

IB 117 Lab Medical Ethnobotany Schedule Fall '21
UC Berkeley, Dept of Integrative Biology
Lab # IB 117LF (2 credits)

FACILITATORS & OFFICE HOURS

Dr. Thomas Carlson

IB 117 LF Professor

Email: tcarlson@berkeley.edu

OFFICE HOURS Fall 2021

Monday: 3:00 - 3:50 pm

Tuesday: 12:00 noon – 12:50 pm

Wednesday: 3:00 - 3:50 pm

GSIs:

Javier Jauregui Lazo

PhD Candidate

Email: jajauregui@berkeley.edu

Sec 1, 9 AM – 12:00 Tuesday & Thursday

Office hours: 12-1pm Tuesday

Raphaela Elise Floreani Buzbee

PhD Candidate

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Sec 2, 2 - 5 PM Tuesday & Thursday

Office hours: 1-2 pm Tuesday

Plant Collector: Kayla Sweeten

Email: ksweeten@berkeley.edu

DESCRIPTION ~ IB 117LF MEDICAL ETHNOBOTANY LAB

Ethnobotany, often referred to as the science of survival, is the study of the interactions and relationships between plants and people over time and space. In our Medical Ethnobotany lab course (IB 117LF) we will focus on studying medicinal plants from the major ecosystems and geographical regions of the world. Students will learn tools for plant field identification, vegetative and reproductive morphology, scientific terminology (e.g. common names, scientific names, botanical families names), phylogenetic relationships between the plant families and genera, habitats, and ethnomedical uses of medicinal plants. Medicinal plant preparation, administration, and use as a phytomedicine will also be discussed.

Lab logistics

1. **Class meetings:** We will be meeting on Tuesday and Thursday.

- a. Tuesday: Each lab session will be devoted to display a group of plants using fresh specimens from the UC Botanical Garden, as well as dried herbarium voucher specimens of medicinal plant species.
 - b. Thursday: We will be meeting in the UC Botanical Garden to see the plants specimens in nature.
 - c. You must come to ALL of the labs on time. Attendance, participation, and drawing assignments are required for both lab days. In the beginning portion of the lab, there will be a discussion/lecture led by your GSI, followed by drawing assignments of the plants of the day.
2. **bCourse Site:** We will use a bCourse site for regular course announcements, course materials, quizzes, exams, and assignments submission.
 3. **Instagram Page:** We created this educational [social media page](#) last year to share student's experiences, projects and what we are learning over the course of the semester. We will encourage you all to follow, participate and tag us in your social media using the #cal.ethnobotany hashtag.
 4. **IB 117 & IB 117 LF:** Students may take either the lecture course (IB 117) or the lab course (IB 117L) course separately, each worth two credits. Both the lecture and the lab can be taken concurrently, for a total of four credits. If students are taking the lab alone, they should have already taken the lecture course.

Learning Objectives

1. Identify plants of cultural and medicinal value by their botanical *family*, *genus* and *species*, in addition to their common name(s) and ethnomedical uses.
2. Recall the geographical origin of each plant (i.e. Asia, Europe, America, Africa, Australia, Pacific Islands).
3. Describe common medicinal plant extraction techniques, used in elaboration of alternative, traditional, and conventional medicine.

Course Requirements and Materials

1. **Lab Reader:** Specific pages in LAB READER correspond to each LAB in the course. This reader is REQUIRED for the LAB course IB 117L course. PDF Available in bCourses; printed copies can be purchased at Krishna Copy (2001 University Ave., Phone: 510-540-5959)
2. **Plant Sketch Notebook:** Students are required to make sketches of all the plants species studied during the course. Each student will need to purchase a bound notebook for taking notes and making drawings of all plants, approx. 250. Lab sketches will be submitted via bcourses, either as a scanned PDF document or high resolution picture(s).
3. **Drawing materials:** colored and regular pencils, straightedge/ruler, etc.

Grade breakdown

<i>Assignments</i>	<i>Points</i>
Two Quizzes (20pts each)	40
Midterm exam	100
Final exam	100
Plant Sketch Notebook	40
Plant Presentation	40
Total Points =	320

Each of these assignments will be explained during the first week of class and we will post further instructions and grading rubrics on bCourses.

Course Policies**1. GSI commitment (diversity and inclusion statement)**

During these global uncertain and challenging times, we are committed to provide our students with an excellent education. For this course, we welcome students from all diverse backgrounds, experiences, and perspectives. We value the diversity that each student brings to this class and we are committed to present materials and activities that are respectful of this diversity (e.g. gender identity, sexuality, disability, age, socioeconomic status, ethnicity, race, nationality, religion, and culture). Every member of this class must show respect for every other student. We encourage students to speak up and participate during class meetings. Your suggestions are welcomed and appreciated.

2. Promptness

All assignments have specific due dates listed in the course site on bCourses and syllabus. You are expected to meet those listed due dates. All assignments will be submitted via bCourses or in-person. Contact your GSIs if you have any questions.

3. Honor Code

The student community at UC Berkeley has adopted the following Honor Code: "As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others." Our expectation is that you will adhere to this code. Read the entire [Berkeley Honor Code](#) and the [Student Code of Conduct](#) for more information.

4. Students with Disabilities

If you require accommodations due to a physical, emotional, or learning disability, contact [UC Berkeley's Disabled Students' Program \(DSP\)](#). Please notify your GSI and the professor when your letter of accommodations are sent, to confirm we have received it and can honor your accommodations. You must have a Letter of Accommodation on file with UC Berkeley to have accommodations requests made in this course.

5. Additional campus support resources:

- [Student Technology Fund, Technology Access Program & Student Technology Equity Program \(STEP\)](#): If you are a student in need of a computer, hardware or internet access, apply for technology equipment through these programs.
- [Counseling and Psychological Services](#): Free short-term and crisis counseling and psychiatry for students.
- [Basic Needs Center](#): Assists students with urgent housing, food, or financial situations by appointment or drop-in.
- [Food Pantry](#): Free-access to food donations on campus.
- [UCB COVID-19 resources and support](#): The “go-to” hub for all things COVID related in our campus.
- [Rec Sport Online](#): Here you can find a library collection of free exercise resources, virtual classes, and online videos from our Rec Center open to the UC Berkeley community.
- [Anti-Racist Resources from Greater Good Science Center](#): In response to the systemic and brutal violence Black and Brown communities face in this country, we support and welcome anti-racist and respectful conversations in our virtual classrooms.

Labs Itinerary:

Tuesdays & Thursdays: Section 1 (9:00am-12:00pm) and Section 2 (2:00pm-5:00pm).

WEEK	DAY	DESCRIPTION	ASSIGNMENTS
- 8/26: NO LAB -			
Introduction to Lab Course and Plant Morphology			
1	8/31	Introduction to Lab Course. Vegetative morphology. <i>-Water decoction</i>	
	9/2	Reproductive morphology, Flowers <i>-Alcohol extraction</i>	

California/USA/Canada Plants			
2	9/7 & 9/9	Reproductive morphology, Fruits California/USA/Canada (Adoxaceae – Cupressaceae) <i>-9/7: California Ethnobotany Lectures by Dr. Thomas Carlson</i>	
3	9/14 & 9/16	California/USA/Canada (Ericaceae – Rhamnaceae)	
4	9/21 & 9/23	California/USA/Canada (Rosaceae – Vitaceae)	QUIZ #1 on 9/21. It will cover until 9/16
Europe/Mediterranean/Middle East Plants			
5	9/28 & 9/30	Europe/Mediterranean/Middle East (Adoxaceae - Asteraceae)	9/30: Check-in plant sketches
6	10/5 & 10/7	Europe/Mediterranean/Middle East (Berberidaceae – Lauraceae) <i>Tinctures</i>	
7	10/12 & 10/14	Europe/Mediterranean/Middle East plants (Lythraceae - Vitaceae)	MIDTERM on 10/14. It will cover until 10/12.
Asia Plants			
8	10/19 & 10/21	Asia (Amaryllidaceae– Myrtaceae) <i>Herbal Lip Balm</i>	
9	10/26 & 10/28	Asia (Nelumbonaceae – Zingiberaceae) <i>Herbal Salves and Compresses</i>	
Australia and Africa Plants			
10	11/2& 11/4	Australia (Casuarinaceae- Myrtaceae) and Africa (Apocynaceae- Asphodelaceae)	

		<i>Distillation Extractions</i>	
Tropical America Plants			
11	11/9	Tropical America (Annonaceae - Euphorbiaceae)	QUIZ #2 on 11/9. It will cover from 10/19 until 11/4
	11/11	<i>Veterans day: no lab</i>	
12	11/16 & 11/18	Tropical America (Fabaceae – Urticaceae)	
13	11/23	Student Presentations	
	11/25	<i>Thanksgiving break: no lab</i>	
Wrapping-Up			
13	11/30	Lab review	11/30: hand-in plant sketches & extra credit assignments
14	12/2	IB 117 LAB FINAL EXAM. It will be comprehensive. <i>Student Evaluations</i>	

TABLE OF CONTENT FOR IB 117 LAB READER

General Subject Categories:

UC Botanical Garden Maps: pages 1-11

Introduction to Plant Morphology & Reproductive Parts Lab: pages 13-28

European Plant Labs: pages 5-6, 77-104, 58-68

Asian Plant Labs: pages 7-8, 124-139, 53-57

California, North American Plant Labs: pages 9-10, 105-123, 49-52

Africa, Australia Plant Labs: pages 140-145

Tropical America Plant Labs: pages 11, 146-157

Herbalism/Medicinal Plant Preparation Labs: pages 158-170

IB 117 Lab Reader Content by pages:

Pages 1-4: Maps of Botanical Gardens

Pages 5-6: Botanical Garden Map: Europe, Mediterranean, Near East Medicinal Plants

Pages 7-8: Botanical Garden Map: Asian Medicinal Plants

Pages 9-10: Botanical Garden Map: California & North America Medicinal Plants

Page 11: Botanical Garden Map: California & North America Medicinal Plants

Page 13: Botanical Terminology and Outline of How to Evaluate Plants

Pages 15-20: Leaves

Pages 21-23: Fruits & Seeds

Pages 25-28: Flowers

Pages 29-48: Jepson manual Glossary of Plants

Pages 49-52: California Natives: Plants & People: A Self Guided Tour at UC Bot Garden

Pages 53-57: The Chinese Medicinal Garden at UC Botanical Garden

Pages 58-68: Darwinian Gastronomy: Why we use Spices

Page 69: Phytochemical Profile

Pages 70-71: Human Disease Terminology

Pages 72-73: Important Plant Families

Pages 74-76: Common Names of Plant Families

Pages 77-78: Europe, Mediterranean, Near East Medicinal Plant List

Pages 79-104: Europe, Mediterranean, Near East Medicinal Plant Names and Uses

Pages 105-106: California & North America Medicinal Plant List

Pages 107-123: California & North America Medicinal Plant Names and Uses

Pages 124-125: Asian & Pacific Island Medicinal Plant List

Pages 126-139: Asian & Pacific Island Medicinal Plant Names and Uses

Page 140: Africa & Australian Plant List

Pages 141: Australian Medicinal Plant Names and Uses

Pages 142-145: African Medicinal Plant Names and Uses

Page 146: Tropical America Medicinal Plant List

Pages 147-157: Tropical America Medicinal Plant Names and Uses

Page 158: Chemical Classes in Plants

Pages 159-166: Preparation of Plant-Based Medicines & Vocabulary

Pages 167-168: Herbal Preparations

Pages 169-170: Botanical Extraction Methods in Natural Product Chemistry

Pages 171-172: Extra Credit Assignment #1 ~ Are You Experienced

Pages 173: Extra Credit Assignment #2 ~ Instagram Plant Profile Post

Pages 174-176: Extra Credit Assignment #3 ~ Ethnobotany Market Surveys

Pages 177-178: Student Plant Presentations

Pages 179-181: References and Further Ethnobotany Resources