BZ223 – PLANT IDENTIFICATION SUMMER 2023

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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. Since this is a 4-week class, I will also check and answer messages on the weekends. 4-week classes are intensive and fast-paced, but I want you to be successful. 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).
- 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 ($53, 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, 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. Important: please keep a copy of all work you create for this course, including work submitted through Canvas, in case any technical issues arise.

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. Because this is a 4-week class, each day (M-Th) contains one module. 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. All lab assignments are due by Sun 11:59 pm each week, except for the last week, when they are due that Friday. There is a lot of flexibility in when you watch lectures and complete assignments, but I recommend sticking to a schedule similar to that shown below, so that things don't get too overwhelming. Make sure you are budgeting time wisely and keeping up with your plant collection. Please make sure your Canvas account is set to receive assignment comment notifications, because this is where I leave feedback.

Point Distribution:
Exams (2, 125 points each): 250 points
Vegetative terminology quiz: 30 points
Reproductive terminology quiz: 30 points
Lab activities (varying points): 320 points
Plant collection: 250 points
Total points available: 880

Schedule (subject to minor revision):

Week 1 Modules 1-4 **Assignments this week due Sun 7/16** **Collect your plants this week or weekend!**	**Module 1** (M 7/10): Lecture: Class Introduction Overview of plant collection project Vegetative Terminology parts 1 and 2 Lab: Get your book(s) and supply kit **Pre-Course Survey (5 pts)** **Course Introductions Discussion (5 pts)** **Module 2** (T 7/11) Lecture: Vegetative Terminology part 3 Overview of Plant Groups Taxonomy and Botanical Nomenclature Lab: **Vegetative terminology activity (20 pts)** How to collect and press plants **How to take field notes (10 pts)** **Module 3** (W 7/12) Lecture: Reproductive Terminology parts 1, 2, and 3 Lab: Set up your USB microscope **Reproductive terminology activity (20 pts)** **Module 4** (Th 7/13) Lecture: Reproductive Terminology part 4 Fruit Terminology Floral Formulas Monocots vs Dicots Lab: **Floral formula practice (10 pts)** **Dichotomous key and reproductive terminology practice (25 pts)** **Vegetative Terminology Quiz (30 pts)** (posted 7/13, due 7/16)
Week 2 Modules 5-8 **Assignments this week due Sun 7/23**	**Module 5** (M 7/17) Lecture: History and ethics of plant collecting What is an herbarium and why are they important? Families Ranunculaceae, Papaveraceae, Brassicaceae, Saxifragaceae Lab: **How to use *Colorado Flora* (25 pts)** **Explore online herbarium collections (10 pts)** **Module 6** (T 7/18) Lecture: The Importance of Native Plants Families Grossulariaceae, Crassulaceae, Cucurbitaceae, Solanaceae, Convolvulaceae Lab: **Reproductive Terminology Quiz (30 pts)** (posted 7/17, due 7/20) **Module 7** (W 7/19) Lecture: Families Euphorbiaceae, Fabaceae, Rosaceae Lab: **Practice flower dissection (20 pts)** **Module 8** (Th 7/20) Lecture: Families Malvaceae, Lamiaceae, Plantaginaceae, Cactaceae, Boraginaceae Lab: **ID practice #1 (25 pts)**

Week 3 Modules 9-12 **Assignments this week due Sun 7/30**	**Module 9** (M 7/24) Lecture: **Exam 1 (125 pts)** (covers modules 1-8, posted 7/23, due 7/26) Lab: **ID practice #2 (25 pts)** **Module 10** (T 7/25) Lecture: The Alpine Tundra Families Apiaceae, Apocynaceae, Onagraceae, Ericaceae, Violaceae Lab: **Practice flower dissection 2 (20 pts)** Mounting plant specimens demonstration **Module 11** (W 7/26) Lecture: Families Asteraceae, Amaranthaceae, Polygonaceae, Monocots part 1: Liliaceae and relatives, Agavaceae, Orchidaceae Lab: **Plant collection label practice (25 pts)** **Module 12** (Th 7/27) Lecture: Noxious Weeds Monocots part 2: Arecaceae, Juncaceae, Cyperaceae, Poaceae, Typhaceae Lab: **ID practice #3 (25 pts)** **Plant collection (all or part) due Sun 7/30 if you want the chance to correct identifications**
Week 4 Modules 13-15 **Assignments this week due Fri 8/4**	**Module 13** (M 7/31) Lecture: Flowering tree families: Salicaceae, Betulaceae, Fagaceae, Sapindaceae, Oleaceae, Elaeagnaceae, Anacardiaceae Lab: **ID practice #4 (25 pts)** **Module 14** (T 8/1) Lecture: Seedless Vascular Plants, Gymnosperms (Families Pinaceae, Cupressaceae, Ephedraceae) Lab: **ID practice #5 (25 pts)** **Module 15** (W 8/2) Lecture: No new material - catch-up, study for/take exam 2, and finish collection **Exam 2 (125 pts)** (covers modules 10-14, posted 8/1, due 8/4) Lab: **Optional: Plant families in your home (bonus 15 pts)** **Plant collection (and corrections, if applicable), due Sat 8/5**