PSPP 548: Flowering Plants of the Northern Rocky Mountains
Syllabus

Instructor: Robyn Klein, M.S.
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Class meets **Monday & Tuesday** in Plant Growth Center 214; **9:00 am - 4:00 pm**

Class meets **Wednesday, Thursday & Friday** for field trips. Meet at 8:15-8:30am in the parking lot north of AgBioscience & east of Animal Bioscience. Return by 5:00pm

A field oriented study of the flowering plants of Montana with an emphasis on plant keying skills.

Course Learning Outcomes: Students of Flowering Plants of the Northern Rocky Mountains will be able to:

1. Identify and define the parts of flowers and herbaceous plants
2. Name common morphological characteristics of some plant families
3. Use a plant flora to identify and key out wildflowers of Montana
4. Develop plant identification curricula to their science students K-12

**Monday**
- Goals and overview of the course
- Responsible collecting and state laws protecting plants
- Introduction to plant taxonomy (family, genus, species) and nomenclature
- Floras and plant keys, plant lens, ruler, and glossary
- Monocot and dicot
- Parts of a flower (sepals, petals, stamens, pistil)
- Complete and incomplete
- Regular and irregular (actinomorphic and zygomorphic)
- Perfect and imperfect
- Floral diagram
- Flower inflorescences

**Tuesday**
- Review and Quiz 1
- Monoecious and dioecious
- Superior/inferior/half inferior ovary
- Hypogynous, perigynous and epigynous
- Leaf shapes, margins, tips and bases
- Involucre and involucel
- Plant families: rose, buttercup, mint, figwort
- How to use a plant key

**Wednesday**
- Review and Quiz 2
- 4 more plant families
- Poisonous plants of Montana
- Practice keying live plants at Truman Gulch (Springhill Rd to Penwell Bridge Rd to Walker, N to Forswall and turn East)

**Thursday**
- Review and Quiz 3
- 4 more plant families
- Practice keying live plants at Spanish Creek Trailhead

**Friday**
- Review and Quiz 4
- 4 more plant families
Practice keying live plants at Battle Ridge Creek Campground (From Bozeman, take MT-86 (Rouse Avenue) north 22 miles)

Final Field Test

Grading:
Attendance is required at all classes and field trips.
This is primarily an experiential course to give you lots of practice in the field with an instructor to assist you. There will be 4 quizzes on the basic concepts such as parts of a flower, parts of the pistil, and terminology. The final assignment is a plant identification test in the field using the plant key and your notes.

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<td>4 quizzes</td>
<td>50%</td>
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<td>2.5 pts ea question x 10 = 25 pts</td>
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<td>Final test (open book)</td>
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Textbook:
Plant Identification Terminology: An Illustrated Glossary [Paperback]
By James G. Harris and Melinda Woolf Harris

Tools:
laptop or iPad if you have it (for Monday and Tuesday only; Wed-Fri are in the field)
flash stick to grab the powerpoint presentations
Notepad or paper and pen/pencil
I will loan everyone a copy of Vascular Plants of Montana by Robert D. Dorn. Just give back on Friday after the final test. Montana teachers may want to get Manual of Montana Vascular Plants by Peter Lesica, but you don’t have to have it for this course.

Please download for your computer:
Field Identification of the 50 most common plant families in temperate regions by Lena Struwe. 2009

Field Trips
Wednesday, Thursday and Friday: We will meet in the parking lot to the east of the Animal BioSciences building at 8:00-8:15am. We’ll be back by 5:00 pm.
Bring:
Backpack for books, paper, extra clothing, food and water.
Warm clothing, wool hat, gloves, maybe long underwear (mornings can be very cold). It snowed one year.
Rain gear including hat. We generally get rainshowers in the late afternoon. If it storms too much, we might drive to another venue.
Shoes that are resistant to moist grass dew and rain.
Definitely sunglasses and sunhat. Water bottle. Lunch and snacks.
Outhouses? I try to find trailheads with them, but...well, there might be one trail that doesn’t have one yet.
We will be sitting in the grass. You can bring a cushion/seat pad but no room for chairs, sorry. You might want to wear long pants if bugs bug you. Generally speaking we have few mosquitoes. We do have ticks but most will be gone by then (fingers crossed).
We will be in a large group, so unless you wander off by yourself during a break, you’re not likely to encounter bears or moose. However, we did see a mother grizzly and two cubs one year at a campground that supposedly does not have them. Lol.