

2018 Syllabus for Biology 313: Plant Taxonomy

Lecture: Tuesday/Thursday 8:00am–9:40am (251 ISC)

Lab: Wednesday 1:20-5:20pm (251 ISC)

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The schedules and policies associated with this course may be subject to revision or change as a consequence of changing circumstances or events. Reasonable notification will be provided to students prior to any major changes in course policies or procedures.

Course Description

Identification, nomenclature, and classification of vascular plants.

Course Goals

The primary objective of this course is to provide a basis for your understanding of plant taxonomy, which includes the identification, classification, and relationships of vascular plants and plant families. You will learn how to observe, describe, and draw the features of plants that make them identifiable and increase your knowledge of regional plant species. This class is also a field class, which means that you will get to enjoy spending 24+ hours outdoors in various climates and ecosystems!

MY LEARNING OUTCOMES FOR YOU are being able to:

1. Describe how plant families are related and classified
2. Identify plants based on herbarium collections, dichotomous keys, and field guide books
3. Hone your observation and drawing skills
4. Maintain detailed and organized field notes
5. Compare regional ecosystems and cultural features
6. Communicate your scientific knowledge in meaningful and effective ways

YOUR PERSONAL LEARNING OUTCOMES are being able to:

Required Material

- Murrell. *Vascular Plant Taxonomy*. 2010. 6th Edition. Kendall Hunt.
- Chadde. *Minnesota Flora: An Illustrated Guide to the Vascular Plants of Minnesota*. 2013.
- Dedicated plant collection notebook such as “Rite in the Rain” or Moleskin. I recommend one with numbered pages and blank or faint horizontal lines. Sketchbooks also work well.
- 10x Hand Lens available for purchase from Joy Navratil in the Biology Department Office
- Various field guide books available in the lab classroom
- Supplemental material available on Moodle

Accommodations for Students with Disabilities

In accordance with the Americans with Disabilities Act, Concordia College and your instructor are committed to making reasonable accommodations to assist individuals with documented disabilities to reach their academic potential. Such disabilities include, but are not limited to, learning or psychological disabilities, or impairments to health, hearing, sight, or mobility. If you believe you require accommodations for a disability that may impact your performance in this course, you must schedule an appointment with Disability Services to determine eligibility. Students are then responsible for giving instructors a letter from Disability Services indicating the type of accommodation to be provided; please note that accommodations will not be retroactive. The Disability Services office is in Academy 106, phone 218-299-3514; <https://www.concordiacollege.edu/directories/offices-services/counseling-center-and-disabilityservices/disability/>

THE BEST WAY TO BE SUCCESSFUL IN THIS CLASS is to take lots of hand-written notes in a lecture notebook and your field notebook, as appropriate. If you need accommodations for other learning techniques, please let me know as soon as possible.

You may take photos of plants during fieldtrips, but **only** after first making complete field notes and drawings in your field notebook. **Please be respectful and turn your cell phones off during lecture.**

Respect for Diversity

It is my intent that students from diverse backgrounds and perspectives be well-served by this course, and that the diversity that students bring to this class be viewed as a resource. Please let me know ways to improve the effectiveness of the course for you, personally, or for other students or student groups. As a student in this class, you are required to treat other members of the class with respect and kindness. Disrespectful, rude, or exclusive behavior will not be tolerated.

OFFICIAL DIVERSITY STATEMENT: Concordia College aspires to be a diverse community that affirms an abundance of identities, experiences, and perspectives in order to imagine, examine, and implement possibilities for individual and communal thriving. Critical thinking grounded in the liberal arts compels us to participate in intentional dialogue, careful self-reflection, and honest interactions about difference, power, and inequity. As responsible engagement in the world calls us to recognize worlds that are familiar or unfamiliar, visible or less visible, Concordia will act to increase and support diversity in all areas of campus life.

Academic Integrity (from Student Handbook)

“Students are responsible for maintaining and encouraging academic integrity at the college. We expect all students to act with integrity in the classroom and in completing and submitting assignments. Ultimately, students bear the responsibility of ensuring the integrity of their own work. Students are expected to meet at least the minimal requirements of each course with work of appropriate quality.

“At no time is cheating on examinations, quizzes, or assignments acceptable at Concordia. Students are also expected to exercise appropriate caution to avoid plagiarism on written assignments.”

I will not tolerate any instance of academic dishonesty, including cheating, plagiarism, falsification, facilitating others' violations, or impeding (see student handbook for definitions).

Instances of academic dishonesty will result in either a failing grade for that activity or for the course, according to the perceived intent and extent of the instance(s) of academic dishonesty. All academic integrity violations will be reported to the Office of Academic Affairs.

<i>Grades</i>					Percentage	Grade
					≥ 94	A
					90-93.9	A-
					87-89.9	B+
					83-86.9	B
					80-82.9	B-
					77-79.9	C+
					73-76.9	C
					70-72.9	C-
					67-69.9	D+
					60-66.9	D
					< 60	F
Category	Item	Date	Pts	%		
Exams				35		
	Terminology Exam	Sept. 11	5			
	Exam 1	Oct. 9	10			
	Exam 2	Nov. 20	10			
	Final Exam	Dec. 18	10			
Lab Exams				15		
	Lab Exam 1	Sept. 25	5			
	Lab Exam 2	Oct. 18	5			
	Lab Exam 3	Nov. 29	5			
Plant Collection				30		
Notebook	Initial 15 spp.	Sept. 25	15			
	Second 10 spp.	Oct. 18	10			
	Final 5 spp.	Nov. 29	5			
Other				20		
	Family Presentation	Dec. 5	15			
	Participation		5			
				Total 100	100%	

EXAMS will test your understanding of plant taxonomy terminology, interrelatedness of plants and plant families, and cultural/economic properties of plants as covered in lectures. We will discuss important features and anatomy of approximately 100 plant families.

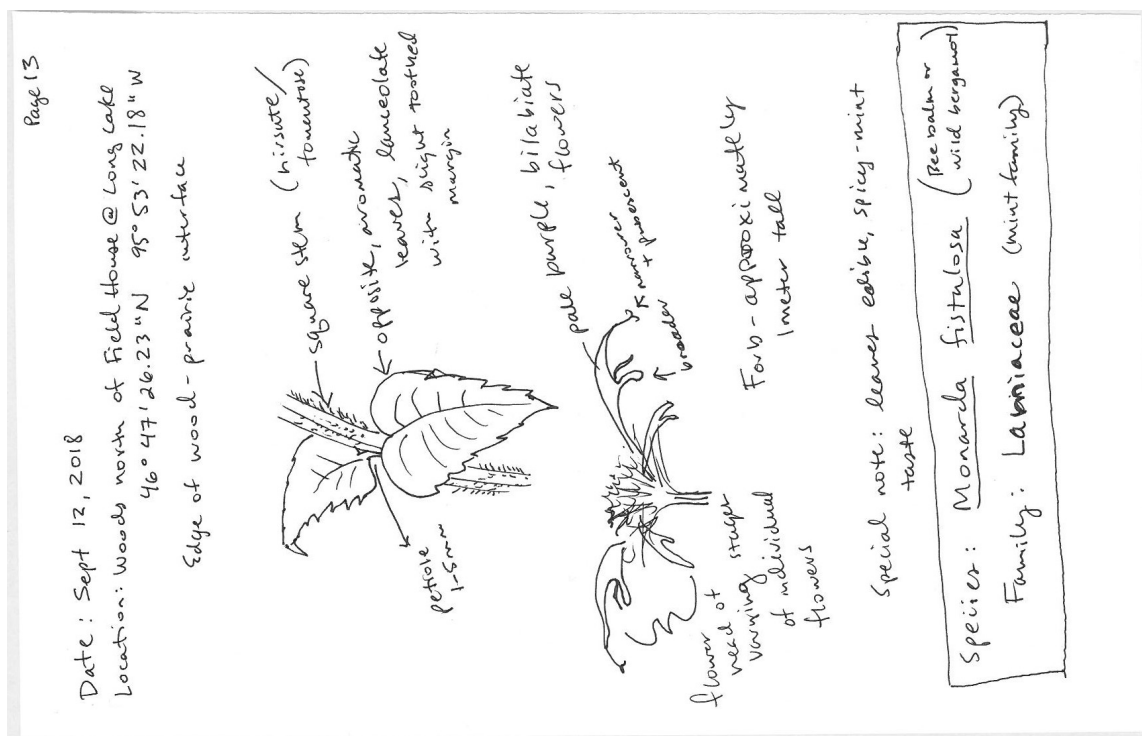
LAB EXAMS will test your ability to identify plant species and plant families. Scientific names will need to be used and spelled correctly for full credit. Spelling errors and common names will be counted for partial credit. Specimens used in lab exams will be a combination of live plants, dried plants, twigs and/or fruit/seeds.

THE PLANT COLLECTION will be a list of species provided in a table that will correspond with and be handed in with your field notebook. For full credit, you will need to have scientific name and family (1pt), completed field notes (1pt), technical descriptions (1pt), and drawings (1pt) for each individual species you “turn in” for review. Species records can span multiple notebook pages (e.g., early season leaf drawing, later season twig drawing), but separate entries for the same species do not count as multiple species.

You will need to turn in 15 individual species at Lab Exam 1, an additional 10 at Lab Exam 2, and an additional 5 at Lab Exam 3 (see schedule and grade breakdown for specific dates). The final 30 species should cover at least 10 families.

This is an example of the table and of a full-credit notebook page. Note: drawings do not have to be perfect, but they do need to reflect specifics that would help in identifying that particular species.

Plant	Family	<i>Genus species</i>	Common name(s)	Type	Page(s)	Instructor Check
1	Lamiaceae	<i>Monarda fistulosa</i>	wild bergamot	Forb	13	9/25/2018: 4/4
2	Ulmaceae	<i>Ulmus americana</i>	American elm	Tree	11,20	9/25/2018: 3/4
⋮						



THE FAMILY PRESENTATION will be an oral presentation given in lab on December 5th. Specific guidelines, expectations, and a list of possible families to present on will be handed out at a later date.

PARTICIPATION in class and lab is essential. Participation is a small part of the final grade; however, a record throughout the semester of exemplary participation and attendance will also help in the case of a borderline final grade. Active participation also nurtures learning, and will improve the quality of future recommendation letters from your instructors.

EXTRA CREDIT will be made available occasionally. One specific way to get extra credit will be to attend the STEM-focused Symposium session, and another will be by participating in a collaboration with a sculpture student. I will provide more details on these opportunities in class.

Attendance Policy

Regular attendance and participation in class is critical to your success at Concordia College. Because any absence, excused or unexcused, detracts from the learning experience, you are expected to attend all classes. Dr. ArchMiller also values the educational experience afforded by student participation in co-curricular activities; however, you are responsible for notifying Dr. ArchMiller of scheduled absences (e.g., co-curricular activities) at the beginning of the semester, or as soon as that information is available (but no less than 24 hours in advance).

If absences become what Dr. ArchMiller determines to be excessive (from 10-15% of classes, without valid college-recognized excuses), points will be deducted from your final percentage. In extreme cases (> 20% of classes or 6 unexcused absences), Dr. ArchMiller will assign a failing grade. **I strongly recommend that you are present and participate in the class.**

Course Schedule (version dated 8/14/2018)

- This class will be heavily front-loaded because of the waning fall plant season. Thus, we will focus the first month on observing and identifying as many species as possible.
- Also, this course counts as a “field course,” which means that you must be present in class for at least 24 hours of outdoor field labs (travel to and from field sites does not count). **It's important to dress appropriately for the weather for all lab sessions.**
- Chapters listed are from Murrell *Vascular Plant Taxonomy*
- Lab Exams will be held during lecture times.

Important Dates

- **Tuesday, Sept 11** Terminology Exam
- **Thursday, Sept 13 through Saturday, Sept 15** Badlands Trip
- **Wednesday, Sept 19** Symposium; lab re-convened at Symposium STEM event
- **Tuesday, Sept 25** Lab Exam 1 & Plant Collection Check (first 15 spp.)
- **Tuesday, Oct 9** Exam 1
- **Thursday, Oct 18** Lab Exam 2 & Plant Collection Check (second 10 spp.)
- **Tuesday, Nov 20** Exam 2
- **Thursday, Nov 29** Lab Exam 3 & Plant Collection Check (final 5 spp.)
- **Wednesday, Dec 5** Family presentations
- **Wednesday, Dec 12** Botany of food lab
- **Tuesday, Dec 18 2-4pm** Final Exam

Topics and chapters

- Terminology (Ch 3, 11)
- Using Keys (Ch 5)
- Grass & Aster special anatomy (p420-425, p492-496)
- Phylogeny; Scientific Names; Common Names (Ch 2, 4, 6)
- Monilophyta (Ch 9)
- Angiosperm Introduction (Ch 11)
- Basal Angiosperms (Ch 12)
- Monocots (Ch 15)
- Eudicots: Rosids (Ch 13)
- Eudicots: Asterids (Ch 14)
- Gymnosperms (Ch 10)
- Special Topic:

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Aug 27th	28th	29th	30th First Day of Class	31st
Sep 3rd	4th Vegetative Terms (Ch 3)	5th Field Trip; Hand lens & Field Notes	6th Reproductive Terms (Ch 11)	7th
10th	11th Terminology Exam Using keys (Ch 5); Grass & Aster Terms (p420-425; p492-496)	12th Field Trip	13th Badlands	14th Badlands
17th	18th Phylogeny; Scientific & Common Names (Ch 2, 4, 6)	19th Symposium Lab reconvened at Symposium STEM session	20th Monilophyta (Ch 9)	21st
24th	25th Lab Exam 1: Field Notebook Check (15 spp)	26th Field Trip	27th Angiosperm Introduction (Ch 11)	28th
Oct 1st	2nd Basal Angiosperms (Ch 12)	3rd Field Trip	4th Basal Angiosperms (Ch 12) cont.	5th
8th	9th EXAM 1	10th Field Trip	11th Monocots (Ch 15)	12th
15th	16th Monocots (Ch 15) cont.	17th Field Trip	18th Lab Exam 2: Field Notebook Check (10 spp)	19th
22nd <i>Mid Semester Break–No Class</i>	23rd <i>Mid Semester Break–No Class</i>	24th <i>Mid Semester Break–No Class</i>	25th <i>Mid Semester Break–No Class</i>	26th <i>Mid Semester Break–No Class</i>

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
29th	30th Eudicots: Rosids (Ch 13)	31st Field Trip	Nov 1st Eudicots: Rosids (Ch 13)	2nd
5th	6th Eudicots: Rosids (Ch 13)	7th Field Trip	8th Eudicots: Asterids (Ch 14)	9th
12th	13th Eudicots: Asterids (Ch 14)	14th Field Trip	15th Eudicots: Asterids (Ch 14)	16th
19th	20th EXAM 2	21st <i>Thanksgiving–No Class</i>	22nd <i>Thanksgiving–No Class</i>	23rd <i>Thanksgiving–No Class</i>
26th	27th Gymnosperms (Ch 10)	28th Twigs & Cones lab	29th Lab Exam 3: Field Notebook Check (5 spp)	30th
Dec 3rd	4th Gymnosperms (Ch 10)	5th Family Presentations	6th Gymnosperms (Ch 10)	7th
10th	11th Gymnosperms (Ch 10)	12th Botany of Food Lab	13th Ethnobotany	14th
17th	18th FINAL EXAM 2:00-4:00pm	19th	20th	21st

Syllabus Acknowledgement

I, _____, have received a copy of the syllabus for BIOL 221, Ecology, and understand all of the policies and procedures outlined herein.

SIGNATURE _____ Date _____

Use of Photographic Likeness Release

For good and valuable consideration, I authorize Dr. ArchMiller to record photographs of me and use, reproduce, modify, distribute, and exhibit such photographs, in whole or in part, without restrictions or limitation for marketing and instructional purposes.

I release Dr. ArchMiller, Concordia College, its successors and assigns, agents, and all persons for whom it is acting from any liability by virtue of any blurring, distortion, alteration, optical illusion, or use in composite form, whether intentional or otherwise, that may occur or be produced in the photographic process and waive any right that I may have to inspect or approve the finished recordings.

PRINTED NAME _____

SIGNATURE _____ Date _____

Other Information

PREFERRED NAME OR NICKNAME _____

MAJOR _____

CONTACT PHONE NUMBER _____

WHERE'S "HOME?" _____

WHY ARE YOU TAKING THIS CLASS? _____

WHAT ARE YOUR EXPECTATIONS FOR THIS CLASS? _____

