

BIOL 449/ES 425 – Flowering Plant Diversity

Course Outline - Winter Term, 2024

Lectures: Monday; 2:30-5:20 p.m. - Cunningham 146

Labs: Thursday, 2:30-5:20 p.m. & 5:30-8:20 p.m.- Cunningham 245

INSTRUCTORS:

Lead: Dr. Andy MacKinnon (andymackinnon@uvic.ca)

Co-Lead: Ms. Kristen Miskelly (kristenh@uvic.ca)

LAB INSTRUCTOR: Mr. Martin Liu (holy90@uvic.ca)

COURSE COORDINATOR: Dr. Barbara Hawkins (bhawkins@uvic.ca)

The University of Victoria stands on the unceded traditional Coast Salish Territories of the ləkʷəŋən peoples, including Songhees and Xwsepsum (Esquimalt) First Nations, as well as the shared territories of the WSÁNEĆ peoples (Saanich) including the Nations of BOKÉCEN (Pauquachin), STÁ,UTW (Tsawout), WJOLELP (Tsartlip), WSÍKEM (Tseycum) and Malahat. We acknowledge with respect the relationships between Indigenous people and the land from time immemorial to this day.

COURSE OBJECTIVES: To survey the range of variation in the flowering plants and explore how flowering plants have evolved and diversified over time.

COURSE FORMAT: Andy MacKinnon (lead instructor) and Kristen Miskelly co-teach this course. Kristen teaches four sessions in January as well as leading a field trip in April; Andy teaches sessions February through April. The first session on Jan. 8th is taught by both instructors. The course includes some guest lectures. Powerpoint slides for each lecture will be made available on the Brightspace site. **Please be aware that these are outlines, not detailed notes** that are provided to help you organize and review the lecture material. It is important that you attend lectures and take notes.

The labs will introduce you to flowering plant diversity (variation in flowers and vegetative structures), the use of keys, and many plant families of this region.

The midterms and final exam will be based on lecture material. See below for evaluation details.

For success in this class, all lectures and labs should be attended. More than two labs and/or two lectures without written permission from the instructors will receive a failing grade.

PROJECTS: In addition to regular labs, you will be assigned two field-based lab projects: 1. A collection of 10 properly pressed and correctly identified plant specimens. 2. An illustrated journal of flowering plant observations. More information will be available in the first lab, and on Brightspace.

TEXTS: Lecture: No text (references on reserve)

Lab: **C. L. Hitchcock and A. Cronquist. 2018. Flora of the Pacific Northwest, 2nd ed.** This is a newly updated edition, with excellent geographic coverage and botanical keys for our area. The 1st edition (1973), though it has outdated nomenclature and lacks some species, is also usable for the lab (required).

J. G. Harris and M. W. Harris. 1994. Plant Identification Terminology. Copies of other regional floras will be available for consultation (required).

EVALUATION:

For success in this class, all lectures and labs should be attended. To pass this course, students must pass both lab and lecture components.

Lecture:

Two midterm exams (15% each)	30%	
Final examination (cumulative)		20%
Lecture Total (50%)		

Lab:

	Assessment	%	Details
Out-of-Lab	iNaturalist Part 1	1%	Due Lab 3 (Jan 25)
	iNaturalist Part 2	3%	Due Lab 9 (Mar 14)
	Plant Journal	5%	Due Lab 9 (Mar 14)
	Plant Collection	10%	Due Lab 11 (Mar 28)
In-Lab	In-Class Keying	8%	Labs 2-5 and 7-10
	Quiz X4	8%	2% Each: Lab 2, 4, 8, and 10
	Lab Test	5%	Lab 6 (Feb 16)
	Final Lab Exam (Cumulative)	10%	Lab 12 (April 14)
	Lab Total	50%	

Lab projects:

In addition to regular labs, you will be assigned three field-based lab projects: 1) A collection of 10 properly pressed and correctly identified plant specimens. 2) A digital library of flowering plant observations on iNaturalist. 3) A small journal of plant drawings. More information will be available in the first lab, and on Brightspace.

GRADE CONVERSION:

A+	90-100%	A	85-89.5%	A-	80-84.5%		
B+	77-79.5%	B	73-76.5%	B-	70-72.5%		
C+	65-69.5%	C	60-64.5%	D	50-59.5%	F	<49.5%

There will be no supplemental exams. If you miss the midterm for a medical reason, the evaluation breakdown will be adjusted accordingly. Deferred final exams will only be considered if a formal Request for Academic Concession is provided to Dr. Hawkins, the course coordinator.

COURSE OUTLINE

Date	Instructors	Lecture topic
Jan 8	Kristen Miskelly, Andy MacKinnon	Class Introductions, Course overview, Introduction to the Angiosperms, Intro to local ecology of SVI. Angiosperm structure and variation Part 1
Jan 15	Kristen Miskelly and David Krug	Angiosperm structure and variation Part II, Inflorescences; vegetative structures (roots & stems); Vegetative structures (wood, leaves, hairs). Plant reproductive biology; Plants and pollination adaptations. Seed and seed-based restoration with grad student David Krug.
Jan 22	Kristen Miskelly and Martin Liu	A brief history of angiosperm classification and nomenclature; Intro to defining and describing species; Keys, ID, and herbaria. Fieldtrip to herbarium. Meet in Cunningham 245 for lecture
Jan 29	Kristen Miskelly & Matt Fairbarns	Midterm 1 2:30-3:30 GUEST: Matt Fairbarns -- Scrophulariaceae and its allied families
Feb 5	Andy MacKinnon and Geraldine Allen	Origin and classification of angiosperms; the hierarchy of classification. Origin and classification of angiosperms; the hierarchy of classification GUEST: Dr. Geraldine Allen - phylogenetic methods; Molecular evidence in plant systematics; polyploidy
Feb 12	Andy MacKinnon	Basal lineages, Magnoliids, Monocots and Basal Eudicots
Feb 19	n/a	READING BREAK_NO CLASSES
Feb 26	Andy MacKinnon and Hannah Gentes	Field Trip and lecture with Hannah Gentes – Hydrophytes and field trip to First Peoples' House
March 4	Andy MacKinnon	Midterm 2 and Rosids
March 11	Andy MacKinnon	Asterids
March 18	Andy MacKinnon	Caryophyllales I, Caryophyllales II, plant chemistry
March 25	Andy MacKinnon and Jennifer Penny (CDC)	Plant Biogeography; plant conservation biology; GUEST: Botany Program, BC Conservation Data Centre
April 1	n/a	EASTER_NO CLASSES
April 8	Kristen Miskelly	Field Trip – UVic

IMPORTANT DATES 2024

Term: Monday, January 8 – Monday, April 8, 2024

Family Day (stat): Monday, February 19 (no classes)

Spring term Reading Break: February 19-23 (no classes all week)

Easter weekend: Friday, March 29- Monday, April 1 (no classes)

April final exam period: Tuesday, April 11 – Friday, April 26

Statement of Inclusion: The University of Victoria is committed to creating a learning experience that is as accessible as possible. If you are registered with the Centre for Accessible Learning (CAL) and anticipate or experience any barriers to learning in this course, please feel welcome to discuss your concerns with Dr. Hawkins, the course co-ordinator. If you are a student with a disability or chronic health condition you can meet with an advisor at CAL to discuss access and accommodations: <https://www.uvic.ca/services/cal/>

Academic Policies and Regulations:

[Undergraduate policies and academic regulations](#) are described in the UVic Undergraduate Calendar. Please read very carefully the Policy on Academic Integrity, the Academic Concession Regulation/Guidelines, and Academic Important dates.

Academic Integrity: Students are required to abide by all academic regulations set as set out in the [University calendar](#), including standards of academic integrity. Violations of academic integrity (e.g. cheating and plagiarism) are considered serious and may result in significant penalties. The exams (quizzes, midterm and final exam) must all be completed **individually** and not with a friend or classmate or a group. You are prohibited from sharing any information about the exam with others.

Academic Concession Regulation/Guidelines:

Please refer to the links below when determining what is a ‘valid reason’ to request an Academic Concession and the process for requesting a concession.

[Academic Concessions Regulation and Academic Concession Guidelines](#)

Academic Important Dates:

Check [here](#). It is the student’s responsibility to attend to Add/Drop dates published in the Calendar (last day to add courses – Jan 25, last day to drop without failure – Feb 28). Students must not assume they will be dropped automatically from any course they do not attend. It is also the students’ responsibility to check their records and registration status.

UVic Services:

Student Supports for Online Technology

Learn Anywhere:

<https://onlineacademiccommunity.uvic.ca/LearnAnywhere/>

New Student Mental Health Supports - In addition to providing both face to face and online mental health resources through our new Student Wellness Centre, a 24x7 phone & online student mental health resource and support program is available for all UVic students, no matter where they are located, at any time.

<https://www.uvic.ca/services/counselling/resources/supportconnect/>

Counselling Services - Counselling Services can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students. <https://www.uvic.ca/services/counselling/>

Sexualized Violence Prevention and Response - UVic takes sexualized violence seriously. We encourage students to learn more about how the university defines sexualized violence and its overall approach by visiting www.uvic.ca/svp. If you or someone you know has been impacted by sexualized violence and needs information, advice, and/or support please contact the sexualized violence resource office in Equity and Human Rights (EQHR). If you want to take part in the important prevention work taking place on campus, you can also contact the sexualized violence resource office in EQHR; Sedgewick C119, Phone: [250.721.8021](tel:250.721.8021), Email: svpcordinator@uvic.ca

Health Services - University Health Services (UHS) provides a full service, primary health clinic for students, and coordinates healthy student and campus initiatives.

<http://www.uvic.ca/services/health/>

Centre for Accessible Learning - The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations.

<https://www.uvic.ca/services/cal/>.

Indigenous Academic & Community Engagement

[Indigenous Academic & Community Engagement - University of Victoria \(uvic.ca\)](http://www.uvic.ca/indigenous/academic-community-engagement/)

Elders' Voices - The Office of Indigenous Academic and Community Engagement (IACE) has the privilege of assembling a group of Elders from local communities to guide students and others in Indigenous ways of knowing and being.

<https://www.uvic.ca/services/indigenous/students/programming/elders/index.php>