

Topics in Biology I: Ethnobotany  
BIOL 4000

Spring 2012 (3 credit hours)

Instructor: Dr. Catherine M. Bush

Office: Bailey 1108

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Phone: 333-5335

Lecture: MWF 10-10.50 am; BC 1024

Office hours: Wednesdays and Friday 11-12 pm or by appt.

**Prerequisites:** BIOL 1107 and BIOL 1108 **OR** ANTH 3040 and Area D science requirements **OR** permission of the instructor.

**Textbook Required:** Plants, People, and Culture: The Science of Ethnobotany.  
Michael J. Balick and Paul Alan Cox

**Additional Book Required:**

Tales of a Shaman's Apprentice: An Ethnobotanist Searches for New Medicines in the Amazon Rain Forest by Mark J. Plotkin

**Course Description:** This course will present an overview of the biological, chemical and cultural aspects of plant/human interactions including use for food, shelter, textiles, medicine, hunting and psychoactive drugs.

**Learning Objectives:**

After this course, the student will be able to:

- Describe the historical, cultural and biotechnological aspects of Agriculture
- Appreciate and analyze the myriad of ways humans use plants for their benefit
- Understand the production and utility of plant secondary compounds
- Describe the process in medicinal pharmaceuticals from plant to FDA-approved drug
- Analyze the importance of biodiversity conservation

**Grading Breakdown:**

Quizzes	100 pts.
Lecture Exams (3)	300 pts.
Paper on "Shaman's Apprentice"	50 pts.
Oral Presentation	50 pts.
Final Exam	100 pts.

**Quizzes:** Quizzes will be given periodically throughout the semester. Quizzes will cover material from the previous lecture(s) and will be given during the first 10

minutes of class. Students arriving after 10 minutes will not be able to take the quiz. Each quiz will be worth 10 pts. (one quiz grade will be dropped). **There are no make-up quizzes.**

**Exams:** There will be three lecture exams (100 pts.each). You are required to take exams on the scheduled dates. If an unforeseeable emergency occurs, you should make contact with the instructor within 24 hours of missing the exam. Excused exam absences REQUIRE written documentation. A make-up exam will be provided for excused absences. Students who miss an exam without a valid excuse will receive a grade of a 0 and there will be no make-up exam. Exams will include, but will not be limited to, multiple choice, short answer and essay questions.

**Oral Presentation:** Depending on class size, individual or group oral presentations will be assigned and will be presented to the entire class during the last few days of the course (see schedule). Further instructions will be on a separate handout.

**Paper on "Shaman's Apprentice":** All students will be required to read Tales of a Shaman's Apprentice: An Ethnobotanist Searches for New Medicines in the Amazon Rain Forest by Mark J. Plotkin on their own time and complete a writing assignment on the book (50 pts.). A discussion on the book will also be scheduled and participation will be included in the 50 points.

**Final Exam:** The final will be cumulative and will have a format similar to the other exams (100 pts.). The date of the final is Friday, May 4 from 8-10 am. **NO EARLY EXAMS WILL BE GIVEN!**

#### **Grading Scale:**

A 90-100%

B 80-89%

C 70-79%

D 60-69%

F < 60%

For Biology majors, a grade of C or higher is required for this course.

**Withdrawing from the course:** The last day to withdraw without penalty is March 1, 2012. If you don't officially withdraw, and instead just stop coming to class, you will receive an F for the course.

**Academic conduct:** Cheating and plagiarism will not be tolerated and may result in a failing grade for the assignment, exam or the class. The Department of Biology has a plagiarism policy, which will be handed out the first lecture period.

**Privacy Act (FERPA):** The Family Educational Rights and Privacy Act (FERPA) prohibits the public posting of grades by social security number or in any manner personally identifiable to the individual student. No grades can be given over the

telephone or over email because positive identification can't be made.

**Students with disabilities:** Students requiring special accommodations because of disability must discuss their needs with me as soon as possible. Those needing accommodations who are not registered with the Special Services Program must contact the Access Office for Students with Disabilities located in Farber Hall. The phone numbers are 245-2498 (voice) and 219-1348 (tty).

## Tentative Schedule – Spring 2012

### **January**

- 9 – Syllabus, Defining Ethnobotany, History (Ch. 1)
- 11 – Ethnobotany History/Overview Cont. Ethnobotany Methods (Ch. 1)
- 13 – General Botany Talk (1108 Book: Life, The Science of Biology)
- 16 – Class Cancelled; MLK Holiday
- 18 -- General Botany Talk (1108 Book: Life, The Science of Biology)
- 20 -- Food – Nutrition (Ch. 3)
- 23 -- Food – Crop Plants (Grasses, Legumes, etc.; Ch. 3)
- 25 – Video (“Out of Eden”: Guns, Germs and Steel; Ch. 3)
- 27 – Video cont., Food – Modern Production (Ch. 3)
- 30 -- Food – Modern Production, GMO, Organics, Seed Banks, Wild Food Plants (Ch. 3)

### **February**

- 1 – Food – Modern Production, continued. (Ch. 3)
- 3 -- Food – Fruits, Nuts and Vegetables (Demo; Ch. 3)
- 6 – Food - Fruits, Nuts and Vegetables cont. (Demo; Ch. 3)
- 8 – **Exam 1**
- 10 -- Material World (Fibers, Boats, Poison Arrows, etc.; Ch. 4)
- 13 – Material World Continued (Demo; Ch. 4)
- 15 – Material World Continued (Ch. 4)
- 17 – Material World Continued (Ch. 4)
- 20 -- Plant Secondary Compounds, Herbs, Spices, Stimulating Drugs (Ch. 5)
- 22 – Secondary Compounds Cont. (Ch. 5)
- 24 – Secondary Compounds Cont. (Ch. 5)
- 27 – Stimulating Drugs Continued, Alcoholic Drugs (Ch. 5)
- 29 – Alcoholic Drugs and Culture, cont. (Ch. 5)

### **March**

- 2 -- Poisonous Plants, Psychoactive Plants (Ch. 5)
- 5 -- Poisonous Plants, Psychoactive Plants, Culture, Cont. (Ch. 5)
- 7 – Video (“Peyote to LSD”; Ch. 5)
- 9 – **Exam 2**
- 12 – **SPRING BREAK**
- 14 – **SPRING BREAK**
- 16 -- **SPRING BREAK**
- 19 – Ethnopharmacology: Medicinal Plants (Ch. 2)
- 21 – Ethnopharmacology: Medicinal Plants (Ch. 2)
- 23 – Medicinal Plants Continued (Ch. 2)
- 26 -- Modern Medicine: From plant to FDA-approved drug (Ch. 2)
- 28 -- Modern Medicine: From plant to FDA-approved drug (Ch. 2)
- 30 – Conservation of Biodiversity/Medicinal Plants (Ch. 6)

### **April**

- 2 -- Conservation of Biodiversity/Medicinal Plants (Ch. 6)
- 4 – Conservation of Plant Knowledge (Ch. 6)

6 -- Sustainable Use (Ch. 6)  
9 - Sustainable Use (Ch. 6)  
11 - Discussion on "Shaman's Apprentice"; **Paper Due**  
13 - Oral Presentations  
16 - Oral Presentations  
18 - Oral Presentations  
20 -- Oral Presentations  
23 - Oral Presentations  
25 - **Exam 3 (100 pts.)**  
27 - Final Exam Review

**May**

4 - **FINAL EXAM, 8-10 am**