Lassen Community College Course Outline

FOR 2 Forest Ecology

3.0 Units

I. Catalog Description

This course examines basic ecological principles applied to forest management, exploring the theory and practice of ecology and conservation of local forest ecosystems. Students examine past and current theoretical advances and use case studies to evaluate the impacts of natural and human disturbance on forested ecosystems. The course covers diverse topics including: Forest restoration, global climate change; individual and population growth; forest succession; invasive species; biodiversity; and forest classification/descriptions. This course has been approved for hybrid and online delivery.

Recommended Preparation: Successful completion of ENGL105 or equivalent multiple measures placement.

Transfers to CSU General Education Area: CSU GE Area: *C-ID* 51 Hours Lecture, 102 Expected Outside Class Hours, 153 Total Student Learning Hours Scheduled: Fall

II. Coding Information

Repeatability: Not Repeatable, Take 1 Time Grading Option: Graded Credit Type: Credit –Degree Applicable TOP Code: 0114.00

III. Course Objectives

A. Course Student Learning Outcomes

Upon completion of this course the student will be able to:

- 1. Identify and describe the physical, chemical, and biological characteristics of forests and other wildland ecosystems.
- 2. Explain the ecological, hydrological, social, political and economic structure and processes related to forest ecosystems.
- 3. Describe forest ecosystems effectively in oral and written formats

B. Course Objectives

Upon completion of this course the student will be able to:

- 1. Identify and describe the physical, chemical, and biological characteristics of forests and other wildland ecosystems.
- 2. Explain the ecological, hydrological, social, political and economic structure and processes related to forest ecosystems.
- 3. Describe forest ecosystems effectively in oral and written formats

IV. Course Content

- A. Introduction to Forest Ecology
 - 1. Definition & Terms
 - 2. History of Ecology
- B. Forest Ecosystems
 - 1. Structure and function
 - 2. Classifications
 - 3. Biological diversity of forests
 - 4. Conservation
- C. Forest Productivity
 - 1. Functional Diversity
 - 2. Human and ecological interactions
 - 3. Impacts on ecosystem health
 - 4. Application of functional ecology
- D. Biochemical cycling
 - 1. Light
 - 2. Temperature
 - 3. Water
- E. Ecological Issues pertaining to sustainable forest management
 - 1. Invasive species/Disturbances
 - 2. Solar Radiation
 - 3. Temperature
 - 4. Water
 - 5. Wind
 - 6. Fire
 - 7. Community ecology

V. Assignments

A. Appropriate Readings

Required reading assignments will be made from the textbook on a regular basis. In addition, journal and articles from outside resources including video, newspapers, magazines, internet, etc. pertaining to course topics will be incorporated in the class lectures and assignments.

B. Writing Assignments

Students will be required to complete short answer written assignments, quizzes and/or submit a research paper on a forest ecology topic as assigned by the instructor.

C. Expected Outside Assignments

Outside assignments may include take home short answer written assignments, required reading of supplementary literature, term paper(s), and group research and reports.

D. Specific Assignments that Demonstrate Critical Thinking

Critical thinking, writing assignments as listed above. Individual and group presentations of the course topics.

VI. Methods of Evaluation

Traditional Classroom Evaluation

Comprehensive Quizzes and Exams Written Critical Thinking Scenarios Problem Analysis and Solution Research and Term Papers

Online Evaluation

Same as face-to-face instruction including a variety of evaluation methods such as: research papers, asynchronous and synchronous discussions (chat/forum), exercises/assignments, online quizzes and exams, and postings to online website.

Hybrid Evaluation

All quizzes and exams will be administered during the in-person class time. Students will be expected to complete online assignments and activities equivalent to in class assignments and activities for the online portion of the course. Electronic communication, both synchronous and asynchronous (chat/forum) will be evaluated for participation and to maintain effective communication between instructor and students.

VII. Methods of Delivery

Check those delivery methods for which, this course has been separately approved by the Curriculum/Academic Standards Committee.

Traditional Classroom Delivery Correspondence Delivery

 \square Hybrid Delivery \square Online Delivery

Tradition Classroom Delivery

Methods of instruction may include, but are not limited to: lecture (including guest speakers) PowerPoint, and other media presentations, discussions, scenarios, and group presentations.

Online Delivery

A variety of methods will be used, such as: research papers, asynchronous and synchronous (chat/forum) discussions, online quizzes and exams, posting to online website and email communications using the districts approved learning management system.

Hybrid Delivery

A combination of traditional classroom and online instruction will be utilized. Each semester a minimum of 17 hours, or 1/3 of the lecture hours, will be taught face-to face by the instructor and the remaining hours will be instructed online through the technology platform adopted by the District. Traditional class instruction will consist of exercises/assignments, lectures, visual aids, and practice exercises. Online delivery will consist of exercises/assignments, lecture posts, discussions, adding extra resources and other media sources as appropriate.

VIII. Representative Texts and Supplies

Wiley Publications, Dan Brinkley; *Forest Ecology: An Evidence Based Approach* 1st edition (2021) ISBN 9781119703204

IX. Discipline/s Assignment Forestry, Biology

X. Course Status

Current Status: Active Original Approval Date: 02/21/2023 Board Approval: 04/11/2023 Revised By: Curriculum/Academic Standards Committee Revision Date: