NRM 111 Course Outline as of Fall 2005

CATALOG INFORMATION

Dept and Nbr: NRM 111 Title: ORIENTAT NAT RES PRK MGT
Full Title: Orientation to Natural Resources & Park Management Practices
Last Reviewed: 10/8/2018

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	4.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	4.00	Lab Scheduled	4.00	17.5	Lab Scheduled	70.00
		Contact DHR	0		Contact DHR	0
		Contact Total	7.00		Contact Total	122.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00 Total Student Learning Hours: 227.50

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

Catalog Description:
Orientation to principles and practices of natural resources and park management in wildland recreation areas and other recreational facilities. Each lecture is supported by a field experience.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100.

Limits on Enrollment:

Schedule of Classes Information:
Description: Orientation to principles and practices of natural resources and park management in wildland recreation areas and other recreational facilities. Each lecture is supported by a field experience. (Grade Only)
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:
Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:
Upon completion of this course, the student will be able to:
1. Discuss the relationship of multiple-use management to ecosystem-based management.
2. Summarize the principles of wildlife and habitat management.
3. Discuss fishery management practices and the factors that influence management decisions and methods.
4. Integrate site, visitor and service management practices to ensure desired recreational experiences within the limitation of the physical, biological, and social environments.
5. Inventory the natural resources of an area and synthesize them into the design of a recreation facility.
6. Manage and maintain wildland recreation areas and facilities to ensure visitor satisfaction and safety.
7. Practice the basics of boating and boat safety.
8. Design, construct and maintain a wildland trail.
9. Discuss the nature of watershed management practices that maintain a good watershed condition.
10. Demonstrate the proper use of the hand compass and topographic maps for wildland recreational activities.
11. Discuss the principles of silviculture and timber management as they relate to sustainable timber production.
12. Explain the importance of managing rangelands for livestock production.
13. Describe how fire and pests can be controlled to maintain healthy ecosystem conditions.
14. Explain how natural resources management practices influence the processes of soil erosion.
15. Discuss the methods that can be used to rehabilitate rangelands and commercially harvested forest lands.

Topics and Scope:

I. Introduction
- A. Definitions
- B. Relationship of multiple-use management to ecosystem-based management
- C. Career opportunities in natural resource management
  1. Qualifications
  2. Education

II. Wildlife Management
- A. Ecological background for wildlife management
- B. Population management practices
- C. Habitat management and enhancement practices
  1. Principles
  2. Applications
     a. Wood ducks
     b. Anadromous fisheries
- D. Management of endangered wildlife species
- E. Fishery management

III. Park Ranger Skills
- A. Duties of a ranger
- B. Outdoor recreation management practices
  1. Outdoor recreational activities
  2. Recreational experience
  3. Outdoor recreation management practices
  4. Visual resources management

IV. Design and Management of Recreation Facilities
- A. Wilderness management principles and practices
- B. Site management
  1. Maintenance scheduling of campground, restroom and other recreation facilities
  2. Maintenance tools and equipment and safety and repair techniques
- C. Site design
  1. Environmental considerations in recreation area design and layout
  2. Maintenance considerations in recreation area design and layout
  3. Elements of a recreation area
- D. Public Contact and Visitor Satisfaction
  1. Campground kiosk operation
  2. Development of visitor survey questionnaires
  3. Environmental interpretation and program presentations
     a. Thematic interpretation
     b. Preparing and presenting a talk
     c. Presenting a guided tour
     d. Using visual aids
     e. slide presentations
     f. computer-generated graphics
     g. PowerPoint
     h. storyboards
     i. historic and cultural interpretation

j. interpretation for children
k. environmental education curricula

4. Interpretive planning model
a. planning and preparing exhibits
b. self-guided tours/trails

E. Visitor protection and safety
1. Search and rescue techniques
2. Law enforcement consideration in recreation area operation

F. Elements in the Operation of Public Outdoor Recreation Facilities
1. Administrative and budgetary
2. Maintenance and design
3. Public contact and visitor satisfaction
4. Visitor protection and safety
5. Resource protection

G. Administrative and budgetary functions
1. Analysis of financial needs and budget form preparation
2. Fee collection and accounting
3. Purchasing and timesheet procedures
4. Crew foreman supervisory skills

V. Boating Safety
A. Personal safety
B. Basic boating guidelines
C. Boating law and rules of the road
D. Basic operation of a variety of vessels
E. Accident prevention and rescue

VI. Trails
A. Design and construction
B. Trail maintenance
C. Removal of natural hazards
D. Tool safety and use

VII. Watershed and Water Management Practices
A. Definitions
B. Hydrologic cycle
C. Watershed management practices
1. Maintaining watershed condition
2. Increasing water yields
3. Rehabilitation activities

D. Water management practices
1. Developing water supplies
2. Conserving water supplies
3. Water quality

E. Effects of watershed management practices on water resources
1. Environmental effects
2. Water yield increases
3. Riparian ecosystems

VIII. Map Reading and Compass Use
A. Map scale
B. Contour lines and intervals
C. Longitude and latitude grids
D. Range and township grids

- E. Topographic maps
    - 1. Symbols
    - 2. Color system
- F. Mechanical/magnetic principles of the hand compass
- G. Route finding from a known point
    - 1. Degrees
    - 2. Minutes
    - 3. Seconds

IX. Silviculture: Timber Management Practices

- A. Silviculture
    - 1. Reproduction methods
    - 2. Intermediate cuttings
    - 3. Other cultural treatments
- B. Timber Management
    - 1. Species composition
    - 2. Stand structure
    - 3. Regulation
    - 4. Rotation age
    - 5. Protection
- C. Harvesting of timber
    - 1. Felling and bucking
    - 2. Skidding, loading, and transportation
    - 3. Environmental considerations

X. Rangeland Management

- A. Proper use of rangelands
- B. Grazing management
- C. Rangeland improvement
- D. Livestock improvement

XI. Fire Control and Pest Management

- A. Fire
    - 1. Prevention
    - 2. Fire-danger rating
    - 3. Control practices
    - 4. Prescribed burning
    - 5. Prescribed natural fire
- B. Insect pests and diseases
    - 1. Classification
    - 2. Control practices
- C. Integrated pest management
- D. Ecosystem health

XII. Soil Conservation

- A. Processes of erosion
- B. Erosion control
- C. Prevention of soil loss

XIII. Sustainable Forestry Practices

- A. Rehabilitation methods
- B. Rehabilitation of salt-affected lands

XIV. Integrated Natural Resources Management

- A. Importance of alternatives
- B. Estimation of natural resources
- C. Benefits and costs
- D. Decision making

E. Cumulative impacts
D. Multiple use management

Assignment:

1. Reading assignments that will average fifteen pages per week.
2. Interpretation project (3-5 pages) and twenty minute oral presentation of project.
3. Weekly field experiences based on lectures.
4. Field log for each field experience.
5. Design a campground facility with a picnic area and interpretive feature.
6. Summary budget for design and maintenance of recreation facilities (1-2 pages).
7. Final project: Based on the field log, compile a written reflection on/analysis of your personal experience in the course (5-10 pages).
8. Field demonstration and written exam on tools/equipment operation and safety.
9. Written boating safety exam.
10. Final exam.

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 log; final written project; interp. project.	Writing 20 - 30%

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

Budget.	Problem solving 10 - 20%

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

Oral presentation; field demonstrations.	Skill Demonstrations 20 - 30%

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

Multiple choice, True/false, Matching items, Completion, Short essay questions	Exams 30 - 40%

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

Attendance and participation.	Other Category 0 - 10%

Representative Textbooks and Materials:
Natural Resources Management Practices: A Primer. Folliott, Peter F., Bojorquez-Tapia, Luis A., Hernandez-Narvaez, Mariano. Iowa State University Press, 2001.
California Boating: A Course for Safe Boating. California Department of Boating and Waterways, 2003/2004 edition.
National Red Cross First Aid & CPR Manual, current year.
U.S. Forest Service, Chainsaw and Fire Tool Maintenance and Operation Manual, current year.