NRM 51 Course Outline as of Fall 2024

CATALOG INFORMATION

Dept and Nbr: NRM 51 Title: WILDLAND TREE/SHRUB
Full Title: Wildland Trees and Shrubs
Last Reviewed: 12/12/2023

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.50	17.5	Lecture Scheduled	43.75
Minimum	3.00	Lab Scheduled	2.00	6	Lab Scheduled	35.00
		Contact DHR	0		Contact DHR	0
		Contact Total	4.50		Contact Total	78.75
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 87.50 Total Student Learning Hours: 166.25

Title 5 Category:	AA Degree Applicable
Grading:	Grade or P/NP
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	FOR 51

Catalog Description:
Students will study the taxonomy, physiology, and ecological relationships of trees and shrubs of Central and Northern California. Botanical and anatomical characteristics of these plants will be emphasized. Course may include field trips.

Prerequisites/Corequisites:

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Students will study the taxonomy, physiology, and ecological relationships of trees and shrubs of Central and Northern California. Botanical and anatomical characteristics of these plants will be emphasized. Course may include field trips. (Grade or P/NP)
Prerequisites/Corequisites:
Recommended:
Limits on Enrollment:

Transfer Credit: CSU;
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**		Effective:	Inactive:
	C	Natural Sciences	Fall 1981	
CSU GE:	**Transfer Area**		Effective:	Inactive:
	B2	Life Science	Fall 1981	
	B3	Laboratory Activity		
IGETC:	**Transfer Area**		Effective:	Inactive:

CSU Transfer:	Transferable	Effective:	Fall 1981	Inactive:
UC Transfer:		Effective:		Inactive:

CID:

Certificate/Major Applicable:
Both Certificate and Major Applicable

COURSE CONTENT

Student Learning Outcomes:
At the conclusion of this course, the student should be able to:
1. Identify, classify, compare, and collect various plant species commonly found in Central and Northern California.
2. Describe the basic ecological requirements of those species.

Objectives:
At the conclusion of this course, the student should be able to:
1. Identify the botanical names of a wide variety of native trees and shrubs using various morphological features.
2. Use a dichotomous plant key and typical field guides effectively to identify specimens.
3. Classify trees and shrubs based on the plant taxonomic system.
4. Compare and contrast the various plant genera and species within the North Coast Range and Sierra Nevada.
5. Evaluate the intrinsic and economic value of trees and shrubs, and the economic impact of the non-native/invasive species, and their role in ecosystem sustainability.
6. Distinguish among common plant community types of Central and Northern California.
7. Determine basic ecological requirements of common forest trees and shrubs.
8. Collect, mount, and identify plants in order to compile a plant collection.

Topics and Scope:

I. Physiology and Morphology of Trees and Shrubs
   A. Plant morphology
   B. Physiology of various plant parts and their function
   C. Morphology and physiology of flowering parts
II. Plant Communities and Succession
   A. Autecology of plants and its effect upon plant distribution

B. Synecology and key plant indicators
C. The effect of the environment on the distribution of plant communities

III. Tree Growth and Function
A. Photosynthesis and the effect of light upon growth and regeneration
B. Tree measurements (Height, diameter, increment growth, etc.)
C. Dendrochronology
D. Leaf morphology and characteristics
E. Physiological growth habits of trees
F. Climatic effect upon trees and growth habits
G. Taxonomy
1. Trees
2. Branches without leaves

IV. Taxonomy and Physiological Growth Habits of Shrubs
A. Environmental characteristics of shrub communities
B. Soil types and moisture effects upon shrubs
C. Succession in shrub communities following disturbance (ie: fire)
D. Taxonomy of shrubs

V. Soils
A. Basic soil composition and type and effects of plant/tree distribution and growth
B. Moisture and its effects upon distribution of plants

VI. Composition and Distribution of California Ecosystems
A. Wetlands
B. Riparian Woodlands
C. North Coast Forest
D. Klamath Region
E. Pinyon-Juniper
F. Sub-alpine forests
G. Oaks
H. Chaparral
I. Redwood Forest
J. Douglas Fir Forest
K. Closed cone forest
L. Valley Riparian
M. Foothill woodland
N. Mixed conifer
O. Giant Sequoia groves

VII. Species Identification
A. Plant keys
1. Introduction to plant taxonomic system and botanical nomenclature
2. Classification
B. Compiling a collection

VIII. Plant Collections
A. Methods of gathering and preserving plant materials
B. Mounting techniques
C. Proper labeling of mounted specimens

All topics are covered in the lecture and lab portions of the course.

Assignment:

Lecture-Related Assignments:
1. Weekly reading (15 -20 pages)

2. Quizzes (3-6) and final exam

Lab-Related Assignments:
1. Field identification of tree and shrub species
2. Plant identification tests (2-4)
3. Plant collection consisting of properly identified and labeled specimens (30-60)
4. Field notes from field trips (4)

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Field notes	Writing 10 - 20%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Field identification	Problem solving 10 - 20%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Plant identification tests; plant collection	Skill Demonstrations 20 - 50%

Exams: All forms of formal testing, other than skill performance exams.

Quizzes and final exam	Exams 30 - 40%

Other: Includes any assessment tools that do not logically fit into the above categories.

Participation	Other Category 0 - 10%

Representative Textbooks and Materials:
Introduction to Forestry and Natural Resources. 2nd ed. Grebner, Donald and Bettinger, Pete. Academic Press. 2021.
How to Identify Plants. Harrington, H.D. Ohio University Press. 1997 (classic).
Introduction to California Plant Life. Ornduff, Robert and Faber, Phyliis and Wolf, Todd. University of California Press. 2003 (classic).
North American Trees. 5th ed. Preston Jr., Richard and Braham, Richard. Iowa State Press. 2003 (classic).
Familiar Trees of North American, Western Region. Franklin, Jerry N. Knopf. Audubon Society Pocket Guides. 1987 (classic).
Trees and Shrubs of California. Stuart, John and Sawyer, John. University of California Press. 2001 (classic).
Instructor prepared materials