

# **BI 448 Field Botany**

**Summer 2019**



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**Lecture/Lab:** Monday & Wednesday 13:00 - 16:50. Meet in 112 Huestis.

**Field Trips:** Fridays 7:45 – 18:15. Meet in the parking lot at Onyx and Franklin Blvd (behind the Science Library).

***Please arrive on time for a prompt departure.***

## **COURSE GOALS**

Learn to make accurate and precise observations and measurements of biological specimens and systems.

Recognize patterns of biodiversity.

Gain confidence identifying organisms in their habitats

## **COURSE OBJECTIVES**

Through lectures, laboratories, field trips, and scholarship you will learn:

1. How to describe and classify plant diversity
2. Identification of plants using dichotomous keys
3. Recognition of common angiosperm and gymnosperm families
4. Recognition of local flora
5. Field sampling methodologies
6. Collecting and preparing botanical specimens
7. Plant ecology

## **COURSE MATERIALS**

### **REQUIRED BOOKS & SUPPLIES:**

Gilkey, H. and L. Dennis. 2001. Handbook of Northwestern Plants Revised Edition. OSU Press. ISBN 978-0870714900

OpenStax ("O.S"). 2013. Biology. (Plant science chapters - Available for download on Canvas)

**"Botany Kit":** 10X hand lens, probe, forceps, retractable razor knife, metric ruler, drawing paper and pencils/pens, ziploc bags (qt.& gal.) for keeping things dry and for collecting samples, a Rite-in-the-Rain notebook and pencils (pen is not water resistant!). Newspaper and cardboard for drying plant specimens.

### **RECOMMENDED (but optional) RESOURCES:**

Harris, JG. and MW. Harris. 2001. Plant Identification Terminology: An Illustrated Glossary. 2nd Ed. Spring Lake Publishing. ISBN 978-0964022164

Pojar, A. and J. MacKinnon. 2004. Plants of the Pacific Northwest Coast. Revised Edition. Lone Pine Publishing. ISBN 978-1551050409

Jensen, E. 2010. Trees to know in Oregon. OSU Extension, Corvallis, OR.

Elpel, T.J. 2013. Botany in a Day. HOPS Press. ISBN 978-1892784353

Wildflower Search. Oregon Wildflower Search v.5.3. Updated June 16, 2017. (Free)  
<http://www.wildflowersearch.org/search?page=Apps>

High Country Apps. Oregon Wildflowers v.5.01. Updated July 07, 2017. (\$9.99)  
[www.highcountryapps.com/OregonWildflowers.aspx](http://www.highcountryapps.com/OregonWildflowers.aspx)

### **FIELD TRIP PACKING LIST:**

'Gilkey'

Hand-lens & 'botany kit'

Lunch

Water

Snacks

Field notebook (& pencil)

Field guides (optional)

Wear long pants (we may hike off-trail or kneel in rough terrain)

Hiking boots or tennis shoes (NO SANDALS – this is a safety issue!)

Hat and sunscreen

Rain gear (you never know!)

Dress in layers (the day may start out cool and then warm up, or vice versa)

## **ASSESSMENTS**

<b>Assessment</b>	<b>#</b>	<b>% Each</b>	<b>Total</b>
Final Exam	1	200	200
Midterm Exam	1	100	100
Final Practical	1	170	170

Lab Quizzes	3	70	210
Field Trips	3	50	150
Collections	6	15	90
Labs	8	10	80
<b>TOTAL</b>			<b>1000</b>

**Exams:** will cover subjects and vocabulary presented in lecture, lab and field, whether that material is in the textbook or not. Furthermore, you are expected to know what is in the assigned reading, even if we don't cover that material in lab or lecture. Questions may be multiple choice, short essay, fill in the blank, or true/false format.

**Final Practical:** The Final Practical will focus on family recognition, species ID, and keying unknowns.

**Lab Quizzes:** There will be three lab quizzes. The lab quizzes will focus on family recognition, species ID, and keying, however they may also include questions based on reading assignments; points will be deducted for misspelling.

**Plant Collections:** Each student will be responsible for submitting six dried, mounted and labelled specimens at the end of the term. These should all be correctly identified.

**Labs:** During each session you will turn in an activity or worksheet. These will largely be graded based on participation and effort. You will be responsible for making sure that you understand the material covered regardless of the grade you receive on the lab worksheets. **BE PREPARED TO GO OUTSIDE EVERY SESSION.**

***Bring your Gilkey and your botany kit to every class meeting!***

**Field Trips:** Since this is a 'Field Botany' class, the field trips will be critical to your success in the course. **ATTENDANCE IS REQUIRED** and make-ups are not possible due to logistics

**Readings:** Readings should be done prior to the day that they are listed in the schedule. They are chosen to support the material that we will cover in class. The contents may form part of the questions on exams.

## SCHEDULE

WEEK	DATE	TOPIC	READING
1	7/22	Non-flowering plants; dichotomous keys	Gilkey pp.1-3; O.S pp.672-701 (skim), 875-876
1	7/24	Taxonomy; describing angiosperm diversity; making plant collections <b>QUIZ 1</b>	Gilkey pp.4-5; O.S pp.701-707, 711-717, 926; <i>'The use and methods of making an herbarium specimen'</i> ; <i>'MOBOT Field handbook'</i>
<b>1</b>	<b>7/26</b>	<b>FIELD TRIP 1: CASCADES</b>	

2	7/29	Monocots: Liliaceae, Iridaceae, Orchidaceae;	Gilkey pp.65,80,83; Kelch 2002;
2	7/31	Biogeography; Dicots: various families. <b>QUIZ 2; Field Trip Report 1 Due</b>	O.S pp.1288-1300;
<b>2</b>	<b>8/2</b>	<b>FIELD TRIP 2: COAST</b>	
3	8/5	Dicots continued <b>MIDTERM EXAM</b>	
3	8/7	Dicots continued; Vegetation sampling methods <b>Field Trip Report 2 Due</b>	<i>Clarke 2009</i>
<b>3</b>	<b>8/9</b>	<b>FIELD TRIP 3: OSU Herbarium &amp; COAST RANGE</b>	Browse <a href="#">@OSU Herbarium</a> (on Twitter); <i>Wagner 1994 (OPTIONAL)</i> ;
4	8/12	Monocots: graminoids; <b>QUIZ 3</b>	Gilkey pp.60-61, 65;
4	8/14	<b>Wetlands Fieldtrip (meet at Amazon Park)</b> <b>Field Trip Report 3 Due</b>	O.S p.1307 (Wetlands)
4	8/16	<b>FINAL EXAM &amp; PRACTICAL Collections Due</b>	

## **ON-CAMPUS RESOURCES**

### **Accessible Education Center (AEC)**

The University of Oregon is working to create inclusive learning environments. If there are aspects of the instruction or design of this course that result in barriers to your participation, please notify us as soon as possible. You are also encouraged to contact the Accessible Education Center. If you are not a student with a documented disability, but you would like for us to know about class issues that will impact your ability to learn, come visit during office hours so that we can strategize how you can get the most out of this course. Oregon Hall, Suite 360. (541) 346-1155, [uoaec@uoregon.edu](mailto:uoaec@uoregon.edu), <https://aec.uoregon.edu>.

### **Center for Multicultural Academic Excellence (CMAE)**

Promoting student retention and persistence for historically underrepresented and underserved populations. Programs and services that support retention, academic excellence, and success at the UO and beyond. Committed to all students, including undocumented and tuition equity students. Located on the 1<sup>st</sup> Floor of Oregon Hall (541) 346-3479, [cmae@uoregon.edu](mailto:cmae@uoregon.edu).

### **Counseling Center**

The Counseling Center provides students with confidential consultation 24 hours a day, 7 days a week. Their number is 346-3227. Students often believe that their issues are not “severe” enough for them to call, but at the Counseling Center, no problem is too small. <https://counseling.uoregon.edu/>

## **COURSE POLICIES**

### **Academic Integrity**

All students are expected to complete assignments in a manner consistent with academic integrity. Students must produce their own work and properly acknowledge and document all sources (ideas, quotations, paraphrases). Students can find more complete information about the University of Oregon's Policy on Academic Dishonesty in the [student conduct code](https://dos.uoregon.edu/conduct) (located at [dos.uoregon.edu/conduct](https://dos.uoregon.edu/conduct)).

### **Inclusiveness**

Open inquiry, freedom of expression, and respect for difference are fundamental to a comprehensive and dynamic education. We are committed to upholding these ideals by encouraging the exploration, engagement, and expression of divergent perspectives and diverse identities.

### **Electronic Devices**

Please put away and **do not use** your own computers, cell phones, or other electronic devices during lecture or lab. [Evidence](https://www.nytimes.com/2017/11/22/business/laptops-not-during-lecture-or-meeting.html?_r=3) (ie [https://www.nytimes.com/2017/11/22/business/laptops-not-during-lecture-or-meeting.html?\\_r=3](https://www.nytimes.com/2017/11/22/business/laptops-not-during-lecture-or-meeting.html?_r=3)) suggests that computers are not a good way for taking notes in science courses and they are distracting to other students. Please be prepared to write and draw by hand in this class.

### **Communication**

I will try to make myself as available as possible for questions related to course material. However, I ask that you pose questions to fellow students first. If it pertains to course administration, **double-check the syllabus and Canvas.** If you email after regular business hours you may not hear back from me until the next day. ***Please include "BI 448" in the subject line of all emails.***

### **Prohibited Discrimination and Harassment**

UO is committed to providing an environment free of all forms of prohibited discrimination and harassment, including sex or gender based violence. As an instructor, one of my responsibilities is to help create a safe learning environment for my students and for the campus as a whole. Students experiencing any form of prohibited discrimination or harassment may seek further information on [safe.uoregon.edu](https://safe.uoregon.edu), [respect.uoregon.edu](https://respect.uoregon.edu), [titleix.uoregon.edu](https://titleix.uoregon.edu), or [aaeo.uoregon.edu](https://aaeo.uoregon.edu) or contact the Title IX office (541-346-8136), Office of Civil Rights Compliance office (541-346-3123), or Dean of Students offices (541-346-3216), or call the 24-7 hotline 541-346-SAFE for help.

"Without the name, any flower is still more or less a stranger to you. The name betrays its family, its relationship to other flowers, and gives the mind something tangible to grasp."

- John Burroughs

"Botany I rank with the most valuable sciences."

- Thomas Jefferson