California State University Channel Islands

NEW COURSE PROPOSAL

Courses must be submitted by October 15, 2014, and finalized by the end of that fall semester for the next catalog production.

Use YELLOWED areas to enter data.

DATE (*Change if modified and redate file with current date)*) 10/15/2014, 2.18.15

PROGRAM AREA(S) **BIOLOGY**

1. Course Information. *[Follow accepted catalog format.]*

Prefix(es) (Add additional prefixes if cross-listed) **and Course No. 435 Title: ETHNOBOTANY**

Units: 3

- Prerequisites BIOL 200, Junior Standing or Consent of Instructor
- Corequisites
- Consent of Instructor Required for Enrollment

Catalog Description (Do not use any symbols):

Ethnobotany is an interdisciplinary area that allows students to integrate science and culture as a way of understanding human reliance on plants and the environment. The course combines the study of the interaction of people and plants with a broad survey of the diversity of plants described both scientifically and culturally. Students learn about the social impact of plants on culture while becoming knowledgeable in the science, characteristics, uses, and names of the major plant phyla. This course has a substantive writing requirement.

Grading Scheme:
✓ A-F Grades
___Credit/No Credit (Student Choice)

Repeatability:
Repeatable for a maximum of ___units
Total Completions Allowed ___
Multiple Enrollment in Same Semester __

Course Level Information:
✓ Undergraduate
___Post Baccalaureate/Credential ___Optional
___Graduate

Mode of Instruction/Components (*Hours per Unit are determined by CSU policy*).

	Units	Hours per Unit	Default Section Size	Graded Component	CS & HEGIS # (Filled in by the Provost's Office)
Lecture	3	1	30		
Seminar		1			
Laboratory		3			
Activity		2			
Field Studies					
Indep Study					
Other Blank					

Leave the following hours per week areas blank. The hours per week will be filled out for you.

hours lecture per week

hours per week

2. Course Attributes:

General Education Categories: All courses with GE category notations must be submitted to the GE website: http://summit.csuci.edu/geapproval. Upon completion, the GE Committee will forward your documents to the Curriculum Committee.

A (English Language, Communication, Critical Thinking)

A-1 Oral Communication

A-2 English Writing

A-3 Critical Thinking

B (Mathematics, Sciences & Technology)

B-1 Physical Sciences

✓ B-2 Life Sciences – Biology

B-3 Mathematics – Mathematics and Applications
B-4 Computers and Information Technology

C (Fine Arts, Literature, Languages & Cultures)

C-1 Art
C-2 Literature Courses
C-3a Language
C-3b Multicultural

D (Social Perspectives)

E (Human Psychological and Physiological Perspectives)

✓ **UDIGE/INTD Interdisciplinary**

✓ **Meets University Writing Requirement (Graduation Writing Assessment Requirement)**

Meets University Language Requirement

American Institutions, Title V Section 40404: Government US Constitution US History
Regarding Exec Order 405, for more information: http://senate.csuci.edu/comm/curriculum/resources.htm

Service Learning Course (Approval from the Center for Community Engagement must be received before you can request this course attribute).

Online Course (Answer YES if the course is ALWAYS delivered online).

3. Justification and Requirements for the Course. (Make a brief statement to justify the need for the course)

The area of Ethnobotany is captured in the name: Ethno (as in „ethnic") refers to people, a culture"s collective body of beliefs, aesthetic, language and knowledge. Botany refers to the scientific study of plants. As such, ethnobotany is fundamentally interdisciplinary connecting the fields of botany (physiology, anatomy, plant products, and taxonomy) with those of anthropology, ethnography, comparative folklore, medicine, chemistry and plant pharmacology.

This course surveys basic concepts of ethnobotany, with emphasis on how people use plants, the role of plants in traditional food systems, and the dynamics of human-plant-ecosystem interactions in a context of rapid social, ecological and climatic change. Students will gain a basic understanding of plant biology and taxonomy; conservation biology and sustainable plant use as well as ethnopharmacology (the use of native plants for food and medicines), innovative technology inspired by plants as well as cultural and economic significance of plant use.

This course will prepare and motivate students interested in pursuing education in ethnobotany and other fields such as science, anthropology, linguistics, etc.

B. Degree Requirement: ✓ Requirement for the Major/Minor **Note: Submit Program Modification if this course changes your program.**
Elective for the Major/Minor
Free Elective

4. Student Learning Outcomes. List in numerical order. Please refer to the Curriculum Committee's "Learning Outcomes" guideline for measurable outcomes that reflect elements of Bloom's Taxonomy: *http://senate.csuci.edu/comm/curriculum/resources.htm*. The committee recommends 4 to 8 student learning outcomes, unless governed by an external agency (e.g., Nursing).

1. Reflect (using extensive written assignments) on the cultural concepts around the perception of plants,
2. Apply acquired knowledge to examine the traditional uses of plants in tribal peoples,
3. Analyze impacts of modern human societies on traditional cultures and natural habitat as well as the global movement of plants and human cultures,
4. Compare the wisdom in both traditional and Western forms of medicine,
5. Reflect upon the role of plants in symbolism, ritual, and religion,
6. Appraise the role of plants in modern technology.
7. Outcome 4.2 Write effectively in various forms. (GE 4.2)
8. Integrate content, ideas, and approaches from integrative perspectives across disciplines. (GE 1.1(c))

5. Course Content in Outline Form. *[Be as brief as possible, but use as much space as necessary]*

1. History of Ethnobotany
    a. Global Movement of Plants and Human Cultures

2. Ethnobotanical Methods
    a. Understanding Plants
    b. Critical Thinking – Using Evidence as a Way of Knowing
    c. Blending Indigenous Knowledge and Science
    d. Recent History and Domestication of Plants
    e. Quantitative Ethnobotany and Survey Field Methods

3. Historical Ethnobotany and Food Plants - evolution, and conservation of genetic diversity
    a. Domestication of Wheat
    b. Domestication of Corn
    c. Domestication of Curcurbita

4. Food Plants
    a. Lotus Sacred Food of The Osage Indians, Oklahoma
    b. Protecting Ourselves From Our Food
    c. Seeking Agricultures Ancient Roots
    d. The One-Food Problem

5. Technology inspired by plants
    a. “Biomimicracy" or "The Mimicry of Nature.
    b. Algae and Biofuel
    c. Biorobitics
    d. Solar Cells
    e. Guayule and Latex
    f. Corn and Plastic
    g. Cockleburs and Velcro
    h. Lotus Plant and Nanotechnology
    i. Bird of Paradise and Window Shades
    j. Actuation Mechanism In Pine Cone

3. Plants in material culture / fibers, plant structure related to uses
    a. Building
    b. Plants Used for Disinfecting
    c. Phyto- Plastics
    d. Fire and Lighting
    e. Leather Substitutes
    f. Music
    g. Weather Protection
    h. Plants That Inhibit The Growth of Other Plants/Insects
    i. Fungicide, Insecticide, Parasiticide, Herbicide
    j. Woodworking and Other Crafts

4. Plants In Culture; Arts and Movies
5. Plants In Symbolism, Ritual, and Religion
6. Medicinal Plants (Annuals, Biennials, Bulbs, Climbers, Perennials, Shrubs, Trees)
7. Bodily Decoration; Human Cosmologies
8. Ethnopharmacology and Western Medicine
9. Ethnoecology and Conservation
10. Gardens; The Olmsted Brothers – Evolution of The American Garden

6. Cross-listed Courses (*Please note each prefix in item No. 1) Beyond three disciplines consult with the Curriculum Committee.*
A. List Cross-listed Courses (Signature of Academic Chair(s) of the other academic area(s) is required).
List each cross-listed prefix for the course: **B.** Program responsible for staffing:

7. References. *[Provide 3 - 5 references]*

- Balick, Michael J. 1997. People and Culture: The Science of Ethnobotany. New York:W.H. Freeman & Company.
- Buhner, Stephen Harrod. 2002. The Lost Language of Plants: The Ecological Importance of Plant Medicine to Life on Earth: the Ecological Importance of Plant Medicines to Life on Earth. White River, VT: Chelsea Green Publishing Co.
- Schultes, Richard Evans, Hofmann Albert, Rätsch Christian. 2001. Plants of the Gods: Their Sacred, Healing, and Hallucinogenic Powers. Roshester, VT:Healing Arts Press.
- Young Kim J., Hopkins William G. 2007. Ethnobotany. New York: Chelsea House.

8. Tenure Track Faculty Qualified to Teach This Course Dawn Neuman

9. Requested Effective Date: First semester offered: Fall 2015

10. New Resources Requested. Yes ☐ **No** ☐ If YES, list the resources needed.

A. Computer Needs (data processing, audio visual, broadcasting, other equipment, etc.)

B. Library Needs (streaming media, video hosting, databases, exhibit space, etc.)

C. Facility/Space/Transportation Needs

D. Lab Fee Requested **Yes** ☐ **No** ☐ **(Lab fee requests should be directed to the Student Fee Committee)**

E. Other

11. Will this new course alter any degree, credential, certificate, or minor in your program? Yes ☐ **No** ☐

If, YES attach a program update or program modification form for all programs affected.

Priority deadline for New Minors and Programs: October 1, 2013 of preceding year.
Priority deadline for Course Proposals and Modifications: October 15, 2013, of preceding year. Last day to submit forms to be considered during the current academic year: April 15th.

Dawn Neuman (Biology Program) _____

Proposer of Course (Type in name; Signatures will be collected after Curriculum approval) Date

BIOL 435 – New Course Proposal 1/28/2015

GE Committee response to your request have BIOL435: ETHNOBOTANY added to **B2: Life Sciences** -- Biology

Approved by 2014-2015 Committee:
Janet Rizzoli
Emily Saunders
*Geoffrey Buhl
*Catherine Burriss
*Robert Bleicher
*Virgil Adams
Rachel Danielson
*Dax Jacobson
Sarah Johnson
Rosa Rodriguez
Blake Buller
*Voting members

Course: BIOL435 ETHNOBOTANY
Area: B2 Life Sciences -- Biology
Date Submitted: 1/28/2015 12:25:03 PM
Date Approved: 2/9/2015 4:20:41 PM

1. Promote the understanding and appreciation of the methodologies of math or science as investigative tools and the limitations of mathematical or scientific endeavors:
An important part of this course is pre-class preparation. To make the most of in-class time, Ethnobotany students are asked to prepare weekly (graded) reviews/critiques of articles taken from peer-reviewed journals. Critiques are due prior to class and provide the background for lecture and discussion. Students are asked to respond to the following questions: (1) what question(s) were the authors trying to answer? (2) What specific methodologies did they use to answer their questions? (3) What were the conclusions? Does the data fit the conclusions? Why or why not, and (4) what would be your next experiment if you were the researcher?

2. Present mathematical or scientific knowledge in a historical prespective and the influences of math and science on the development of world civilizations, both past and present:
The course reviews botanical, anthropological and ecological approaches regarding the relationships between plants and people. For example, within the context of rapid social, ecological and climatic change, students are asked to consider applicable solutions to environmental problems by applying knowledge gained from studying how people created productive agricultural lands in past life-ways. The effects of human activity on plant ecology and evolution is also considered. The course also contains a section on plant inspired technology.

3. Apply inductive and deductive reasoning processes and explore fallacies and misconceptions in the mathematical or scientific areas:
The course is also aimed at developing the capacity for critical thinking. Each week, students are asked to analyze key information from peer reviewed literature with the objective that students learn that making a decision as to "what to believe" involves examining and weighing evidence. Students are asked to interpret information in text, table and figures, draw warranted inferences and assess the consistency, inconsistency and logical inferences from the evidence, so as to arrive at a well-reasoned conclusion supported by evidence.

4. Present the principles and concepts that form the foundations of living systems:
The parts of ETHNOBOTANY are captured in the word itself; ethno, 'the study of people', and botany, 'the scientific study of plants'. On the botanical side, the course surveys the (1) botany of cultivated plants, (2) metabolic processes (water relations, respiration, photosynthesis, enzyme kinetics, immunochemistry, and nitrogen fixation), and (3) plant diversity and phylogeny in relation to human uses. Students are also presented with lectures and readings focused upon the form and function of the plant body; nomenclature; history of plant use; origins of economically important plants; use of roots, stems, leaves, flowers and fruits for food and other purposes.

GE Committee response to your request have BIOL435: ETHNOBOTANY added to ***UDIGE: Upper Division Interdisciplinary GE***
Approved by 2014-2015 Committee:
Janet Rizzoli
Emily Saunders
*Geoffrey Buhl
*Catherine Burriss
*Robert Bleicher
*Virgil Adams
Rachel Danielson
*Dax Jacobson
Sarah Johnson
Rosa Rodriguez
Blake Buller
*Voting members

Course: BIOL435 ETHNOBOTANY
Area: **UDIGE,** GE Date Submitted: 1/28/2015 12:30:21 PM Date Approved: 2/9/2015 4:19:11 PM

1. Emphasize interdisciplinarity by integrating content, ideas, and approaches from two or more disciplines:
This course was first offered as a 1 unit 'special topic'. The course is taught in a format that includes lecture, reading, writing and discussion. Each week, students are asked to read a journal article and prepare a formal response (graded) based on four analytical questions; they are, 1) what was the paper about?, 2) what methods were used by the investigators?, 3) are the authors conclusions appropriate to the methods and findings?, and 4) if you were the investigator what experiment would you do next? Because this work is done before the class meets, the course has a climate of lively debate and also presents an opportunity for students to make a connection between what they are learning and the world around them. This has been a very successful approach for generating involvement and course commitment. Over the last two years, I have had nearly 100% participation.

2. Include substantive written work consisting of in-class writing as well as outside class writing of revised prose. Examples of appropriate written work include: short papers, long papers, term papers, lab reports, documentation, disciplinary-based letters and memos, and essays.:
Ethnobotany (from ethnology, study of culture and botany, study of plants) is the scientific study of the connections that exist between people and plants. Ethnobotany is strongly focused on how plants are perceived, used, and managed across human societies. This includes food, clothing, currency, ritual, medicine, dye, construction and cosmetics as well as new technologies inspired by plants, and more. As such, ethnobotany is deeply interdisciplinary, connecting the fields of botany (plant form and function – especially the chemical processes associated with plant life), taxonomy, anthropology, ethnography (systematic study of people and cultures), archaeology, and comparative folklore. Rooted in ancient history and national biological traditions, the field of ethnobotany also provides an opportunity to see into the rich legacy of medicinal plants by primitive societies many of which have a very refined view of the plant world that compares strikingly with that of contemporary medical scholarship.

Approval Sheet

Program/Course: Biology/ Ethnobotany

If your course has a General Education Component or involves Center affiliation, the Center will also sign off during the approval process.

Multiple Chair fields are available for cross-listed courses.

The CI program review process includes a report from the respective department/program on its progress toward accessibility requirement compliance. By signing below, I acknowledge the importance of incorporating accessibility in course design.

Program Chair		
	Signature	Date
Program Chair		
	Signature	Date
Program Chair		
	Signature	Date
General Education Chair		
	Signature	Date
Center for International Affairs Director		
	Signature	Date
Center for Integrative Studies Director		
	Signature	Date
Center for Multicultural Engagement Director		
	Signature	Date
Center for Civic Engagement Director		
	Signature	Date
Curriculum Chair		
	Signature	Date
AVP		
	Signature	Date