

BOT 3332
ECONOMIC BOTANY

COURSE MEETING AND LOCATION:

LECTURE: MW 1.5 hrs

TEXTBOOKS (REQUIRED):

- Levetin, Estelle and Karen McMahon. 2012. *Plants and Society, 6th edition*. McGraw-Hill. ISBN: 978-0-07-352422-1
- Pollan, M. 2001. *The botany of desire: a plant's eye view of the world*. Random House, New York.

COURSE OBJECTIVES:

- understand the role plants have played in the development and stability of human cultures
- understand the basic facets of plant systematics: phylogeny, description, identification, nomenclature, and classification
- understand basic plant morphology, anatomy, and growth
- know the major vegetable, fruit, herb, and spice plants
- understand concepts and techniques of plant breeding and genetic engineering
- know the uses of wood and fiber plants and plant extracts
- learn the historical and present uses of medicinal and euphoric plants
- know how southwest cultures utilized plants (including most topics above)

GRADING:

Assignments	15%
In class quizzes	10%
Exam 1	15%
Exam 2	15%
Research Paper	15%
Research Presentation	10%
Final exam	20%

POLICY ON MAKE-UP EXAMINATIONS: No make-up exams will be given for reasons other than illness (doctor's note required), absence with the instructor's prior approval, or when a student is on official University business (documentation required). Make-up exams will be scheduled at the Instructor's convenience.

POLICY ON ACADEMIC HONESTY: Academic Dishonesty will not be tolerated. It includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a

student or the attempt to commit such acts. If you have any questions regarding the university policy on scholastic dishonesty please contact the Dean of Students.

POLICY ON ELECTRONIC DEVICES: Be courteous to your fellow students and lecturer. Turn off any cell phones, smart phones, Blackberries, etc. during lecture. You cannot text, surf the internet, watch movies, listen to music, etc. in class.

ATTENDANCE POLICY: Regular attendance will be necessary for success in this class.

POLICY ON DISRUPTIVE BEHAVIOR: Any student who disrupts the class will be asked to leave and will be referred to the Dean of Students.

DISABILITY STATEMENT: If a student has or suspects he/she has a disability and needs an accommodation, he/she should contact the Disabled Student Services Office (DSSO) at 747-5148 or at dss@utep.edu or go to Room 106 Union East Building. The student is responsible for presenting to the instructor any DSS accommodation letters and instructions.

MILITARY STATEMENT: If you are a military student with the potential of being called to military service and/or training during the course of the semester, you are encouraged to contact me at the beginning of the semester.

THE REVIEW PAPER:

A research paper is required of all students. An outline will be due several weeks prior to the final due date. The purpose of the outline is to allow the students and me to make corrections and suggestions on the format and content, of the paper. The paper will be 5-8 pages in length. Figures and diagrams are welcome, but will not be included as part of the 5 page minimum.

The review paper should be a summary of a plant of economic value to humans, emphasizing the biology (taxonomy, life history, morphology/anatomy) of the plant and discussing economic and historical significance.

Some potential plants: Apple (*Malus pumila*), Artichoke (*Cynara scolymus*), Avocado (*Persea americana*), Banana (*Musa* spp.), Barley (*Hordeum vulgare*), Bean (*Phaseolus vulgaris*), Breadfruit (*Artocarpus altilis*), Cabbage (*Brassica oleracea*), Capsicum Pepper (*Capsicum* spp.), Cashew (*Anacardium occidentale*), Cassava (*Manihot esculenta*), Cocoa (*Theobroma cacao*), Coconut (*Cocos nucifera*), Coffee (*Coffea arabica*), Cotton (*Gossypium* spp.), Date (*Phoenix dactylifera*), Echinacea (*Echinacea* sp.), Fig (*Ficus carica*), Ginkgo biloba (*Ginkgo biloba*), Goldenseal (*Hydrastis canadensis*), Grape (*Vitis* spp.), Oat (*Avena sativa*), Olive (*Olea europaea*), Onion (*Allium cepa*), Orange (*Citrus aurantium*), Peanut (*Arachis hypogaea*), Pepper (*Piper nigrum*), Peyote (*Lophophora williamsii*), Pineapple (*Ananas comosus*), Pomegranate (*Punica granatum*), Opium Poppy (*Papaver somniferum*), Potato (*Solanum tuberosum*), Rye (*Secale cereale*), Sugar Cane (*Saccharum officinarum*), Taro (*Calocasia esculentum*), Tea (*Camellia sinensis*), Tomato (*Lycopersicon esculentum*), Tobacco (*Nicotianum tabacum*).

All literature sources should be properly cited in the text. Primary sources of information include books and the journal *Economic Botany* or *American Journal of Botany* (and references cited therein), but other scientific journals may be used.

In addition to what is in the library, sources may be available from the instructor. Only cite and use articles that are pertinent to your topic, not just those that happen to cover some aspect of your plant species. Web sources may not be used as primary sources of information.

THE PRESENTATION:

All students will be responsible for preparing a presentation of their topic from the review paper. These will be ten minute presentations using a Power Point format. Students will be given a handout explaining how their presentation will be assessed. In addition fellow students will be given evaluation sheets and be asked to anonymously assess the presentations of fellow students. This will be counted as a percentage of each student's final score for the presentation.

Economic Botany (BIOL 3332)

Week	Topic	Important Dates
W1	Intro to plants and people Plant morphology the basics	
W2	Plant systematics – how do you recognize plants? Basic plant anatomy and Physiology – How do plants function?	
W3	The plant lifecycle Plant families we can't live without	
W4	Eating stems, roots, and leaves Eating flowers fruits and seeds	
W5	The beginning of Agriculture (How, Why and When) Farming into the 21 st Century	Exam 1
W6	The spice rack – World exploration and war Herbs, oils, perfumes – plant defense and attraction	
W7	Plant breeding – for beauty and survival Genetic engineering – monsters or saviors	
W8	The Herbalists – medicinal plants Finding the cure in the oddest places	
W9	Psychoactive plant extracts, poisons and purging Putting up walls – wood	
W10	The ties that bind – clothing, rope, etc.	Exam 2
W11	Native Southwest Agriculture, Medicine and Ritual Field Trip (possible)	
W12	Living off the Land (using indigenous plants) Sustainable Southwest Landscape	
W13	Conservation, Plant Invasion To Save a Wilderness – (Leopold, Muir, Thoreau)	Research Paper Due
W14	Presentations Presentations	
W15	Presentations	