax 541 346-6013. On the web: http://ds.uoregon.edu. E-mail: disabsrv@uoregon.edu

If English is your second language and you find understanding my speech difficult, please contact me. I may be able to help you (I too have lived in other countries and have had to function in other languages).