

MERRITT COLLEGE COURSE OUTLINE

COLLEGE:		STATE APPROVAL DATE:	08/31/2017
ORIGINATOR:	Ronald Felzer	STATE CONTROL NUMBER:	CCC000585 307
		BOARD OF TRUSTEES APPROVAL DATE:	06/13/2017
		CURRICULUM COMMITTEE APPROVAL DATE:	05/01/2017
		CURRENT EFFECTIVE DATE:	01/22/2018

DIVISION/DEPARTMENT:

1. REQUESTED CREDIT CLASSIFICATION:

Credit - Degree Applicable
Course is not a basic skills course.
Stand-alone

2. DEPT/COURSE NO:

BIOL 062J

3. COURSE TITLE:

Natural History of Mt. Whitney and the Southern High Sierra

4. COURSE: MC New Course

TOP NO. 0408.00

5. UNITS: 0.500 - 2.500

HRS/WK LEC: 0.50 - 2.50 Total: 8.75 - 43.75

HRS/WK LAB:

HRS/WK TBA:

6. NO. OF TIMES OFFERED AS SELETED TOPIC: AVERAGE ENROLLMENT:

7. JUSTIFICATION FOR COURSE:

This course continues our current series of natural history field courses under this rubric (Klamath-Siskiyou Mountains, Devils Postpile, Lassen Peak and Yosemite High Country), which have had high student interest and robust enrollments. Our program at Merritt College last offered a course on this region in the mid-1970's.

8. COURSE/CATALOG DESCRIPTION

Introduction to the natural history of the highest peak in the contiguous 48 states and the adjacent Sierra crest: Climate, geology, geologic history, geomorphology, plant communities, ecology, characteristic animals and conservation issues of the region. Emphasis on glacial landscape features and conservation efforts for the Sierra Nevada Bighorn Sheep, a state and federal endangered species.

9. OTHER CATALOG INFORMATION

a. Modular: No If yes, how many modules:

- b. Open entry/open exit: No
- c. Grading Policy: Both Letter Grade or Pass/No Pass
- d. Eligible for credit by Exam: No
- e. Repeatable according to state guidelines: No
- f. Required for degree/certificate (specify):
Existing
- g. Meets GE/Transfer requirements (specify):
Acceptable for credit: CSU
- h. C-ID Number: Expiration Date:
- i. Are there prerequisites/corequisites/recommended preparation for this course? No

- 10. LIST STUDENT PERFORMANCE OBJECTIVES (EXIT SKILLS):** (Objectives must define the exit skills required of students and include criteria identified in Items 12, 14, and 15 - critical thinking, essay writing, problem solving, written/verbal communications, computational skills, working with others, workplace needs, SCANS competencies, all aspects of the industry, etc.)(See SCANS/All Aspects of Industry Worksheet.)

Students will be able to:

1. Describe the global tectonic forces which have shaped the Sierra Nevada and the Basin and Range Geologic Province.
2. Identify and explain the origin of the various glacial landscape features of the Southern Sierra Nevada.
3. Point out at a landscape level the various vegetative patterns and their origins with respect to elevation and the effect of the Sierra rainshadow.
4. Identify in the field the characteristic plants and animals of this ecosystem and discuss their interactions at food chain and food web levels.
5. Analyze, with background knowledge and first-hand observations, the major conservation issue in this region: the decline of the Sierra Nevada Bighorn Sheep and the efforts to restore the populations of this animal.

- 11A. COURSE CONTENT:** List major topics to be covered. This section must be more than listing chapter headings from a textbook. Outline the course content, including essential topics, major subdivisions, and supporting details. It should include enough information so that a faculty member from any institution will have a clear understanding of the material taught in the course and the approximate length of time devoted to each. There should be congruence among the catalog description, lecture and/or lab content, student performance objectives, and the student learning outcomes. List percent of time spent on each topic; ensure percentages total 100%.

LECTURE CONTENT:

- | | |
|--|-----|
| 1. Overview and geography of the Southern Sierra Region | 10% |
| 2. Geology, geologic history, and geomorphology | 15% |
| 3. Glacial processes and landscapes | 10% |
| 4. Climate of the Southern Sierra | 10% |
| 5. Plant communities of the Southern High Sierra | 15% |
| 6. Characteristic birds and mammals of the Southern Sierra | 15% |

7. Effects of altitude on plants and animals, including humans 15%
 8. Conservation issues: Sierra Nevada Bighorn Sheep 10%

11B. LAB CONTENT:

n/a

12. METHODS OF INSTRUCTION (List methods used to present course content.)

1. Field Trips
2. Lecture
3. Multimedia Content
4. Other (Specify)
5. Discussion
6. Field Experience

Other Methods:

Classroom lectures Slide shows PowerPoint presentations Videos and DVDs Field session lectures Guest speakers Visitor Centers/Botanic Gardens

13. ASSIGNMENTS: 5.00 hours/week (List all assignments, including library assignments. Requires two (2) hours of independent work outside of class for each unit/weekly lecture hour. Outside assignments are not required for lab-only courses, although they can be given.)

Out-of-class Assignments:

1. Textbook and handouts readings.
2. Map reading.
3. Library/Internet research paper.
4. Field Journal.
5. Photo Essay.

ASSIGNMENTS ARE: (See definition of college level):

Primarily College Level

14. STUDENT ASSESSMENT: (Grades are based on):

ESSAY (Includes "blue book" exams and any written assignment of sufficient length and complexity to require students to select and organize ideas, to explain and support the ideas, and to demonstrate critical thinking skills.)

NON-COMPUTATIONAL PROBLEM SOLVING (Critical thinking should be demonstrated by solving unfamiliar problems via various strategies.)

ESSAY (Includes "blue book" exams and any written assignment of sufficient length and complexity to require students to select and organize ideas, to explain and support the ideas, and to demonstrate critical thinking skills.)

OTHER (Describe):

Library/Internet research paper, field journal, on-the-spot field quizzes.

15. TEXTS, READINGS, AND MATERIALS

A. Textbooks:

Eng, R. 2010. *Mountaineering the Freedom of the Hills* Eighth . Mountaineers Books

Gilligan, D. 2011. *Rise of the Ranges of Light* First. Heyday Books

Laws, J M. 2007. *The Laws Field Guide to the Sierra Nevada* First. Heyday Books/California Academy of Sciences

Schoenherr, A. 1992. *A Natural History of California* First. UC Press
Rationale: The only text-like book which covers all aspects of this subject.

Wilkerson, J. 2009. *Medicine for Mountaineering* Sixth. Mountaineers Books

Instructor's personal Library, slide, film, and rock collections

*Date is required: Transfer institutions require current publication date(s) within 5 years of outline addition/update.

B. Additional Resources:

Library/LRC Materials and Services:

The instructor, in consultation with a librarian, has reviewed the materials and services of the College Library/LRC in the subject areas related to the proposed new course

Are print materials adequate? No

Are nonprint materials adequate? No

Are electronic/online resources available? Yes

Are services adequate? Yes

Specific materials and/or services needed have been identified and discussed. Librarian comments:

Please consult with our librarians for the most recent resources in your discipline. As of Spring 2011, our new location is A-129. We house a limited collection of print reference materials and no print circulating materials. Therefore, we are encouraging students to come to the library to pick up a login-in/password fact sheet to utilize our e-materials from any location when the library is closed.

C. Readings listed in A and B above are: (See definition of college level):

Primarily college level

16. DESIGNATE OCCUPATIONAL CODE:

E - Non-Occupational

17. LEVEL BELOW TRANSFER:

Y = Not Applicable

SUPPLEMENTAL PAGE

Use only if additional space is needed. (Type the item number which is to be continued, followed by "continued." Show the page number in the blank at the bottom of the page. If the item being continued is on page 2 of the outline, the first supplemental page will be "2a." If additional supplemental pages are required for page 2, they are to be numbered as 2b, 2c, etc.)

STUDENT LEARNING OUTCOMES

1. **Outcome:** Illustrate both in writing and in a group context the major ecological principles of the subject under study both in the classroom and in the field.

This outcome maps to the following Institution Outcomes:

- Communication - Communicate with clarity and precision using oral, nonverbal, and/or written language, expressing an awareness of audience, situation, and purpose.

Assessment: exam, essay, oral presentation, other (describe below): Field journal

2. **Outcome:** Posed with a landscape level hypothesis, demonstrate that they can intelligently discuss and support a hypothesis, or show that it not supportable, by the evidence at hand in the field. This ability can be applied in the broader environmental arena wherever similar phenomena are encountered.

This outcome maps to the following Institution Outcomes:

- Communication - Communicate with clarity and precision using oral, nonverbal, and/or written language, expressing an awareness of audience, situation, and purpose.
- Critical Thinking - Think critically using appropriate methods of reasoning to evaluate ideas and identify and investigate problems and to develop creative and practical solutions to issues that arise in workplaces, institutions, and local and global communities.

Assessment: oral presentation, other (describe below): Field journal

3. **Outcome:** Display internet facility and literacy in completing course exam questions, but also to pursue further the many topics for which there is not time in the short classroom portion of the course to cover all subjects in detail.

This outcome maps to the following Institution Outcomes:

- Communication - Communicate with clarity and precision using oral, nonverbal, and/or written language, expressing an awareness of audience, situation, and purpose.
- Information & Computer Literacy - Use appropriate technology to identify, locate, evaluate and present information for personal, educational and workplace goals.

Assessment: exam, essay

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