# BUTTE COLLEGE
## COURSE OUTLINE

I. **CATALOG DESCRIPTION**

**NR 20 - Introduction to Forestry and Natural Resources** **3 Unit(s)**

**Prerequisite(s):** NONE
**Recommended Prep:** Reading Level IV; English Level III; Math Level II
**Transfer Status:** CSU/UC
34 hours Lecture
51 hours Lab

This course is an introduction to the integrated management of natural resources including trees, soil, water, fish, and wildlife for the production of wood and fiber products. The emphasis will be on both the traditional and emerging uses of the forest resource to satisfy human needs and the consequent protection of the public trust. Basic biological and ecological processes will be introduced along with discussion of the scientific method and preparing reports.

II. **OBJECTIVES**

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

A. Assess the importance of forest products and other natural resources to our society.
B. Examine the effects of early forest policy and regulations on the resources.
C. Identify and describe the basic principles of ecological succession in terms of multiple and sustainable use of natural resources.
D. Evaluate the factors that influence the health of an ecosystem.
E. Describe the major functions and significance of watersheds and illustrate basic principles of watershed restoration.
F. Evaluate past and present efforts of agencies to prevent wildfires.
G. Apply the basic principles of silviculture including practices of measuring, evaluating, managing and manipulating forest, wildlife, range, and water resources for human uses and values.

III. **COURSE CONTENT**

A. **Unit Titles/Suggested Time Schedule**

Lecture

| Topics | Hours |
|---|---|
| 1. Introduction to Forestry | 2.00 |
| 2. North American Forest Regions | 2.00 |
| 3. Classification, Identification, Anatomy, and Physiology of Trees | 2.00 |
| 4. Forest Ecology | 2.00 |
| 5. Diseases and Pests of Trees | 2.00 |
| 6. Silviculture | 2.00 |
| 7. Measurements of Forest Resources | 2.00 |
| 8. Harvest, Road Building, and Reforestation Practices | 2.00 |
| 9. Fire and the Forest | 2.00 |
| 10. Wildlife and the Forest | 2.00 |
| 11. Water Quality and Watershed Management | 2.00 |
| 12. The Role of Government in Forestry | 2.00 |

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| 13. Forest Products | 2.00 |
| 14. Plantation Products and Practices | 2.00 |
| 15. Urban Forestry | 2.00 |
| 16. Computer and Space-Age Forest Technologies | 2.00 |
| 17. Summary & Testing | 2.00 |
| Total Hours | 34.00 |

Lab

| Topics | Hours |
|---|---|
| 1. Introduction to the Scientific Method | 3.00 |
| 2. Tree Indentification and Taxonomy | 6.00 |
| 3. Tree Anatomy | 3.00 |
| 4. Forest Ecology | 3.00 |
| 5. Insects, Pests and Diseases | 6.00 |
| 6. Tree Plantations and Habitat | 3.00 |
| 7. Tools of Forest Mensuration | 3.00 |
| 8. Harvest and Reforestation Plans | 3.00 |
| 9. Fire and Forest Regeneration | 3.00 |
| 10. Wildlife Habitat Conservation and Restoration | 3.00 |
| 11. Watershed Protection | 3.00 |
| 12. Lumber and other Forest Materials | 3.00 |
| 13. National Environmental Policy Act (NEPA) and Environmental Impact Reports | 3.00 |
| 14. Seedlings and Plant Progagation | 3.00 |
| 15. Urban Forestry and Exotic/Invasive Trees | 3.00 |
| Total Hours | 51.00 |

## IV. **METHODS OF INSTRUCTION**

A. Lecture
B. Guest Speakers
C. Class Activities
D. Field Trips
E. Homework: Students are required to complete two hours of outside-of-class homework for each hour of lecture
F. Discussion
G. Multimedia Presentations

## V. **METHODS OF EVALUATION**

A. Exams/Tests
B. Quizzes
C. Class participation
D. Written Assignments
E. Mid-term and final examinations
F. Essays and research papers

## VI. **EXAMPLES OF ASSIGNMENTS**

A. Reading Assignments
    1. Read an article on the current trends in forest management relating to multiple use management. Be prepared to discuss livestock raising.
    2. Read an article on watershed management related to northern California. Be prepared to present an argument in favor of watershed restoration.

B. Writing Assignments
    1. Write a 3 page paper on the relationship of wildlife to their habitat needs in the forest.
    2. Write a 1500 word essay describing how the supply and demand for forest products has changed especially in northern California.

C. Out-of-Class Assignments
    1. Create a notebook with pictures in natural history of 10 common pests of trees.
    2. Utilize the Internet to research computer software used in forest management, specifically relating to harvesting and volume in a stand of timber.

## VII. **RECOMMENDED MATERIALS OF INSTRUCTION**

Textbooks:

A. Grebner, D.L., Bettinger, P., and Siry, J.P. Introduction to Forestry and Natural Resources. 1st Edition. Academic Press, 2013.

B. DeVere, Burton, L. Introduction to Forestry Science. 3rd Edition. Thomson Delmar Learning, 2013.

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