

## BOT2800C - Plants in Human Affairs – Spring 2014

Lecture meetings TR 5:10 – 6:00

Lab meetings R 1:55 – 3:50 pm, R 6:15 – 8:10 pm, F 9:35 – 11:30 am, OR F 1:55 – 3:50 pm

### Instructors

Lecture: Dr. Christine Davis, [christine.davis@ufl.edu](mailto:christine.davis@ufl.edu), Carr 614

Lab (F 9:35 – 11:30 am, F 1:55 – 3:50 pm): Sarah Allen, [sa4393@ufl.edu](mailto:sa4393@ufl.edu), Dickinson Hall

Lab (R 1:55 – 3:50 pm, R 6:15 – 8:10 pm): Grant Godden, [g0ddengr@ufl.edu](mailto:g0ddengr@ufl.edu), Dickinson Hall

### Course description

This course is an introduction to the vast array of plants and plant products that shape our lives. We will explore some of the plants that humans use, and learn how they influence human culture and have shaped civilization. To better understand why plants are so crucial to our species, we will also learn basic structure and function of plant tissues and metabolites in the body of the living plant. We hope that you not only come away from this course with a better understanding of and appreciation for the importance of plants in our lives but also have fun in the process.

### Learning objectives

After completion of this course, students will be able to:

- Draw and describe the basic structure of a plant and the location of major tissues important to humans
- Describe the structure and function of fibers, vascular tissue, and wood and how this relates to human use
- Distinguish between primary and secondary metabolites and the functions of these for both plants and human use
- Discuss the relative definitions of “toxic” and “medicinal” plants
- List the plants that were foundational in development of human civilization and explain why
- List and discuss several of the world’s most economically important plants
- Discuss the centers of origin for agriculture and human civilization
- Explain how domestication occurs and describe the evolutionary evidence for domestication
- Describe the role of plants during European colonization throughout the world
- Critically evaluate commercially available plant products for their ecological and humanitarian impact
- Make candles, soap, tie-dyed cloth with natural dyes, rope, paper, rubber balls, and more!

### Required textbooks

1) B. B. Simpson and M. C. Ogorzaly. *Economic Botany: Plants in Our World*. 3<sup>rd</sup> or 4<sup>th</sup> edition. This is available at UF bookstores and online. I recommend shopping around for the best deal.

2) Lab manual for BOT2800C. This is available for purchase at Target Copy in Gainesville.

### Grading

Two exams – 100 points each	200
Lab – (2 lab practicals for a total of 75 pts, prelabs 50 pts, in-class exercises 50 pts, post-labs 50 pts)	225
Plant expert assignment – 25 points per part, four parts	100
Plant experts symposium – 50 pts	50
Final exam (cumulative) – 100 points	100
Total	675

### Grading scale

90 – 100 % = A; 80 – 89.9% = B; 70 – 79.9% C; 60 – 69.9% D; below 60 = E

The instructors reserve the right to adjust grades according to student participation, attendance, and attitude.

## **Plant expert assignment**

We will go to the UF Ethnoecology garden as a group, where you will choose a plant to research and report your choice to your instructors. No duplicates are allowed! You will complete a series of assignments on this plant, and in the process you'll become an expert on it! The assignments are as follows:

Part 1. Research and write 1-2 paragraphs, with citations, describing the taxonomy, native range (if known; if not, please describe), and current distribution of the plant you've chosen.

Part 2. Research and write 1-2 paragraphs, with citations, detailing the useful parts of the plant. What tissues, exudates, or metabolites are important? Where are they located in the plant? What does the *plant* use these things for?

Part 3. Research and write 1-2 paragraphs, with citations, summarizing the history and current human usage of the plant. Who first used it? Who uses it now?

Part 4. Research and write 1-2 paragraphs, with citations, summarizing how the important tissues or metabolites of the plant are retrieved. What products are made from them?

Plant experts symposium: Prepare a poster on your plant, including information from Parts 1- 4 of the assignment, in an interesting and attractive way. We will hold two sessions for presentation of the posters. Half of the class will present at each session, and the other half is expected to attend, circulate, and ask questions of the presenters. Presenters should prepare a 2-minute oral summary of their poster to give to those who are viewing it.

General rules on the written parts:

- 1) Each written portion will be graded for completeness, grammar, spelling, and format.
- 2) Each must be typed in 12 pt font and double-spaced
- 3) A works cited page and parenthetical citations must follow MLA style.
- 4) Each part will be returned with comments and corrections. Each new written part should be handed in as an addition to the previous written part (it is an ongoing research paper) with corrections made as appropriate.
- 5) The works cited page will also be cumulative for parts 1 - 4.

## **Important – Plagiarism**

Plagiarism is a serious violation of the Student Honor Code. It includes:

- Submitting all or part of someone else's work as if it is your own
- "Borrowing" without crediting the source
- Submitting duplicate assignments
- Collaborating or receiving substantive help in writing your assignment unless I require such collaboration as part of the work
- Failing to cite sources, or citing them improperly

Consequences of plagiarism in BOT2800C –

- Failing grade on assignment AND
- Course grade penalty of one letter grade AND
- Report to the Office of the Dean of Students.

Please review plagiarism and how to avoid it: <http://web.uflib.ufl.edu/msl/07b/studentplagiarism.html>

## **Laboratory**

Your laboratory grade will be based upon two practical exams, in class exercises, and pre and post lab assignments. Please see your lab instructor for policies, expectations and the schedule of assignments.

## **Course attendance**

Attendance is required and essential for success in this course. We understand that absences happen, but if you make this a habit, you are guaranteed to perform poorly. All lab sessions are required. If you know in advance that you are unable to attend your lab section (e.g. conference, religious holiday), please contact your TA promptly in order to facilitate attending one of the other three lab sections.

### **Grade curves and extra credit**

There will be NO curve applied to grades for exams, assignments, or final course scores. There MAY be opportunities for extra credit – if so, such opportunities will be announced in class and offered to all students.

### **Make up policy**

There will be NO make-up lecture exams offered. In the event that you miss an exam, your final exam score will be counted twice. There is no way to make up the final exam. Make-up labs, lab practicals, and online lab assignments will only be offered in extreme circumstances when a valid and documented excuse is provided. Every effort should be made to attend your lab section or to make arrangements to attend another section. As online lab assignments are available for multiple days, you should have plenty of time to complete them.

### **Policy on electronic devices**

Use them if you want, but if they become distracting to your classmates, you will be asked to leave. Also, please note that the use of devices for socializing during class is very obvious to your classmates and your instructors. We'll make a mental note of it as disrespectful, and it leaves a negative impression.

### **UF counseling services**

Resources are available on campus for students having personal problems or lacking clear career and academic goals. The resources include:

- UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575, psychological and psychiatric services.
- Career Resource Center, Reitz Union, 392-1601, career and job search services.
- Many students experience test anxiety and other stress – related problems. “A Self Help Guide for Students” is available through the Counseling Center (301 Peabody Hall; 392-1575) and at their web site: <http://www.counsel.ufl.edu/>.

### **Academic Honesty Policy**

All students registered at the University of Florida have agreed to comply with the following statement:

*“I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University.”*

In addition, on all work submitted for credit the following pledge is either required or implied:

*“On my honor I have neither given nor received unauthorized aid in doing this assignment.”*

If you witness any instances of academic dishonesty in this class, please notify the instructor or contact the Student Honor Court (392-1631) or Cheating Hotline (392-6999). For additional information on Academic Honesty, please refer to the University of Florida Academic Honesty Guidelines at: <https://catalog.ufl.edu/ugrad/current/advising/info/student-honor-code.aspx#honesty>.

Remember, plagiarism is also a violation of the Academic Honesty Policy. Please see above for a source on how to avoid plagiarism.

### **Accommodations for students with disabilities**

Students who will require a classroom accommodation for a disability must contact the Dean of Students Office of Disability Resources, in Peabody 202 (phone: 352-392-1261). Please see the University of Florida Disability Resources website for more information at: <http://www.dso.ufl.edu/drc/>. Note that the student should provide documentation of a requirement for accommodation **by the second week of classes**. No accommodations are available to students who lack this documentation. It is the policy of the University of Florida that the student, not the instructor, is responsible for arranging accommodations when needed. Once notification is complete, the Dean of Students Office of Disability Resources will work with the instructor to accommodate the student.

Course schedule (subject to change)

Day	Date	Topic	Lecture homework	Lab (R or F)
T	Jan. 7	Introduction		
R	Jan. 9	Plant structure and overview of human use		<b>No lab</b>
T	Jan. 14	Classification, evolution and tree thinking		
R	Jan. 16	<b>Field trip to the ethnoecology garden</b>	<b>Plant expert part 1 assigned</b>	1 - Intro to plants
T	Jan. 21	Plant tissues: Fiber		
R	Jan. 23	Plant tissues: Fiber		2 - Fibers
T	Jan. 28	Plant tissues: Wood		
R	Jan. 30	Carbon cycling (guest lecture)	<b>Plant expert part 1 due; part 2 assigned</b>	3 - Wood
T	Feb. 4	Plant tissues: Paper		
R	Feb. 6	Plant tissues: Paper		4 - Paper
T	Feb. 11	Plant secondary metabolites: Exudates - Latex and rubber		
R	Feb. 13	Plant secondary metabolites: Exudates - Gums and resins	<b>Plant expert part 2 due; part 3 assigned</b>	5 - Exudates
T	Feb. 18	Plant secondary metabolites: Pigments - Dyes		
R	Feb. 20	<b>Review session</b>		<b>Lab practical 1</b>
T	Feb. 25	<b>Exam 1</b>		
R	Feb. 27	Plant secondary metabolites: Essential oils (activity)	<b>Plant expert part 3 due; part 4 assigned</b>	6 - Dyes
T	Mar. 4	<b>Spring break - no class</b>		
R	Mar. 6	<b>Spring break - no class</b>		<b>No lab</b>
T	Mar. 11	Plant secondary metabolites: Drugs		
R	Mar. 13	Plant secondary metabolites: Drugs		7 - Essential oils
T	Mar. 18	Plant secondary metabolites: Drugs		
R	Mar. 20	<b>Plant experts symposium (part 4)</b>		8 - Toxic and medicinal plants
T	Mar. 25	<b>Plant experts symposium (part 4)</b>		

R	Mar. 27	Plant primary metabolites: Lipids		9 - Fats, Oils, and Waxes
T	Apr. 1	Plant primary metabolites: Lipids		
R	Apr. 3	Plant primary metabolites: Sugars		10 - Soap
T	Apr. 8	Plant primary metabolites: Proteins		
R	Apr. 10	Agriculture and domestication (guest lecture)		<b>Lab practical 2</b>
T	Apr. 15	Agriculture and domestication		
R	Apr. 17	<b>Exam 2</b>		Coffee (activity or field trip TBD)
T	Apr. 22	Food lab in Rolfs (during lecture time)		