NRM 131 Course Outline as of Fall 2023

CATALOG INFORMATION

Dept and Nbr: NRM 131 Title: TRAILS MAINT/RECONSTRUCT
Full Title: Park and Forest Trails Maintenance and Reconstruction
Last Reviewed: 1/23/2023

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	2.50	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	2.50	Lab Scheduled	1.50	2	Lab Scheduled	26.25
		Contact DHR	0		Contact DHR	0
		Contact Total	3.50		Contact Total	61.25
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00 Total Student Learning Hours: 131.25

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:

Catalog Description:
An introduction to the equipment, methods, techniques, and tools used in laying out, repairing, and rebuilding park and forest trails.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Schedule of Classes Information:
Description: An introduction to the equipment, methods, techniques, and tools used in laying out, repairing, and rebuilding park and forest trails. (Grade or P/NP)
Prerequisites/Corequisites:
Recommended: Eligibility for ENGL 100 or ESL 100
Limits on Enrollment:
Transfer Credit:
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**	Effective:	Inactive:
CSU GE:	**Transfer Area**	Effective:	Inactive:
IGETC:	**Transfer Area**	Effective:	Inactive:

CSU Transfer: Effective: 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. Demonstrate approved and appropriate use of the equipment, methods, techniques, and tools used in laying out, repairing, and rebuilding park and forest trails.
2. Construct and maintain trails in a natural setting.

Objectives:
Upon successful completion of this course, students will be able to:
1. Explain the historical, environmental, and political issues involved in park and forest trails and trail works.
2. Identify and demonstrate the safe use of the basic hand and power tools commonly used in trail construction, maintenance and reconstruction.
3. Identify a variety of plant species (including tree species growing along the trail) and state whether they are native or exotic, as well as each plant's environmental requirements and uses (or method of eradication for noxious weeds).
4. Identify from signs along the trail (scat, tracks, rub trees,…) animal species likely to inhabit the general area; discuss food sources and predators for each.
5. Identify the various types of trail users and describe their impacts and any special needs [i.e. wheelchair accessible trails, horses need higher clearance].
6. Recognize terrain features on topographic maps (slope, drainages, …) and explain how they would impact trail layout, use, reconstruction.

Topics and Scope:

I. History of Trails and Trail Construction
   A. Trails before roads
   B. Animal and game trails and trail patterns
   C. Trails in other societies: The Inca trail example
II. Trails Construction Principles
   A. How trails are laid out
      1. Identification
      2. Safe use

B. Different tools for different users on the same trail

III. The Environment

A. Plants

1. Native (common and listed) and non-native species

a. How to tell what to keep and what to remove/control

b. Methods for invasive species removal and potential for environmental impact of removal [erosion, chemical contamination if herbicide used]

c. How to protect native plants (especially listed species)

B. Animals

1. Wildlife that create/use trails: how to identify from trail signs (scat, footprints)

2. Domestic animals and their interactions with wildlife and other trail users (dogs and horses primarily)

C. Land: Prescriptive use - if the public has used a trail for years it can be legal even if not part of a park/forest planning document

IV. Trail Users and Impacts

A. Walk

B. Bike ride

C. Horses

D. Motors and engines and where they can go

V. Site Research

A. Scale

B. Slope - steepness of the trail itself and of the land it crosses

C. Drainage

D. Maps, trail logs, and profiles

VI. Project Implementation

A. Review and post test

B. Tool maintenance - Proper tool use and handling

1. Cleaning

2. Sharpening

C. Construction of a section of trail

D. Invasive species eradication

E. Keeping a trail maintenance log (evaluation of project)

VII. Bring Skills Together with Job Opportunities

A. Talks by Sonoma County Regional Parks representative

B. Trails advocate

C. Federal trails standards and employment opportunities

1. NPS (National Parks Service)

2. USFS (United States Forest Service)

3. BLM (Bureau of Land Management)

4. Other as determined by instructor

Assignment:

1. Reading assignments (averaging 5-10 pages per week)
2. Field assignments using trail work tools
3. Field notebooks and logs, including maps and diagrams
4. Project report (including photos of work accomplished) 3-5 pages
5. Pre-test (ungraded); post-test (graded)

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 notebook; project report.	Writing 20 - 40%

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

None	Problem solving 0 - 0%

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

Field assignments.	Skill Demonstrations 30 - 50%

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

Multiple choice, True/false, Matching items, Completion, Short answer.	Exams 10 - 30%

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

None	Other Category 0 - 0%

Representative Textbooks and Materials:

The Complete Guide to Trail Building and Maintenance (3rd). Demrow, Carl and Salisbury, David. Appalachian Mountain Club Books: 1998 (classic)

Pacific Coast Tree Finder: A Manual for Identifying Pacific Coast Trees (2nd). Watts, Tom. Nature Study Guild: 2004 (classic)

Weed Workers' Handbook; Guide to Techniques for Removing Bay Area Invasive Plants. Holloran, Pete and Mackenzie, Anouk and Farrell, Sharon and Johnson, Doug. California Invasive Plant Council: 2004 (classic)