

Syllabus

Dendrology: The Identification and Study of Woody Plants

Course Information

Semester & Year: Fall 2022

Course ID & Section #: FNR-51-E3747

Instructor's name: Madeleine Lopez

Location: AT 127

Lecture: Tuesday/Thursday 11:40-12:45 pm

Lab: Thursday 1:15-4:25 pm

Course units: 3.00

Instructor Contact Information

Office location: AT 123 or *Online: ZOOM*

Office hours: Tues. 9- 10 am, Fri. 12- 2 pm or by appointment

Phone number: (707) 476-4131

Email address: Madeleine-lopez@redwoods.edu

Catalog Description

The identification and classification of woody plants that occur in regional forest communities. Discussions will cover the technical language of plant taxonomy and nomenclature as well as botanical and ecological characteristics of trees. Lectures will also include important forest species found outside the region and across the U.S. **Note:** Field trips are required; the College does not provide transportation.

Course Student Learning Outcomes

1. Explain the basic concepts of taxonomy as they apply to woody plants.
2. Identify the major factors affecting identification and classification including habitats, sources of variation, and morphology.
3. Discuss the major groups of trees of economic importance in the U.S.
4. Lab Specific Outcome: Identify and assign scientific names to regionally important trees and shrubs both in and out of class.

Objectives:

1. Identify the dominant woody species present in the region.
2. Classify individual specimens into family, genus, and species.
3. Discuss important tree species in other regions of the U.S.
4. Understand the range of variation inherent in different species and how that impacts identification and classification.
5. Distinguish between different sources of variation (e.g. ecotypic vs. clinal variation).
6. Learn standard herbarium preparation techniques.



Note: Please do not attend class if you are sick or have been exposed to someone who is sick. If you become sick this fall, message me and we will determine the best course of action for your required coursework. This class requires field-trips, the college does not provide transportation and carpooling is not encouraged due to COVID-19. Labs will vary by week so you must pay attention to Canvas announcements for each week. Labs are **REQUIRED** and count for almost 1/3rd of the course grade.

- See [CDC website](#) for symptoms associated with COVID-19
- See STUDENT COVID-19 QUICK FACTS Flyer in Canvas for COVID protocols

Textbook Resources:

Field Guide for the labs—

1. Trees and Shrubs of California
by Stuart and Sawyer
ISBN 978-0520221109

Recommended Text:

1. Conifer Country-A natural history and hiking guide to 35 conifers of the Klamath Mountain region
by Michael Edward Kauffmann
Backcountry Press (ebook is also available)
ISBN 978-0578094168

I also recommend another inexpensive and helpful book used for understanding the terminology used in botanical dichotomous keys:

2. Plant Identification Terminology: An Illustrated Glossary
By James G. Harris
Spring Lake Pub; 2nd edition
ISBN-13: 978- 0964022164

Other Supplies:

Each student will also need 25 sheets of herbarium paper (standard full-size sheets) that can be purchased from the instructor (\$10) or on their own in order to complete their collection project.

The project will require you to buy, build, or rent some type of plant press though these can be made very inexpensively. This will be discussed in class.

A camera (smart-phone cameras work fine)

Hand lens (10X) are also useful aids in studying identification in the field. I recommend the Bausch and Lomb loupe (10X) for a sharp and clear image.

Prerequisites/co-requisites/ recommended preparation

Students will be required to have access to adequate computer and internet access and familiarity with basic computer skills. Examples of this include:

- *navigate a class in Canvas*
- *receive, respond and regularly check) messages sent to your CR email account*
- *download and upload files in Canvas assignments*
- *use a phone or digital camera (or webcam) to upload “selfies” to your online lab notebook*
- *use a word processor program (such as Microsoft Word or Google Docs)*
- *use a webcam or a phone to record and upload videos in Canvas*
- *use Zoom, email and canvas discussion boards to communicate with peers and instructor*

Accessibility

College of the Redwoods is committed to making reasonable accommodations for qualified students with disabilities. If you have a disability or believe you might benefit from disability-related services and accommodations, please contact your instructor or [Disability Services and Programs for Students](#) (DSPS). Students may make requests for alternative media by contacting DSPS based on their campus location:

- Eureka: 707-476-4280, student services building, 1st floor
- Del Norte: 707-465-2324, main building near library
- Klamath-Trinity: 530-625-4821 Ext 103

If you are taking online classes DSPS will email approved accommodations for distance education classes to your instructor. In the case of face-to-face instruction, please present your written accommodation request to your instructor *at least one week before the needed accommodation* so that necessary arrangements can be made. Last minute arrangements or post-test adjustments usually cannot be accommodated.

Student Support

Good information and clear communication about your needs will help you be successful. Please let your instructor know about any specific challenges or technology limitations that might affect your participation in class. College of the Redwoods wants every student to be successful.

Evaluation & Grading Policy

A: 94-100, A-: 90-<94, B+: 87-<90, B: 84-<87, B-: 80-<84, C+: 77-<80, C: 70-<77, D: 60-<70, F: <60

Item	% of total
Weekly ID field quiz	15
Module quiz	30
Final ID quiz	20
Midterm and Final lect exam	15
Collection project	15
Weekly Unknown	5

Quizzes and Exams: The ID quizzes are cumulative meaning that each week the pool of possible species to be tested gets larger. You do get to drop the ID quiz that contributes the fewest points to the total but you do not get to make up missed quizzes unless you have reached out ahead of time with a legitimate excuse. The Module quizzes are not cumulative but instead cover the material covered since the last Module. You do not get to drop the lowest Module quiz score. There is also one Midterm exam. The Final exam is cumulative but will emphasize material covered after the midterm and will likely pull 2 questions from each Module quiz

Late/missing work policy: Assignments and quizzes are to be completed and turned in by the date indicated. Please plan ahead, as late assignments will be penalized and lose 5% for each day they are late. If a serious and compelling issue should arise and prevent you from turning in the assignment on time (e.g. death in the family, hospitalization), please contact me in advance and we will work out an alternative plan. Please see me immediately if something in the foreseeable future is approaching as well. My goal is to help every student effectively learn and grow in this course, as such, I will remain open and flexible.

Drop Policy: You may be dropped from the class if you miss 3 or more weeks of class participation, discussion, assignments or labs prior to the end of week 10.

Extra Credit Opportunities: You can earn 10 extra credit points by giving a “TOD Talk” (Tree or Shrub of the Day). You can pick a tree or shrub species from anywhere in the world and give a 2-5 min presentation on its taxonomic placement, morphological characteristics, and how that woody plant is interesting. In order to schedule a TOD talk, email me at least 24 hours prior to the lecture you would like to present. More opportunities will also be mentioned during the course!

Academic Dishonesty: All assignments must be completed individually and should represent your own effort and understanding. Instances where it is clear that work has been shared and copied, or otherwise derived from other’s work, will result in both students receiving a clear warning and a zero on the assignment. A second instance will result in failure of the class and reported to the University.

Admissions deadlines & enrollment policies

Fall 2022 Dates

- *Classes begin: 8/22/22*
- *Last day to add a class: 8/26/22*
- *Last day to drop without a W and receive a refund: 9/02/22*
- *Labor Day Holiday (all campuses closed): 09/05/22*
- *Census date: 9/06/22 or 20% into class duration*
- *Last day to petition to file P/NP option: 9/16/22*
- *Last day to petition to graduate or apply for certificate: 10/27/22*
- *Last day for student-initiated W (no refund): 10/28/22*
- *Last day for faculty-initiated W (no refund): 10/28/22*
- *Veteran’s Day (all campuses closed): 11/11/22*
- *Fall Break (no classes): 11/21/22 – 11/25/22*

- *Thanksgiving Holiday (all campuses closed): 11/23/22 – 11/25/22*
- *Final examinations: 12/10/22 – 12/16/22*
- *Semester ends: 12/16/22*
- *Grades available for transcript release: approximately 01/06/22*

Academic dishonesty

In the academic community, the high value placed on truth implies a corresponding intolerance of scholastic dishonesty. In cases involving academic dishonesty, determination of the grade and of the student's status in the course is left primarily to the discretion of the faculty member. In such cases, where the instructor determines that a student has demonstrated academic dishonesty, the student may receive a failing grade for the assignment and/or exam and may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct ([AP 5500](#)) is available on the College of the Redwoods website. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the [College Catalog](#) and on the [College of the Redwoods website](#).

Disruptive behavior

Student behavior or speech that disrupts the instructional setting will not be tolerated. Disruptive conduct may include, but is not limited to: unwarranted interruptions; failure to adhere to instructor's directions; vulgar or obscene language; slurs or other forms of intimidation; and physically or verbally abusive behavior. In such cases where the instructor determines that a student has disrupted the educational process, a disruptive student may be temporarily removed from class. In addition, the student may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct ([AP 5500](#)) is available on the College of the Redwoods website. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the [College Catalog](#) and on the [College of the Redwoods website](#).

Inclusive Language in the Classroom

College of the Redwoods aspires to create a learning environment in which all people feel comfortable in contributing their perspectives to classroom discussions. It therefore encourages instructors and students to use language that is inclusive and respectful.

Setting Your Preferred Name in Canvas

Students have the ability to have an alternate first name and pronouns to appear in Canvas. Contact [Admissions & Records](#) to request a change to your preferred first name and pronoun. Your Preferred Name will only be listed in Canvas. This does not change your legal name in our records. See the [Student Information Update form](#).

Canvas Information

If using Canvas, include navigation instructions, tech support information, what Canvas is used for, and your expectation for how regularly students should check Canvas for your class.

Log into Canvas at <https://redwoods.instructure.com>

Password is your 8 digit birth date



For tech help, email its@redwoods.edu or call 707-476-4160

Canvas Help for students: <https://webapps.redwoods.edu/tutorial/>

Canvas online orientation workshop: [Canvas Student Orientation Course \(instructure.com\)](https://instructure.com)

Community College Student Health and Wellness

Resources, tools, and trainings regarding health, mental health, wellness, basic needs and more designed for California community college students, faculty and staff are available on the California Community Colleges [Health & Wellness website](#).

[Wellness Central](#) is a free online health and wellness resource that is available 24/7 in your space at your pace.

Students seeking to request a counseling appointment for academic advising or general counseling can email counseling@redwoods.edu.

Emergency procedures / Everbridge

College of the Redwoods has implemented an emergency alert system called Everbridge. In the event of an emergency on campus you will receive an alert through your personal email and/or phones. Registration is not necessary in order to receive emergency alerts. Check to make sure your contact information is up-to-date by logging into WebAdvisor <https://webadvisor.redwoods.edu> and selecting 'Students' then 'Academic Profile' then 'Current Information Update.'

Please contact Public Safety at 707-476-4112 or security@redwoods.edu if you have any questions. For more information see the [Redwoods Public Safety Page](#).

In an emergency that requires an evacuation of the building anywhere in the District:

- Be aware of all marked exits from your area and building
- Once outside, move to the nearest evacuation point outside your building
- Keep streets and walkways clear for emergency vehicles and personnel

Do not leave campus, unless it has been deemed safe by the campus authorities.

Eureka Campus Emergency Procedures

Please review the [campus emergency map](#) for evacuation sites, including the closest site to this classroom (posted by the exit of each room). For more information on Public Safety go to the [Redwoods Public Safety Page](#). It is the responsibility of College of the Redwoods to protect life and property from the effects of emergencies within its own jurisdiction.

In the event of an emergency:

1. Evaluate the impact the emergency has on your activity/operation and take appropriate action.
2. Dial 911, to notify local agency support such as law enforcement or fire services.
3. Notify Public Safety 707-476-4111 and inform them of the situation, with as much relevant information as possible.

4. Public Safety shall relay threat information, warnings, and alerts through the Everbridge emergency alert system, Public address system, and when possible, updates on the college website, to ensure the school community is notified.
5. Follow established procedures for the specific emergency as outlined in the College of the Redwoods Emergency Procedure Booklet, (evacuation to a safe zone, shelter in place, lockdown, assist others if possible, cooperate with First Responders, etc.).
6. If safe to do so, notify key administrators, departments, and personnel.
7. Do not leave campus, unless it is necessary to preserve life and/or has been deemed safe by the person in command.

Student Support Services

The following online resources are available to support your success as a student:

- [CR-Online](#) (Comprehensive information for online students)
- [Library Articles & Databases](#)
- [Canvas help and tutorials](#)
- [Online Student Handbook](#)

[Counseling](#) offers assistance to students in need of professional counseling services such as crisis counseling.

Learning Resource Center includes the following resources for students

- [Academic Support Center](#) for instructional support, tutoring, learning resources, and proctored exams. Includes the Math Lab & Drop-in Writing Center
- [Library Services](#) to promote information literacy and provide organized information resources.
- [Multicultural & Diversity Center](#)

Special programs are also available for eligible students include

- [Extended Opportunity Programs & Services \(EOPS\)](#) provides services to eligible income disadvantaged students including: textbook award, career academic and personal counseling, school supplies, transportation assistance, tutoring, laptop, calculator and textbook loans, priority registration, graduation cap and gown, workshops, and more!
- The TRiO Student Success Program provides eligible students with a variety of services including trips to 4-year universities, career assessments, and peer mentoring. Students can apply for the program in [Eureka](#) or in [Del Norte](#)
- The [Veteran's Resource Center](#) supports and facilitates academic success for Active Duty Military, Veterans and Dependents attending CR through relational advising, mentorship, transitional assistance, and coordination of military and Veteran-specific resources.
- Klamath-Trinity students can contact the CR KT Office for specific information about student support services at 530-625-4821

Other information:

Course Objective

The principal objective of the course is to learn the how and why of classifying and identifying woody plants (trees and shrubs). We'll do this by covering the basics of organization and technical jargon in the Modules and then combine that with field work to identify a variety of woody plants (trees and shrubs) commonly found in our region. Typically, we learn 130-150 species over the course of the semester and you will be responsible for identifying all of them. We'll also learn about the factors that affect



identification and classification of woody plants and about the important species found in other regions of the country.

Structure

The course is structured around lecture Modules that cover the technical details of dendrology and field labs that introduce you to the different species. About half of all the labs will be held off-campus in various locations so please make arrangements for transportation to the sites. Details about each off-campus lab will be given out prior to the lab so you have time to make arrangements.

The general outline of study is

Course Outline

Concepts:

1. Evolution as it applies to phylogenetic classification.
2. The species as a basic taxonomic unit.
3. Variation in biological systems.
4. Wood structure and use in identification.
5. Structural morphology of trees.
6. Environmental limits on species.
7. Habitats, range, and community concepts as applied to forest species.
8. Nomenclature protocols in taxonomy.
9. Hierarchical classification systems.

Themes & issues:

1. Natural variation as a factor in identification.
2. Ecological limits of species occurrence and the impacts of climate change on range.

Skills:

1. Develop and use dichotomous keys.
2. Identify and name morphological structures of plants.
3. Collect and preserve herbarium specimens outside of class.
4. Identify wood characteristics related to ID.

Lab Outline

Concepts:

1. Using visual discrimination to separate similar looking species.
2. Applying an understanding of sources of variation to ID.

Skills:

1. Identifying morphological features in the field.
2. Assigning correct taxonomic names and classification in the field.
3. Collecting and preserving specimens in the field.

Quizzes and Exams

The ID quizzes are cumulative meaning that each week the pool of possible species to be tested gets



larger. You do get to drop the ID quiz that contributes the fewest points to the total but you do not get to make up missed quizzes unless you have reached out ahead of time with a legitimate excuse. The Module quizzes are not cumulative but instead cover the material covered since the last Module. You do not get to drop the lowest Module quiz score. There is also one Midterm exam. The Final exam is cumulative but will emphasize material covered after the midterm and will likely pull 2 questions from each Module quiz

Projects

There are 2 separate but related projects required for the course: a collection of 25 species of woody plants (trees or shrubs) that are properly collected, mounted and annotated, and a structured dichotomous key to these 2 species. Each will account for 7.5% of the final grade (15% in total). More detail about these projects in class. The collections and keys are due Tuesday, Nov 15th (the Tuesday before Fall break).

Unknowns

Each student will be responsible for attempting to identify a woody plant species that has NOT been covered in class up to that point. Then submit them on Canvas giving the location, description of the specimen and the scientific name for the species each week by the start of lab for that week. Photos should be submitted with the names and descriptions. These unknowns will account for 5% of the grade and they must be turned in by midnight Wednesday each week. This is by far the easiest 5% in the class and can make the difference in final grades because you are graded on the attempt, not accuracy for this assignment.

***You will be required to (use course discussion boards and/or email, zoom, phone, google doc) to communicate with peers to complete the group project. Expect to need to be online/checking email/CANVAS several days during the week throughout the semester. ***

“TOD” talks

You have the opportunity to earn 10 extra credit points by giving a fun “TOD Talk” (Tree or Shrub of the Day). You can pick a tree or shrub species from anywhere in the world and give a 2-5 min presentation on its taxonomic placement (family, genus, species), morphological characteristics, and how that woody plant is interesting. In order to schedule a TOD talk, please email me at least 24 hours prior to the lecture you would like to present. More opportunities will also be mentioned during the course!

Field Equipment

We will have several outdoor field labs this Fall with safety protocols in place. These labs require appropriate clothing and closed-toe, traction footwear for conditions, field notebook, and miscellaneous items (sunscreen/bug repellant/ water, etc..) NOTE: You will not be allowed to participate in most outdoor labs if you do not wear appropriate attire (e.g. no flip flops or smooth-soled shoes). There will be several off-campus field trips and you are responsible for your own transportation to the field sites and carpooling is not encouraged due to COVID.

Emails

If you have a question about grades, or other personal or confidential matters, please reach out to me directly! When sending an email, please be sure to **label the subject line with “FNR 51”** to ensure your email gets flagged. Always email me directly (links can be found on the home page), and always from your CR account.