

# Field Plant Taxonomy and Biodiversity Conservation

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## Faculty:

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From coastal dunes to alpine ridges, the Pacific Northwest hosts remarkable plant diversity shaped by the region's complex climate and geology. In this field- and lab-intensive program students will develop the observational and technical skills necessary to identify and document the region's vascular plants (flowering plants, conifers, ferns and fern allies) and non-vascular plants (mosses, hornworts, and liverworts) across a range of habitats. Lectures will cover diagnostic plant family characters as well as the role of floristic knowledge in biodiversity assessment and conservation planning. In laboratory sessions, students will practice using microscopes and technical dichotomous keys to identify plants and will learn to prepare professional-quality herbarium collections.

Field trips are critical to the work of the program and active engagement in these activities is required. This will include a four-day field trip to eastern Washington, one overnight field trip in western Washington, and one, day-long field trip. During these trips, students will conduct plant inventories, collect specimens and create detailed notes and botanical drawings that document their field observations. Students will contribute their botanical data to community science efforts to document plant biodiversity using platforms such as iNaturalist and the Consortium of Pacific Northwest Herbaria. Through these activities, students will gain practical experience in supporting regional plant conservation efforts.

Students will also participate in a seminar series providing a foundational knowledge of theories and practices instrumental to rare plant conservation. Seminar topics will include ecological restoration, traditional ecological knowledge, conservation genetics, non-native species, and the impacts of climate change. Students will be read and summarize scientific papers in the form of an in-class presentation as part of these discussions. To compliment seminars, lectures and computer labs will offer practical training in the development and evaluation of species distribution models to address plant biodiversity conservation questions.

This offering will prepare students for careers and advanced study in: conservation, ecological restoration, floristic research methods, forestry, natural resource management, plant ecology, plant taxonomy and vegetation ecology.

**Science Instructional Technician (SIT):** Kayleigh Kueffner ([Kayleigh.Kueffner1@evergreen.edu](mailto:Kayleigh.Kueffner1@evergreen.edu))

**Fees:** \$350 required fee covers overnight field trips (\$240), dissection and art supplies (\$60), and required lab fee (\$50).

**Weekly Schedule:**

Tuesday	Thursday	Friday
10 am-12 noon Lecture	9 am-12 noon Vascular Plant Lab and Field	9 am-12 noon Bryophyte Lab and Field
1-4 pm Seminar/Workshop	1-4 pm Vascular Plant Lab and Field	1-4 pm Bryophyte and Field

**Required Field Trips:**

Sun Lakes-Dry Falls State Park (Grant County): April 21-24

Deception Pass State Park – Cornet Bay (Island County): May 7-8

**Required Texts**

- [Hitchcock & Cronquist, \*Flora of the Pacific Northwest\*](#)- 2018 revised edition (\$80)
- [McCune & Hutten, \*Common Mosses of Oregon and Washington\*](#)-2018 (\$40)
- [Glime, \*Bryophyte Ecology\*](#), Volume 1-5- 2021 version. Available as a free ebook
- [Doyle and Stotler, "Contributions toward a bryoflora of California. III. Keys and annotated species catalogue for liverworts and hornworts."](#)(pdf free online)
- [Lawton, \*Moss Flora of the Pacific Northwest\*](#) .Hattori Botanical Laboratory. 1971 (pdf free online)

**Optional Books:**

- Grossenbacher & Fryer, *A Manual for Plant Identification and Classification* (\$40)
- Harris and Harris, *Plant Identification Terminology*
- Shevock and Norris, *California Mosses*
- Malcolm and Malcolm, *Mosses and other Bryophytes*