

BI 448/548 Field Botany

CRN: 41201/41200

Summer 2022



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Lecture/Lab: Tuesday & Thursday 12:00 - 15:50. Meet in 21 Klamath.

Field Trips: Fridays 7:45 – 18:15. **Meet in Parking Lot 2 @ Onyx & (N. side of) Franklin).**

Please arrive on time for a prompt departure.

Goals & Objectives -> Format -> Materials -> Assessments -> Policies -> Resources -> Schedule

COURSE GOALS

Make accurate observations and measurements of biological specimens and systems.

Recognize patterns of biodiversity.

Gain confidence identifying living organisms and pressed specimens.

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 FORMAT

This is an intensive, 4-credit, upper level, lab/field course that meets for ~19 hours per week. Your attendance and active participation is critical to your success. We will have workshops every Tuesday

and Thursday that cover plant identification, taxonomy, plant ecology, data collection and management. We will then apply this information in the field ALL-DAY every Friday. You are expected to do the assigned readings ahead of time so that you are well prepared for our time in class.

COURSE MATERIALS

REQUIRED BOOKS

- Gilkey, H. and L. Dennis. 2001. Handbook of Northwestern Plants Revised Edition. OSU Press. ISBN 978-0870714900
- Franklin J.F. & C.T. Dyrness. 1988. Natural Vegetation of Oregon and Washington. OSU Press. Corvallis, OR. (**PDF available on Canvas**).
- Rost, T.L., M.G. Barbour, C.R. Stocking, T.M. Murphy. 2015. Plant Biology. Free Access Edition. (**PDF Available on Canvas**).

REQUIRED LAB/FIELD SUPPLIES:

10X hand lens, probe (unfolder paper clip can work), forceps (tweezers), razor blade (or x-acto type knife), metric ruler (15 cm is fine). Drawing paper and pencils/pens. Ziploc bags (1qt.&1gal.) for keeping things dry and collecting samples. A Rite-in-the-Rain (or other water-proof) notebook and pencils (pen is not water resistant!). Rain gear. A camera (phone ok).

OPTIONAL RESOURCES (BOOKS AND APPS):

- Harris, JG. and MW. Harris. 2001. Plant identification terminology: An illustrated glossary. 2nd ed. Spring Lake Publishing, Spring Lake, UT.
- Wildflower Search App. <https://wildflowersearch.org/search?page=Apps>
- Oregon Flora Project. 2014. Oregon Wildflowers App.
<http://www.highcountryapps.com/OregonWildflowers.aspx>
- Pojar and MacKinnon. 2004. Plants of the Pacific Northwest Coast. Lone Pine Publishing, Auburn, WA.
- Jensen, E. 2010. Trees to know in Oregon. OSU Extension, Corvallis, OR.
- Elpel T.J. Any edition. Botany in a day. HOPS Press, Pony MT.

COURSE ASSESSMENTS*

Assessment	#	Pts. Each	Total
Field Trip Reports	3	50	150
Practical Quizzes	3	50	150
Final Practical	1	150	150
FINAL EXAM	1	150	150
MIDTERM EXAM	1	100	100
Plant Collections	10	10	100
Labs	7	10	70
DRQs	10	5	50
iNaturalist Observations	10	5	50
Discussion Posts	3	10	30
		TOTAL	1000

*Graduate students must also complete an additional independent project in order to receive 500-level credit. This will be based on a discussion about your research themes and goals that will take place within the first week of the term. **Please contact me to arrange a 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. After each field trip you will submit a Field Trip Report. Details will be provided on Canvas.

Field Trip Packing List

Snacks

Lunch

Water

Field notebook (& pencil)

Handbook of Northwestern Plants, (hand-lens, ruler etc.)

Field guides (optional)

Wear long pants.

Hiking boots, rubber boots, or tennis shoes (NO SANDALS).

Bring a hat and sunscreen, as well as **rain gear**.

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

PRACTICALS

There will be three practical lab quizzes, and a final. The practicals will focus on plant morphology, family recognition, species ID, and keying, points will be deducted for misspelling. Thoughtful completion of the lab activities and studying the material will prepare you for these exams.

EXAMS

Exam will cover subjects and vocabulary presented in lecture or lab, 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, or fill in the blank format. Barring unforeseen circumstances, exams will be in-person.

PLANT COLLECTIONS

As a way to get you out and identifying plants on your own, you will be responsible for making plant collections. Each student will be responsible for submitting ten dried, mounted and labelled specimens at the end of the term. These should all be correctly identified. Photos of the plant, in-situ, as well as of the dried specimen will be posted to the iNaturalist citizen science platform. You will need to make a free account at <https://www.inaturalist.org/>, and you will need access to a digital camera (phones ok). Further details will be available in the Assignments section of Canvas.

LABS

During most sessions 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.**

DAILY READING QUIZZES

Daily Reading Quizzes (DRQs) are intended to keep you up-to-date and on track with the course reading materials. They will be administered on Canvas and **will always be due BEFORE the corresponding course session**. All readings are included on the Course Schedule. These quizzes will be untimed. You are welcome to discuss your ideas with other students, but you should do your own work and not simply get answers from other students.

DISCUSSION POSTS

You will be required to post to a course-wide discussion board at specific points in the term. You will also be required to respond to someone else's post (for all discussions). This will hopefully help foster connections with classmates both in and out of the classroom.

COURSE POLICIES**COURSE CONTEXT (COVID-19 + everything else!)**

In plant ecology one of the things that you will come to appreciate is that context matters. For example, plants will respond differently to herbivory when they are drought-stressed, or adjust nectar production based on pollinator visitation. We want to acknowledge that we are all experiencing things outside the bounds of normalcy right now and that each of us are being stressed in ways that we have not entirely anticipated nor fully appreciate. This impacts our learning communities as much as any other aspect of our lives.

We urge us all to remember that we did not sign up for this. Not for the pandemic, not for the climate chaos, not for the systemic injustice, not for the unpredictability. We will get through this by prioritizing each other as human beings, by prioritizing simple solutions that work for the most people, and by sharing resources and communicating clearly. We must remain flexible and adjust to the situation as needed. Everyone needs support and understanding in these times.

We want you to know that we stand in firm solidarity with those that are continuing to demand social justice and an end to war. We realize that the events of the last two+ years are impacting each of you in unique ways, some of which may be difficult for others to understand. We want to encourage inclusivity and understanding around the unique issues faced by our black students and other students of color.

In light of everything, we want you to know that we are open to working with you on a range of accommodations to help you feel successful in our class. Please contact us early with any anticipated issues, it will be easier to help you if it does not become a last-minute emergency.

We intend to facilitate a learning experience that will be of value to you in a post-pandemic world. We truly believe that the awareness and the skills that we will develop together this term will go a long way toward promoting a more sustainable and resilient world, whatever the future holds.

"If there's any good to come of it, I'm trying to think of it as a reminder that despite our illusions of human exceptionalism, natural processes are still in charge, and (of) the importance of our collective responsibilities toward one another."

- Robin Wall Kimmerer on the COVID-19 pandemic

PROFESSIONAL CONDUCT

We will work hard to make this course valuable to your learning. We welcome suggestions from you at any time about things you think could be done to improve the course. In return, we ask that you arrive to lab and lecture on time and stay until class is over without making unnecessary noise that could distract your classmates. Please put away and do not use your own computers, cell phones, or other electronic devices during lecture or lab. We promise to respect you as students and as individuals, and ask that you return that respect to us and to your fellow classmates. Class rosters are provided to the instructor with the student's legal name. We will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the quarter (or before) so that I may address you properly.

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. 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).

INCLUSIVENESS

Open inquiry, freedom of expression, and respect for differences 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. Our classroom is a learning environment, and as such should be a safe, inclusive and respectful place. Being respectful includes using preferred pronouns for your classmates. Disrespecting fellow students as well as combative approaches, tones and/or actions are not acceptable. Please make us aware if there are classroom dynamics that impede your (or someone else's) full engagement.

COMMUNICATION

In general, our class will communicate through our Canvas site. Announcements and emails are archived there and automatically forwarded to your UO email, and can even reach you by text. Check and adjust your settings under Account > Notifications. We will have a running Discussion forum on our Canvas site called "Question Board" for the entire group to ask and answer questions.

We will make ourselves as available as possible for questions related to course material. However, we ask that you make an honest effort to find the answers yourself, including posing questions to fellow students first (you can do this through Canvas). 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 us 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 instructors, one of our responsibilities is to help create a safe learning environment for 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, respect.uoregon.edu, titleix.uoregon.edu, or 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.

CRISES HAPPEN

If you are having difficulties that are interfering with your ability to do well in the class, please tell an instructor as soon as possible. We may be able to refer you to someone for help or to make special arrangements if the need is real and you have done your best to deal with the situation in a timely manner. There is a Crisis Center on campus that you should not hesitate to call if you, or a friend, are in need of assistance. Their phone number is 346-4488.

REPORTING

The instructors of this class are 'Assisting Employees.' As such, if you disclose to us, we will respond to you with respect and kindness. We will listen to you, and will be sensitive to your needs and desires. We will not judge you. We will support you. As part of that support, we will direct students who disclose prohibited discrimination and harassment, including sexual harassment or violence, to resources that

can help and will only report the information shared to the university administration if the student requests that the information be reported (unless someone is in imminent risk of serious harm or a minor). *Please note the difference between ‘privacy’ and ‘confidentiality.’* As an Assisting Employee we can offer privacy because we are not required to report certain information to the university. However, we cannot be bound by confidentiality in the same way that a counselor or attorney is. Confidential resources such as these means that information shared is protected by federal and state laws. Any information that we as assisting employees receive may still be accessed by university or court proceedings. This means, for example, that we could still be called as a witness or required to turn over any related documents or notes that we keep.

For information about our reporting obligations as an employee, please see **the [Employee Responsibilities](#)** on the Office of Investigations and Civil Rights Compliance (OICRC) website. Students experiencing sex or gender-based discrimination, harassment or violence should call the 24-7 hotline 541-346-SAFE [7244] or visit safe.uoregon.edu for help. Students experiencing all forms of prohibited discrimination or harassment may contact the Dean of Students Office at 541-346-3216 or the non-confidential Title IX Coordinator/OICRC at 541-346-3123. Additional resources are available at investigations.uoregon.edu/how-get-support.

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, contact us so that we can strategize how you can get the most out of this course. They are available Monday-Friday 8am-5pm by calling (541) 346-1155 or emailing uoaec@uoregon.edu. <https://aec.uoregon.edu/>

UO ACCESS SHUTTLE

The UO Access Shuttle is an on-campus ride service provided at no cost to students with conditions that limit mobility. More information and a sign-up form can be found on the parking & transportation department website: <https://parking.uoregon.edu/content/access-shuttle>.

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. Email cmae@uoregon.edu. or call the front desk at 541-346-3479.

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/>.

If you’re unable or don’t wish to come to the Counseling Center in person, help is still available. Our after-hours support/crisis line is open to all students, wherever you are located. Call 541-346-3227 when the Counseling Center is closed to speak to a therapist. Counseling Center staff can help you figure out how to find mental health services in your area. Call 541-

346-3227 during business hours to schedule a consultation with a case manager.

DEAN OF STUDENTS

The Dean of Students website has additional resources targeted to specific communities on campus. Check out <https://dos.uoregon.edu/community> for information on the Black Cultural Center, LGBT+ Support Services, the Women’s Center, as well as resources for Nontraditional students and Veterans.

DUCK RIDES (FORMERLY ‘SAFE RIDES’)

Duck Rides is a student-led organization dedicated to providing free and accessible transportation to all university students, staff and faculty. The goal is to provide safe transportation that is an alternative to walking home alone at night, and to prevent sexual assault and driving under the influence. Hours of Operation: 6:00 pm – 12:00 am. 7-days-a-week. 541-346-7433. duckrides@uoregon.edu. <https://duckrides.uoregon.edu/>

COVID PROTOCOLS

ACADEMIC DISRUPTION

In the event of a campus emergency that disrupts academic activities, course requirements, deadlines, and grading percentages are subject to change. Information about changes in this course will be communicated as soon as possible by email, and on Canvas. If we are not able to meet face-to-face, students should immediately log onto Canvas and read any announcements and/or access alternative assignments. Students are also expected to continue coursework as outlined in this syllabus or other instructions on Canvas. *In the event that the instructor of this course has to quarantine, this course may be taught online during that time.*

STAYING SAFE IN CLASSES

As the University of Oregon continues in-person instruction, instructors and students play a key role in keeping our community healthy and safe.

- **Prevention:** To prevent or reduce the spread of COVID-19 in classrooms and on campus, all students and employees must:
 - Comply with [vaccination policy](#)
 - [Wash hands](#) frequently
 - Complete daily [self-checks](#)
 - Stay home/do not come to campus if feeling [symptomatic](#).
 - Individuals with no symptoms or mild symptoms can get tested at Chiles Hall through UO's Monitoring and Assessment Program. Masks are required at COVID-19 testing sites including in line outside.
 - Visit the [Exposure Scenario](#) page if you test positive or have been in close contact with a confirmed or presumptive case.
- **Support:** The following resources are available to you as a student.
 - [University Health Services](#) or call (541) 346-2770
 - [University Counseling Center](#) or call (541) 346-3277 or (541) 346-3227 (after hrs.)
 - [MAP Covid-19 Testing](#)
 - [Corona Corps](#) or call (541) 346-2292

- [Academic Advising](#) or call (541) 346-3211
- [Dean of Students](#) or call (541)-346-3216

COURSE SCHEDULE

WEEK	DATE	TOPIC	READING	ASSIGNMENTS
1	19-Jul	Introduction to 'Field Botany'; non-flowering plants; dichotomous keys (LAB 1)	Rost Ch.s 1, 23 & 24; Gilkey pp.1-6; Waring 1982 & Harrington 1985 (on Canvas)	DRQ 1
1	21-Jul	Taxonomy; making plant collections; describing angiosperm diversity (LAB 2)	Rost Ch.s 18 & 25; 'The use and methods of making an herbarium specimen' & 'MOBOT Field handbook' (on Canvas)	DRQ 2; QUIZ 1
1	22-Jul	FIELD TRIP I: COAST & COAST RANGE	Franklin pp. 58-63 pp. 291-300; pp. 70-88 (<i>Tsuga heterophylla</i> zone)	DRQ 3
2	26-Jul	PNW Plant Ecology; Monocot Families (Liliaceae, Iridaceae, Orchidaceae) (LAB 3)	Rost Ch. 26 & Ch. 27; Franklin Ch. 1, pp. 38-43, Ch. 3, pp. 53-58; Gilkey pp. 65, 80, 83	DRQ 4
2	28-Jul	Dicot Families (Ranunculaceae, Saxifragaceae, Rosaceae, Fabaceae, Apiaceae, Ericaceae, Boraginaceae, Lamiaceae, Scrophulariaceae) (LAB 4)	Gilkey pp. 144,189, 205, 223, 283, 299, 338, 345, 356;	DRQ 5; QUIZ 2; Field trip Report 1
2	29-Jul	FIELD TRIP II: WEST CASCADES	Franklin pp. 70-88 (<i>Tsuga heterophylla</i> zone), 93-101(<i>Abies amabilis</i> zone)	DRQ 6
3	2-Aug	MIDTERM EXAM; WILLAMETTE VALLEY (LAB 5 outside)	Franklin Ch. 5	DRQ 7; MIDTERM EXAM
3	4-Aug	Asteraceae and Graminoids (LAB 6)	Gilkey pp.399, 60-61, 65;	DRQ 8; QUIZ 3; Field trip Report 2
3	5-Aug	FIELD TRIP III: HIGH CASCADES & POINTS EAST (leave at 7:00 am)	Franklin pp. 101-109 (<i>Tsuga mertensiana</i> zone), 248-250, 269-270, 160-185, 234-239	DRQ 9
4	9-Aug	Vegetation sampling methods (LAB 7 outside)	Clark 2009	DRQ 10
4	11-Aug	REVIEW SESSION		Field trip Report 3; Plant Collections
4	12-Aug	FINAL EXAM & PRACTICAL		iNaturalist Observations

"Plants are nature's alchemists, expert at transforming water, soil and sunlight into an array of precious substances, many of them beyond the ability of human beings to conceive, much less manufacture."

— **Michael Pollan**, *The Botany of Desire: A Plant's-Eye View of the World*