

# BZ223 - PLANT IDENTIFICATION

Fall 2023

**Instructor:** Erica Sokoloski (she/her/hers)

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## **Office hours:**

I do not have scheduled office hours, but I am happy to meet with you using Microsoft Teams as needed. For questions that do not need a meeting, please email me. I check email several times a day and will answer as messages are received (24 hours maximum). Please note that I am in the Eastern time zone, so questions received late in the day will be answered the following day. I want you to be successful in this class. If you are struggling, please let me know!

## **Course Description and Objectives:**

- Learn basic plant identification terminology and how to identify plants using a dichotomous key and a basic dissecting microscope.
- Learn to identify basic and modified vegetative and reproductive plant parts, and how they are used in identification.
- Learn the characteristics of plant families most often encountered in the United States, with emphasis on the angiosperms (flowering plants). The Colorado flora will be used as a starting point, but the skills learned in this class will be useful no matter where in the world you end up living and working.
- Learn correct botanical nomenclature, including family, genus, specific epithet, authority, infraspecific rank, infraspecific epithet, and infraspecific authority.
- Collect, identify, and properly label your own plant specimens in a collection. This involves learning how to responsibly collect plants, and how to preserve, identify, and mount them to create herbarium quality specimens.

## **Required Text (even if you are taking this class from another state):**

- William A. Weber and Ronald C. Wittmann. 2012. *Colorado Flora, Eastern Slope*, Fourth Edition, *A Field Guide to the Vascular Plants*. University Press of Colorado [ISBN: 9781607321408] (\$30-35 new).
- There is an eBook version of this text available from the publisher (\$24.95, link on Canvas "Start Here" page). It takes some practice to use a dichotomous key in a PDF, but if you prefer eBooks, and are okay with lots of navigation within the book, it's an option.
- Note: there is also a "Western Slope" version of this book. Make sure you don't accidentally purchase that one, as it will not work for your assignments or collection identifications.

## **Optional Text:**

- J. G. Harris and M. W. Harris. 2001 or an earlier edition. *Plant Identification Terminology: An Illustrated Glossary*. Spring Lake Publishing [ISBN: 9780964022164] (\$20-25 new).

## **Additional Required Supplies (for labs and plant collection):**

- BZ223 Supply Kit (~\$68, CSU Bookstore, can be shipped if needed), which includes 6 sheets of herbarium paper, 6" ruler, dissection kit, 10x magnifier, and a digital USB microscope.
- Cardboard, newspaper, plastic/paper/reusable bags, small glass jars/containers, isopropyl/rubbing alcohol, school glue, wax paper (see collection instructions for specifics).

**Accommodations:**

If you need accommodations to make this class accessible for you, please email me as soon as possible to discuss your needs and/or send me a letter from the Student Disability Center.

**Colorado State University Land Acknowledgement:**

Colorado State University acknowledges, with respect, that the land we are on today is the traditional and ancestral homelands of the Arapaho, Cheyenne, and Ute Nations and peoples.

**Grading:**

Grading is as follows (89.5% or higher - A, 79.5% or higher - B, 69.5% or higher - C, 59.5% or higher - D, below 59.5% - F). All exams are untimed and are open book/open note. All assignments and exams are due by 11:59 pm on the due date. Late work will be accepted up to two days (48 hours) after the due date, with a 10% penalty for each day. Work will not be accepted later than that, unless you have made arrangements with me prior to the original due date.

This course will adhere to the CSU Academic Integrity/Misconduct policy as found in the Student Conduct Code. Submitting any work fully or partially generated by AI (ChatGPT etc) constitutes Academic Misconduct and Plagiarism under the Student Conduct Code.

**Course Mode and Meeting Times:**

This course is online and asynchronous. The course material is organized into modules, with one module per week. Lecture and lab material for each week will be posted the Friday before. Exams and quizzes will be posted 3 days before they are due (generally posted Tues and due Fri). All lab assignments are due by Sun 11:59 pm each week. Within each week, there is a lot of flexibility in when you watch lectures and complete assignments, but I recommend sticking to a schedule as if this was an in-person class, so that things don't get too overwhelming. Make sure you are budgeting time wisely and keeping up with your plant collection. Please check that your Canvas account is set to receive assignment comment notifications, because this is where I leave feedback.

**Point Distribution:**

Exams (3, 100 points each): 300 points  
Vegetative terminology quiz: 30 points  
Reproductive terminology quiz: 30 points  
Lab activities (varying points): 350 points  
Plant collection: 250 points  
Total points available: 960

Schedule (subject to minor revision):

<b>Module 1</b> Week of 8/21	Lecture: Class Introduction Overview of Plant Collection Project Vegetative Terminology Part 1 Lab: Get your book(s) and supply kit <b>Pre-Course Survey (5 pts)</b> <b>Course Introductions Discussion (5 pts)</b> <b>Plant Collection Guidelines Quiz (5 pts)</b>
<b>Module 2</b> Week of 8/28  Try to collect your plants this week!	Lecture: Vegetative Terminology Parts 2 and 3 Overview of Plant Groups Taxonomy and Botanical Nomenclature Lab: <b>Vegetative Terminology Activity (20 pts)</b> How to collect and press plants <b>How to Take Field Notes (10 pts)</b>
<b>Module 3</b> Week of 9/4	Lecture: Reproductive Terminology Parts 1, 2, and 3 Lab: Set up your USB microscope <b>Vegetative Terminology Quiz (30 pts)</b> (posted 9/5, due 9/8) <b>Reproductive Terminology Activity (20 pts)</b>
<b>Module 4</b> Week of 9/11	Lecture: Reproductive Terminology Part 4 Fruit Terminology Floral Formulas Monocots vs Dicots Lab: <b>Floral Formula Practice (10 pts)</b> <b>Dichotomous Key and Reproductive Terminology Practice (25 pts)</b>
<b>Module 5</b> Week of 9/18	Lecture: History and Ethics of Plant Collecting The Importance of Herbaria Families Ranunculaceae, Papaveraceae, Brassicaceae, Saxifragaceae Lab: <b>Explore Online Herbarium Collections (25 pts)</b> <b>Reproductive Terminology Quiz (30 pts)</b> (posted 9/19, due 9/22)
<b>Module 6</b> Week of 9/25	Lecture: The Importance of Native Plants Families Grossulariaceae, Crassulaceae, Cucurbitaceae, Solanaceae, Convolvulaceae Lab: <b>How to use Colorado Flora (25 pts)</b>
<b>Module 7</b> Week of 10/2	Lecture: <b>Exam 1 (100 pts)</b> (covers modules 2-6, posted 10/3, due 10/6) Lab: <b>Practice Flower Dissection (25 pts)</b>
<b>Module 8</b> Week of 10/9	Lecture: Families Euphorbiaceae, Fabaceae, Rosaceae, Malvaceae Lab: <b>ID Practice #1 (25 pts)</b>
<b>Module 9</b> Week of 10/16	Lecture: The Alpine Tundra Families Lamiaceae, Plantaginaceae, Cactaceae, Boraginaceae, Apiaceae Lab: <b>ID Practice #2 (25 pts)</b>
<b>Module 10</b> Week of 10/23	Lecture: Families Apocynaceae, Onagraceae, Ericaceae, Violaceae, Asteraceae Lab: <b>Practice Flower Dissection 2 (25 pts)</b> Mounting plant specimens demonstration
<b>Module 11</b> Week of 10/30	Lecture: <b>Exam 2 (100 pts)</b> (covers modules 8-10, posted 10/31, due 11/3) Lab: <b>Plant Collection Label Practice (25 pts)</b>
<b>Module 12</b> Week of 11/6	Lecture: Families Amaranthaceae, Polygonaceae, Monocots part 1: Liliaceae and relatives, Agavaceae, Orchidaceae Lab: <b>ID Practice #3 (25 pts)</b> <b>Plant collection (all or part) due Sun 11/12 if you want the opportunity to correct identifications</b>

<b>Module 13</b> Week of 11/13	Lecture: Noxious Weeds Monocots part 2: Arecaceae, Juncaceae, Cyperaceae, Poaceae, Typhaceae Lab: <b>ID Practice #4 (25 pts)</b>
Week of 11/20	University closed - have a nice break!
<b>Module 14</b> Week of 11/27	Lecture: Flowering tree families: Salicaceae, Betulaceae, Fagaceae, Sapindaceae, Oleaceae, Elaeagnaceae, Anacardiaceae Lab: <b>ID Practice #5 (25 pts)</b> <b>Plant Collection (and revisions, if applicable) due 12/3 (250 pts)</b>
<b>Module 15</b> Week of 12/4	Lecture: Seedless Vascular Plants, Gymnosperms (families Pinaceae, Cupressaceae, Ephedraceae) Lab: <b>Optional: Plant Families in Your Home (bonus 15 pts)</b>
<b>Module 16</b> Week of 12/11 (finals week)	<b>Exam 3 (100 pts)</b> (not cumulative - covers modules 12-15, posted 12/11, due 12/14)