BIOL F195 F02 - Introduction to Alaska's Flora

Syllabus

Title: Introduction to Alaska's Flora
Number: BIOL F195 F02
Credits: 1
Location: Online, UAF Blackboard
Meeting time: None.
Instructor: Stefanie M. Ickert-Bond
Office Location: 1962 Yukon Drive, UA Museum of the North, lower level, Fairbanks, AK 99775
Office hours: See Instructors and Office Hours Area on class blackboard site
Email: smickertbond@alaska.edu

Course goals:
The objective of this class is to introduce you to several aspects of Alaska's unique flora. Class modules and hands-on exercises are designed to familiarize you with the identification, description, and morphology of our local flora. In addition, you will get familiar with dissection of flowers, using technical keys, seeing scientific (Latinized) names, and learn vocabulary that comes with describing and talking about plants, and curate images that you will take of the plants in your immediate surrounding.

Student learning outcomes:
On completion of this class, you will be able to identify and describe several common plant families and species that are native and common to Interior Alaska and be more comfortable with floral dissection and taking photographs of flowering plants that will aid in their identification and classification.

Required text:
None. All materials will be made available through Blackboard and the dedicated class website.

Laboratory materials:
1. A laboratory kit that includes: plant dissecting kit, plant press (instructions for making one are included in the course)
2. A smart phone or tablet, that is capable of taking photographs and can be fitted with a macrolens to take magnified images of flowers and dissections
3. A few options to purchase a macrolens are listed here (with hyperlinks) under A-E: [macrolens for a smartphone A, B, C, D, E](#).

4. Software: Google docs, Google presentations; iNaturalist, Thinglink.

**Technical requirements for the course:**
Students must have regular access to a computer and the Internet to access online materials in Blackboard. Students will be expected to download course material as well as upload assignments.

Please test your computer early that it will support the required software.

**Instructional method:**
The course materials are delivered entirely online. E-mail Communication will be extremely important for us. When I see your name on the class enrollment list in Blackboard, I will send you an e-mail at your @alaska.edu e-mail address provided in Blackboard. It is very important that, for the duration of the class, you check for and receive all e-mail sent to your email address provided in Blackboard. **I will only be using your official e-mail address for this class.** If you have a preferred e-mail address other than your official UA e-mail, it is your responsibility to put a forward on it.

Please put “BIOL195” in the subject line in all your e-mail messages to me.

**Class Schedule:**
To get started, watch welcome video on course website [https://introtoflora.community.uaf.edu/](https://introtoflora.community.uaf.edu/).

**Module 1 (week 1 ~ 4-5 hours)**
- Introduction and overview of class (review syllabus, set up iNaturalist, get familiar with class website)
- The Plant family tree (watch video),
- How Plants get Named (watch video)
- Options for home microscopy (watch video)
- General plant morphology needed for describing and identifying plants – watch learning glass videos of general plant morphology lectures (vegetative: 1) roots & stem, 2) leaves, and reproductive morphology: 3) flowers, and 4) fruits).

**Activity:** Self-graded vocabulary quiz - Plant Morphology I. You may take the quiz as many times as you want to receive the final score.

**Assignment:**
1) Students introduce themselves on the class website. Find instructions on the course website.
2) iNaturalist (set up account, download app, and make 5 observations)

**Module 2 (week 2 ~ 4-5 hours)**
- Overview of major plant clades video (ferns, gymnosperms, angiosperms)
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- Introduction of plant families I: a) mustards (Brassicaceae), b) heaths, blueberries (Ericaceae). Uses, major characteristics, dissection videos
- Introduction to using dichotomous keys – watch Learning glass video
- Making plant voucher specimens using plant press – watch video. Make plant collections and press specimens. Submit an image of your work. Each voucher specimen should show the reproductive structures of the plant, and a label with the pertinent information about where, when and who collected it.
- Virtual field trip highlighting important plant communities in Alaska, watch the videos
  - Subalpine tundra (on Murphy Dome)
  - Interior forests – Paper birch type (along Cache Creek Rd.)
  - Low-growing spruce forest (along Ballaine Rd.)
  - Treeless bogs (along Ballaine Rd.)
  - Floodplain alder thickets (near the Tanana River)

Activity:
1) Self-graded vocabulary quiz – Plant Morphology II. You may take the quiz as many times as you want to receive the final score.
2) Identification using dichotomous keys (violet and spruce)

Assignment:
1) Create your own dichotomous key – Using the provided plant images construct a dichotomous key. Submit your key.
2) iNaturalist: Make 5 observations
3) Making plant voucher specimens using a plant press

Module 3 (week 3 ~ 4-5 hours)

- Introduction of plant families II:
  - a) roses (Rosaceae),
  - b) legumes, peas (Fabaceae)

Activity:
1) Self-graded vocabulary quiz – Plant Morphology III. You may take the quiz as many times as you want to receive the final score.

Assignment:
1) 1) iNaturalist: Make 5 observations
2) Peer dichotomous key – Select one of the keys from the posts of your classmates and leave comment on how well the key work.
3) Plant bingo – fill out your bingo sheet with plants from your surroundings.

Module 4 (week 4 ~ 4-5 hours)

- Introduction of plant families III –
  - a) carrots (Apiaceae),
  - b) sourdocks, rhubarb (Polygonaceae),
  - c) buttercups (Ranunculaceae).

Activity:
- 1) Self-graded vocabulary quiz – Plant Morphology IV. You may take the quiz as many times as you want to receive the final score.

Assignment:
• 1) iNaturalist: Make 5 observations
• 2) Make dissections of at least four different plant families. Document your work with images (select at least 3 vegetative and 3 reproductive characters):
  • 1) Habitat,
  • 2) close-up of leaves (a single leaf, leaf upper and/or lower surface),
  • 3) overview of the inflorescence,
  • 4) flowers,
  • 5) fruits.
• Also include images of your dissections to show
  • 6) how many petals,
  • 7) how many sepals, connation?, adnation?,
  • 8) how many stamens,
  • 9) dehiscence?,
  • 10) carpels, how many?,
  • 11) placentation?,
  • 12) number of seeds?
Curate and annotating your plant images in Thinglink [https://www.thinglink.com/](https://www.thinglink.com/) Submit your work as a new post here on the class website. Be sure and select the “Dissections” category when creating your post.

**Grading**
Grades will be determined according to the following measures

<table>
<thead>
<tr>
<th>Weekly Activities</th>
<th>Due Date</th>
<th>% of total grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary quiz 1</td>
<td>06/29/2020, 07/06/2020</td>
<td>20%</td>
</tr>
<tr>
<td>Vocabulary quiz 2</td>
<td>07/06/2020</td>
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<tr>
<td>Vocabulary quiz 3</td>
<td>07/13/2020</td>
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<tr>
<td>Vocabulary quiz 4</td>
<td>07/20/2020</td>
<td></td>
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<tr>
<td><strong>Assignments/ Participation</strong></td>
<td><strong>Student intro post, iNaturalist observations</strong></td>
<td><strong>06/29/2020</strong></td>
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<tr>
<td></td>
<td><strong>Create your own dichotomous key</strong></td>
<td><strong>07/06/2020</strong></td>
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<td><strong>iNaturalist observations</strong></td>
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<td></td>
<td><strong>Make plant voucher specimens</strong></td>
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<td></td>
<td><strong>iNaturalist observations Peer dichotomous keys</strong></td>
<td><strong>07/13/2020</strong></td>
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<td><strong>Plant Bingo</strong></td>
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<td><strong>iNaturalist observations Dissection of specimens</strong></td>
<td><strong>07/20/2020</strong></td>
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Grades will be assigned as A 90-100 %, B 80-89 %, C 70-79 %, D 60-69 %, F 59 % or below.

**Incomplete Grade Policy**
Your instructor follows the University of Alaska Fairbanks Incomplete Grade Policy: “The letter “I” (Incomplete) is a temporary grade used to indicate that the student has
satisfactorily completed (C or better) the majority of work in a course but for personal reasons beyond the student’s control, such as sickness, has not been able to complete the course during the regular semester. Negligence or indifference are not acceptable reasons for an “I” grade.”

**Support Services**
UAF has many services to help students. Do not feel bad about seeking help in your writing and presentations. Everything that I write (even this syllabus, believe it or not) is HEAVILY edited by at least two to five people before I present it to a journal, other botanists, or members of the public. I encourage you to seek out help from the writing and computer services centers on campus. Students who have difficulties with oral presentations and/or writing are strongly encouraged to get help from the UAF Department of Communication’s Speaking Center (907-474-5470, speak@uaf.edu) and the UAF English’s Department’s Writing Center (907-474-5314, Gruening 8th floor), and/or CTC’s Learning Center (604 Barnette st, 907-455-2860).

**Disabilities Services**
If you have a disability as defined under the Americans with Disabilities Act (ADA), UAF ensures that students have equal rights, access to course materials and campus facilities, and academic opportunities as other non-disabled students. UAF’s Disability Services is set up to “ensure equal access to academic opportunities” (https://www.uaf.edu/disability/). I will work with any disabled student and Disability Services to ensure these rights are upheld throughout this course. UAF’s Disability Services are located in the Health and Safety Services Building and the Program Coordinator can be reached at 474-7043.

**Student protections and services statement**
Every qualified student is welcome in my classroom. As needed, I am happy to work with you, disability services, veterans’ services, rural student services, etc to find reasonable accommodations. Students at this university are protected against sexual harassment and discrimination (Title IX), and minors have additional protections. As required, if I notice or am informed of certain types of misconduct, then I am required to report it to the appropriate authorities. For more information on your rights as a student and the resources available to you to resolve problems, please go the following site: www.uaf.edu/handbook/

UA is an AA/EO employer and educational institution and prohibits illegal discrimination against any individual: alaska.edu/nondiscrimination.