

Course Outline of Record

1. Course Code: NR-001L
2.
  - a. Long Course Title: Conservation Of Natural Resources Lab
  - b. Short Course Title: CONSV NATRL RES LAB
3.
  - a. Catalog Course Description:  
 This laboratory course is designed to supplement the Conservation of Natural Resources course (NR-001) by providing laboratory and field experiences in ecology and environmental subject areas. Suggested for Biological Science General Education requirements.
  - b. Class Schedule Course Description:  
 This laboratory course is designed to supplement the Conservation of Natural Resources course (NR-001) by providing laboratory and field experiences in ecology and environmental subject areas.
  - c. Semester Cycle (if applicable): N/A
  - d. Name of Approved Program(s):
    - NATURAL RESOURCES AS Degree and Transfer Preparation
4. Total Units: 1.00      Total Semester Hrs: 54.00  
 Lecture Units: 0      Semester Lecture Hrs: 0  
 Lab Units: 1      Semester Lab Hrs: 54.00  
 Class Size Maximum: 24      Allow Audit: No  
 Repeatability No Repeats Allowed  
 Justification 0
5. Prerequisite or Corequisite Courses or Advisories:  
*Course with requisite(s) and/or advisory is required to complete Content Review Matrix (CCForm1-A)*  
 Prerequisite: NR 001 or  
 Corequisite: NR 001
6. Textbooks, Required Reading or Software: *(List in APA or MLA format.)*
  - a. Withgott, Jay (2012). Essential Environment (4th/e). New York Pearson Publishing.  
 College Level: Yes  
 Flesch-Kincaid reading level: 12
7. Entrance Skills: *Before entering the course students must be able:*
  - a. Demonstrate an understanding of several fundamental concepts of ecology, environmental problems and conservation.
    - NR 001 - Demonstrate an understanding of several fundamental concepts of ecology, environmental problems and conservation.
  - b. Explain several basic ecological principles.
    - NR 001 - Explain several basic ecological principles.
  - c. Formulate solutions to reduce several major environmental problems.
    - NR 001 - Formulate solutions to reduce several major environmental problems.
  - d. Comprehend the heavy demands being placed on this planet's natural resources by human beings and be able to suggest alternatives for reducing our impact.
    - NR 001 - Comprehend the heavy demands being placed on this planet's natural resources by human beings and be able to suggest alternatives for reducing our impact.
  - e. Demonstrate an understanding of the selection and implementation of natural resource management procedures based on ecological and economic criteria.
    - NR 001 - Demonstrate an understanding of the selection and implementation of natural resource management procedures based on ecological and economic criteria.

f. Apply principles learned in this course to their personal lives by independently developing methods for conserving resources.

- NR 001 - Apply principles learned in this course to their personal lives by independently developing methods for conserving resources.

g. Demonstrate an awareness of sound procedures for responding to potential environmental problems in personal and business arenas.

- NR 001 - Demonstrate an awareness of sound procedures for responding to potential environmental problems in personal and business arenas.

8. Course Content and Scope:

Lecture:

1. Field observations of basic ecological concepts, such as:
  1. energy flow, food chains, food webs, biomass, population fluctuation, limiting factors, competition, life zones, primary and secondary succession.
2. Water testing: using chemical, colorimetric, mechanical and/or electronic test procedures
3. Water reclamation and wastewater treatment
4. Energy resources: both conventional and emerging sources
5. Quantitative field analysis of native flora via a basic plant survey lab
6. Population growth curves studies via computer analysis

Lab: (if the "Lab Hours" is greater than zero this is required)

- Field observations of basic ecological concepts, such as:
  1. energy flow, food chains, food webs, biomass, population fluctuation, limiting factors, competition, life zones, primary and secondary succession.
- Water testing: using chemical, colorimetric, mechanical and/or electronic test procedures
- Water reclamation and wastewater treatment
- Energy resources: both conventional and emerging sources
- Quantitative field analysis of native flora via a basic plant survey lab
- Population growth curves studies via computer analysis

9. Course Student Learning Outcomes:

1. Respond to a variety of conservation-related subject areas such as wind and solar power, biomass energy, endangered species and botanical surveying.
2. Examine potential career opportunities in the conservation field.

10. Course Objectives: *Upon completion of this course, students will be able to:*

- a. Demonstrate knowledge of basic ecological concepts.
- b. Recognize and discuss basic ecological concepts in the field, such as: energy transfer, food chains, food webs, biomass relationships, limiting factors, carrying capacity, competition, life zones, primary and secondary succession.
- c. Demonstrate an understanding of the selection and implementation of natural resource management procedures based on ecological and economic criteria.
- d. Recognize the ecological importance of biodiversity.
- e. Conduct some basic lab tests and field studies relating to water quality and plant population surveys, and be able to interpret the results.

11. Methods of Instruction: *(Integration: Elements should validate parallel course outline elements)*

- a. Demonstration, Repetition/Practice
- b. Laboratory
- c. Lecture

Other Methods:

- a. Lecture and/or demonstration introduction to lab exercises
- b. Student participation in lab exercises and field studies
- c. Students will have opportunities to work in small groups and as partners
- d. Some sessions will involve

guest presenters for field observations and exercises

12. Assignments: *(List samples of specific activities/assignments students are expected to complete both in and outside of class.)*

In Class Hours: 54.00

Outside Class Hours: 0

a. Out-of-class Assignments

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b. In-class Assignments

1. Students will complete lab exercises as assigned
2. Lab reports will be completed and graded
3. A term project is assigned, which is a combination written & oral presentation
4. Students are expected to participate in partner/group exercises

13. Methods of Evaluating Student Progress: *The student will demonstrate proficiency by:*

- Portfolios
  - Term or research papers
  - Laboratory projects
  - Field/physical activity observations
  - Presentations/student demonstration observations
  - Student participation/contribution
  - Oral and practical examination
  - Other
- A written and oral final project.

14. Methods of Evaluating: Additional Assessment Information:

15. Need/Purpose/Rationale -- *All courses must meet one or more CCC missions.*

IGETC Area 5: Physical and Biological Sciences (mark all that apply)

B: Biological Science, Lab only

CSU GE Area B: Physical and its Life Forms(mark all that apply)

B3 - Laboratory Sciences

PO-GE C1-Natural Sciences

Explain concepts and theories related to physical, chemical, and biological natural phenomena.

Apply the scientific process and its use and limitations in the solution of problems.

Draw a connection between natural sciences and their own lives.

Make critical judgments about the validity of scientific evidence and the applicability of scientific theories.

Demonstrate knowledge of the use of technology in scientific investigation and human endeavors, and the advantages and disadvantage of that technology.

Use college-level mathematical concepts and methods to understand, analyze, and explain issues in quantitative terms.

16. Comparable Transfer Course

University System	Campus	Course Number	Course Title	Catalog Year
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17. Special Materials and/or Equipment Required of Students:

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18. Materials Fees:  Required Material?

Material or Item	Cost Per Unit	Total Cost
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# NR 001L-Conservation Of Natural Resources Lab

19. Provide Reasons for the Substantial Modifications or New Course:

English 70 change

20. a. Cross-Listed Course (*Enter Course Code*): N/A  
b. Replacement Course (*Enter original Course Code*): N/A

21. Grading Method (*choose one*): Letter Grade Only

22. MIS Course Data Elements

- a. Course Control Number [CB00]: CCC000336075  
b. T.O.P. Code [CB03]: 11500.00 - Natural Resources  
c. Credit Status [CB04]: D - Credit - Degree Applicable  
d. Course Transfer Status [CB05]: A = Transfer to UC, CSU  
e. Basic Skills Status [CB08]: 2N = Not basic skills course  
f. Vocational Status [CB09]: Possibly Occupational  
g. Course Classification [CB11]: Y - Credit Course  
h. Special Class Status [CB13]: N - Not Special  
i. Course CAN Code [CB14]: N/A  
j. Course Prior to College Level [CB21]: Y = Not Applicable  
k. Course Noncredit Category [CB22]: Y - Not Applicable  
l. Funding Agency Category [CB23]: Y = Not Applicable  
m. Program Status [CB24]: 1 = Program Applicable

Name of Approved Program (*if program-applicable*): NATURAL RESOURCES

*Attach listings of Degree and/or Certificate Programs showing this course as a required or a restricted elective.)*

23. Enrollment - Estimate Enrollment

First Year: 0

Third Year: 0

24. Resources - Faculty - Discipline and Other Qualifications:

- a. Sufficient Faculty Resources: No  
b. If No, list number of FTE needed to offer this course: N/A

25. Additional Equipment and/or Supplies Needed and Source of Funding.

N/A

26. Additional Construction or Modification of Existing Classroom Space Needed. (*Explain:*)

N/A

27. FOR NEW OR SUBSTANTIALLY MODIFIED COURSES

Library and/or Learning Resources Present in the Collection are Sufficient to Meet the Need of the Students Enrolled in the Course: Yes

28. Originator Kurt Leuschner Origination Date 10/23/17