WILD 3830
Range Plant Taxonomy & Function
Utah State University
Semester Fall 2021
3 credits, Dr. Brosi

Land Acknowledgement Statement

“We would like to acknowledge that all USU courses are taught on the traditional lands of the Diné, Goshute, Paiute, Shoshone, and Ute Peoples past and present, and honor the land itself and the people who have stewarded it throughout the generations.”

“The outstanding scientific discovery of the twentieth century is not television, or radio, but rather the complexity of the land organism. Only those who know the most about it can appreciate how little we know about it.”

--Aldo Leopold: Round River

Course Location: USU, Eastern, Price, Reeves 238

Time: Tuesdays 8:30am-12:30pm (note: we may leave early some days but we will be back on campus by 1:30pm)

Contact Information
Dr. Sunshine Brosi, Reeves (RV) 260, 435-613-5016, sunshine.brosi@usu.edu

Office Hours
Monday 12:30-2:30pm *Additional meeting times may be requested via email*

Core Textbooks

Other useful materials include a water bottle, 10X magnifying lens, a pocketknife for cutting twigs and bark, a comfortable pair of boots, insect repellant, and a good winter coat. We will be outside most of the time so be prepared for the weather. You are required to purchase and bring to every lab field notebook (any dedicated notebook will work, either a pencil or a pen. You are required to purchase and bring to every lab field notebook (any dedicated notebook will work, either a pencil or a pen.

Course Description
This is a field and laboratory-based course. Students will learn how to identify dominant grass, forb, and woody plants of the Intermountain West using taxonomic keys.

Taxonomy and identification of dominant forb, grass, grass-like and woody species found in major plant communities of the Intermountain West. Also includes limited coverage of dominant species in Southwest Desert plant communities, and Great Plains and Palouse Prairies. Plant identification is based on 1) sight-recognition of characteristic morphological features and understanding the context in which a plant is found; and 2) the use of taxonomic keys. Plants
Course Objectives

- To be able to use a key to identify herbaceous plant species native to the Intermountain West.
- To know the morphology, distribution, habitat, ecology, and value of these species.
- To be able to state, define, and give examples of the components of taxonomy: description, identification, nomenclature, and classification.
- To describe a plant, using the descriptive terminology of plant morphology, anatomy, embryology, palynology, and reproductive biology.
- To name, classify, and diagnose several of the major families of flowering plants.
- Learn how to collect (including properly recording field data), identify, and process plants for herbarium specimens.
- State the principles and rules of plant nomenclature, including how to publish a new taxon name, and know how to use and apply botanical names.
- Develop skills for practical plant identification in any environment through learning how to use taxonomic keys and exposure to terminology, family characteristics, and plant systematics.

You may forget much of the detail of this material, however, there are some aspects that I hope will serve you well throughout your life: 1) appreciate the beauty and intricacy of plants and enjoy discovering things about nature; 2) improve your skills in memory, observation, writing, and critical thinking; 3) gain base knowledge of the structure, function, and evolutionary history of plants.

- Communication:
  - Writing Intensive: you will have several tasks and assignments that are focused on writing and resulting in writing 5 pages or 2,000 words of text per week. Task 1: Species description sheets where you will research, report, and properly cite information for a species. Task 3: You will incorporate technical terminology and precision to write an index dichotomous key for several species. Task 4: You will create a lab notebook describing the species in the field. Task 5: Exams will be writing intensive to answer critical thinking questions. Your writing will be peer-evaluated, revised, and evaluated by the instructor.
  - Reading Intensive: you will be required to read 10-15 pages of text per week. There will be required textbook reading and several online reading assignments. Evaluation of reading occurs through lecture exams.
  - Oral Communication: you will orally present information to the lab or lecture about a particular species. Task 2: Species presentations will be graded on criteria established by Toastmasters International.

- Disciplinary Standards:
  - Biology Standards:
    - “Ability to tap into the interdisciplinary nature of science: Biology is an interdisciplinary science.
    - Ability to understand the relationship between science and society: Biology is conducted in a societal context” (Brewer et al 2011).
  - Ethnobiology Standards:
    - “Connections: all living things are connected, both to each other and their environments
    - Taxonomy (Scientific & Folk): botanical or other organismal identification skills (McClatchey et al. 2013).
This course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.
Grading Policy

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight by % of total grade</th>
<th>Point Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Notebook</td>
<td>5%</td>
<td>5 points</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 lab entries, 0.5 pts. each</td>
</tr>
<tr>
<td>Field Quizzes</td>
<td>50%</td>
<td>50 points (lowest score dropped),</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 daily field quizzes, 10 pts. each</td>
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<tr>
<td>Species Descriptions</td>
<td>5%</td>
<td>5 points</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 species descriptions, 0.5 pts. each</td>
</tr>
<tr>
<td>Reading Quizzes</td>
<td>5%</td>
<td>5 online quizzes, 1 point each</td>
</tr>
<tr>
<td>Dichotomous Keys</td>
<td>5%</td>
<td>5 points</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 dichotomous keys, 1 pts. each</td>
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<tr>
<td>Assignments</td>
<td>10%</td>
<td>5 assignments, 2 points each</td>
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<tr>
<td>Lab Final</td>
<td>20%</td>
<td>20 points</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100 points</td>
</tr>
</tbody>
</table>

Species Description
Species descriptions are required for some lab periods. The week before the lab you will receive the species list for the following lab. Your name will be randomly assigned to a particular plant species number. During lab you will present the information about your species.

Dichotomous Keys
Throughout the semester you will be assigned dichotomous keys. Please note: these keys are to be completed on your own and must be unique. You must follow the rubric for the keys.

Field Notebook
The field notebook must include all outdoor and indoor labs. Each individual lab will be graded on including the following information:

The following general information is required, 1 pt. for each lab:
- Date including year (1 pt.)
- Correct location name and agency that owns the property (1 pt.)
- County, State (1 pt.)
- 2 general site characteristics: soils, elevation, moisture, distance to stream, aspect, topography, etc. (2 pts.)

For each species the following general information is required, 10 points total, 1 pt. each:
- Common name, scientific name, and family (1 pt.)
- Leaf description (1 pt.)
- Flower color (1 pt.)
- Perfect or imperfect (1 pt.)
- Inferior or superior ovary (1 pt.)
- Symmetry of the corolla and calyx (1 pt.)
- # of sepals, distinct or connate (1 pt.)
- # of petals, distinct or connate (1 pt.)
- # of stamens, distinct or connate (1 pt.)
- At least 1 identifying characteristic that separates the species from others that may look the same (1 pt.)

Field Quizzes
After the first lab, the first part of the lab will be a daily field quiz over the species learned in the
last laboratory period or before (these can be cumulative). The lowest grade of your field quizzes will be dropped at the end of the semester. The average of the remaining field quizzes or questions is worth 50 pts. of your final course grade. Each of the species on the field quiz is worth 5 points. For each quiz the following formula will be used for grading:

Field quiz point breakdown:

- **Genus**: 3 points
- **Species**: 3 points
- **Family**: 2 points
- **English name**: 2 points
- **Exotic Species**: -1 if not indicated with *

**-1 point** for the following:

- Incorrect spelling for each of the above, 1-2 letters away from correct spelling
- Incorrect capitalization for each of the above including both words in the common name
- Not including a star (*) on exotics in the upper right-hand corner

**-3 points** for:

- Incorrect genus, 3 or more letters away from correct spelling, misidentification
- Incorrect species (same as above)

**-2 points** for:

- Incorrect family
- Incorrect English name

**-10 points** for: Incorrect identification of the species

For each quiz knowing **only** the common name will result in a grade of 20%. Correct determination of species **and** correct spelling and capitalization of common names, scientific names, families, and native status are required to pass this course.

The **lab final** will be worth 20 pts. of the grade and will include approximately 75 species.

**Second-Chance Sunshine**

The purpose of the quizzes is to help you learn to identify the plants. On some quizzes, you will have an opportunity to revisit the plant using your field notebook only (just your own notes) and retake the quiz. You will be able to earn up to 25% extra credit for revising incorrect answers.

**Attendance and Participation**

Attendance and participation is required during all lectures, labs, outside course activities, and fieldtrips. Be sure to read all assignments prior to the lab or lecture period and be prepared to summarize the material. One unexcused absence in lecture or lab will not impact your grade. Two unexcused absences in either lecture or lab and will lower your final average by one letter grade, or -10 points or 10%. Three unexcused absences in lecture or lab will lower your final average by two letter grades, -20 points or 20%, four absences by three letter grades -30 points or 30%, etc. An absence includes leaving early or arriving to class late. If you take the quiz and then leave the class, that will be counted as an absence. Please note that this penalty is in addition to the deduction from missed quizzes or assignments. If you are participating in co- and extracurricular activities, or has an excused absence, I must be notified within one week to arrange make-up assignments.
This course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.
Academic Integrity – "The Honor System"
Each student has the right and duty to pursue his or her academic experience free of dishonesty. To enhance the learning environment at Utah State University and to develop student academic integrity, each student agrees to the following Honor Pledge:
"I pledge, on my honor, to conduct myself with the foremost level of academic integrity."
A student who lives by the Honor Pledge is a student who does more than not cheat, falsify, or plagiarize. A student who lives by the Honor Pledge:

Espouses academic integrity as an underlying and essential principle of the Utah State University community;
 Understands that each act of academic dishonesty devalues every degree that is awarded by this institution; and
 Is a welcomed and valued member of Utah State University.

Academic Dishonesty
The instructor of this course will take appropriate actions in response to Academic Dishonesty, as defined the University’s Student Code. Acts of academic dishonesty include but are not limited to:

Cheating: using, attempting to use, or providing others with any unauthorized assistance in taking quizzes, tests, examinations, or in any other academic exercise or activity.
 Unauthorized assistance includes:
 Working in a group when the instructor has designated that the quiz, test, examination, or any other academic exercise or activity be done “individually;”
 Depending on the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments;
 Substituting for another student, or permitting another student to substitute for oneself, in taking an examination or preparing academic work;
 Acquiring tests or other academic material belonging to a faculty member, staff member, or another student without express permission;
 Continuing to write after time has been called on a quiz, test, examination, or any other academic exercise or activity;
 Submitting substantially the same work for credit in more than one class, except with prior approval of the instructor; or engaging in any form of research fraud.
 Falsification: altering or fabricating any information or citation in an academic exercise or activity.
 Plagiarism: representing, by paraphrase or direct quotation, the published or unpublished work of another person as one’s own in any academic exercise or activity without full and clear acknowledgment. It also includes using materials prepared by another person or by an agency engaged in the sale of term papers or other academic materials.
 For additional information go to: ARTICLE VI. University Regulations Regarding Academic Integrity

Sexual Harassment/Title IX
Utah State University is committed to creating and maintaining an environment free from acts of sexual misconduct and discrimination and to fostering respect and dignity for all members of the USU community. Title IX and USU Policy 339 address sexual harassment.
This course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.
Grievance Process
Students who feel they have been unfairly treated may file a grievance through the channels and procedures described in the Student Code: Article VII.

Full details for USU Academic Policies and Procedures can be found at:
Student Conduct
Student Code
Academic Integrity
USU Academic Policies and Procedures
Academic Freedom and Professional Responsibility Policy
Emergency Procedures
In the case of a drill or real emergency, classes will be notified to evacuate the building by the sound of the fire/emergency alarm system or by a building representative. In the event of a disaster that may interfere with either notification, evacuate as the situation dictates (i.e., in an earthquake when shaking ceases or immediately when a fire is discovered). Turn off computers and take any personal items with you. Elevators should not be used; instead, use the closest stairs.

Mental Health
Mental health is critically important for the success of USU students. As a student, you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce your ability to participate in daily activities. Utah State University provides free services for students to assist them with addressing these and other concerns. You can learn more about the broad range of confidential mental health services available on campus at Counseling and Psychological Services (CAPS).

Students are also encouraged to download the “SafeUT App” to their smartphones. The SafeUT application is a 24/7 statewide crisis text and tip service that provides real-time crisis intervention to students through texting and a confidential tip program that can help anyone with emotional crises, bullying, relationship problems, mental health, or suicide related issues.
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