

University of Arkansas – Fort Smith

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General Syllabus

BIOL 3503 Cultural and Economic Botany

Credit Hours: 3

Lecture Hours: 3

Laboratory Hours: 0

Prerequisites: BIOL 2303/2301 General Botany/Laboratory or consent of instructor

Effective Catalog: 2018- 2019

I. Course Information

A. Catalog Description

An introduction to the many important uses of plants throughout human history and in current global economy. Topics include economic, medical, agricultural, ethnographic and herbal uses of diverse groups of plants across various societies. Significant focus will be placed on the effects of humans on the modification of plants through selection and production practices as well as the effects of plants on the development of human social structure.

B. Additional Information

This course is intended primarily for biology majors, although it is also open to other students who have the prerequisite college course in botany. Emphasis is on the complex social and economic interactions between plants and man.

II. Student Learning Outcomes

A. Subject Matter

Upon completion of this course, the student should be able to:

1. Explain the current hypotheses of the role plants played in the development of agrarian social structure.
2. Analyze and describe the effects of human selection and culture practices on economically important plant groups
3. Compare numerous roles that plants play in the everyday lives of man.
4. List plants which are sources of medicines, fibers, shelter, beverages and food.
5. Appraise the role and economic impact of ornamental plants.

B. University Learning Outcomes

Analytical Skills

Critical Thinking Skills: Students will identify a problem or issue. Students will research, evaluate, and compare information from varying sources in order to evaluate authority, accuracy, recency, and bias relevant to the problems/issues. Students will generate solutions/analysis of problems/issues evaluated. Students will place conclusions arrived at scientifically into a broader cultural context appropriate to the course topic.

Communication Skills (written and oral)

Students will communicate proficiently. Students will write appropriately to the context of the course, identifying facts from opinions, and read and write primary literature in accepted scientific format. Students will effectively communicate orally in a public setting.

Global & Cultural Perspectives

Students will demonstrate understanding or application of their discipline in a global environment. Students will experience how plant communities and plant use varies internationally. Students will demonstrate how their discipline impacts or is impacted by different cultures. Students will reflect how different cultures and communities use plants and how that use might impact medicine, agriculture, and other endeavors elsewhere.

Ethical Decision Making

Students will identify ethical dilemmas and affected parties. Students will identify ethical issues in conservation, agriculture, pharmaceutical development and appropriation of others' cultural knowledge in relation to cultural and economic botany. Students will apply ethical frameworks to resolve a variety of ethical dilemmas.

III. Major Course Topics

- A. Origins of Agriculture
 - 1. Hunter gathering to settlement
 - 2. Early crops
- B. Fruits and Nuts
 - 1. Fruits
 - 2. Nuts
- C. Cereal Grains & Legumes
 - 1. Grains
 - 2. Legumes
- D. Vegetative food sources
 - 1. Stems and leaves
 - 2. Tubers and others
- E. Spices, Herbs & Perfumes

- 1. Taste and preservation
 - 2. Scent
- F. Oil and Wax sources
 - 1. Fats
 - 2. Uses
- G. Medicinal Plants
 - 1. Sources
 - 2. Uses
- H. Psychoactives and Poisons
 - 1. Sources
 - 2. Uses
- I. Alcoholic and Stimulating Beverages
 - 1. Wine
 - 2. Beer
 - 3. Spirits
- J. Fiber and Dye sources.
 - 1. Fibers
 - 2. Dyes
- K. Wood, Cork & Bamboo
 - 1. Building materials
- L. Ornaments
 - 1. Landscaping
 - 2. Breeding ornaments