

# IB 117 Lab Medical Ethnobotany Schedule Fall '15

UC Berkeley, Dept of Integrative Biology

Lab # IB 117L (2 credits) in VLSB 3030 & UC Botanical Gardens

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READERS FOR THE LAB CAN BE PURCHASED AT Krishna Copy Center, 2001 University Ave. Phone: 540-5959

Specific pages in LAB READER correspond to each LAB in the course. This reader is REQUIRED for the LAB IB 117L course.

OPTIONAL (not required) LAB TEXT: PDR for Herbal Medicines, 2<sup>nd</sup> or 3<sup>rd</sup> Edition, Medical Economics Company, Montvale, New Jersey....can be obtained through Amazon.com

Students may take the lecture course (IB 117) alone for two credits, the lab course (IB 117L) course alone for two credits, or both the lecture and the lab together for a total of four credits. If students are taking the lab alone they should have already taken the lecture.

## **Grade breakdown**

Midterm exam: 100pts

Final exam: 100pts

Three Quizzes: 20pts each = 60pts total

Plant Sketch Notebook: 40pts

Total Points: 300pts

## **IB 117L MEDICAL ETHNOBOTANY LAB**

The laboratory portion of the course (IB 117L) will be for 2 credits held in the Valley Life Sciences Building and the UC Botanical Gardens. These labs will focus on studying medicinal plants from the major ecosystems and geographical regions of the world. Students will learn common names, scientific names, plant families, field identification, habitats, and ethnomedical uses of medicinal plants. How the medicinal plant is prepared, administered, and used as a phytomedicine will also be discussed. There will be reference to the phylogenetic relationships between the plant families and genera represented by the medicinal plants. The course will have a teaching laboratory room in Valley Life Sciences Building where fresh botanical specimens and dried botanical voucher specimens of the medicinal plant species will be displayed for students to study throughout each week. Students will also have weekly outdoor labs at the UC Botanical Gardens.

### **Lab logistics**

You must come to ALL of the labs on time. There is a lab on Tuesday and Thursday. During most weeks, one of the days the lab will meet in 3097/3095 VLSB, and the other day at the UC Berkeley Botanic Gardens. Attendance is required for both lab days. There will be a discussion/lecture at the beginning and we will go over lab material as a group (and have quizzes), One the first day of lab, all students should meet in VLSB 3030.

### **Objectives**

- 1- Identify plants by their *family*, *genus* and *specific epithet*, in addition to their common name and ethnomedical uses
- 2- Know geographical origin of each plant (i.e. Asia, Europe, America, Africa, Australia, Pacific Islands)
- 3- Learn about medicinal plant extraction techniques

### **Required Plant Sketch Notebooks**

Students are required to make sketches of all the required plants. There will be around 220 plant species required for the course. Each student will need to purchase a bound notebook for taking notes and making drawings of all these plants. Students should bring drawing materials e.g., colored pencils, regular pencils to each lab.

### **Materials needed**

- 1) Lab reader (Krishna Copy at 2001 University Ave)
- 2) Sketch Notebook—making drawings and taking notes on required plants
- 3) Drawing materials—colored pencils, regular pencils, straightedge/ruler, etc.

**Labs:** Tuesdays & Thursdays: Section 1 (9-12:00) and Section 2 (2-5:00) in VLSB 3030 & UC Botanical Gardens

Week #1: 8/27: NO LAB

Week #2: 9/1, 9/3:

Introduction to plant vegetative morphology, reproductive parts and fruits  
Alcohol extraction of medicinal plants. Water decoction of common herbs

Week #3: 9/8, 9/10: California/USA/Canada (Aceraceae – Lamiaceae)

Week #4: 9/15, 9/17: California/USA/Canada (Lauraceae – Zygophyllaceae)

Week #5: 9/22, 9/24: Europe/Mediterranean/Near East (Berberidaceae – Lauraceae)

Weeks #6:

9/29, 10/1: Europe/Mediterranean/Near East (Apiaceae – Asteraceae)

Week #7:

10/6: California ethnobotany lecture in VLSB 3030:

10/8: Decant alcohol extractions

Week #8: 10/13, 10/15: Europe/Mediterranean/Near East (Liliaceae – Vitaceae)

Weeks #9:

10/20: Herbal salves, herbal compresses, lip balm

10/22: VLSB 3030, **MIDTERM EXAM**

Weeks #10: 10/27, 10/29: Asia (Apiaceae – Myrtaceae)

Week #11: 11/3, 11/5 : Asia (Nelumbonaceae – Zingiberaceae)

Week #12: 11/10, 11/12: Australia and Africa

Week #13: 11/17, 11/19: Tropical America (Agavaceae – Euphorbiaceae)

Week #14:

11/24: Tropical America (Fabaceae – Tropaeolaceae) in VLSB 3030

11/26: Thanksgiving break: no lab

Week #15:

12/1: VLSB 3030, Review session

12/3: VLSB 3030, IB 117 LAB **FINAL EXAM**

# 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

Pages 167-168: Herbal Preparations

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