NRM 103 Course Outline as of Fall 2015

CATALOG INFORMATION

Dept and Nbr: NRM 103 Title: RESTORING NATIVE HABITAT
Full Title: Restoring Native Habitats
Last Reviewed: 10/24/2016

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	0.50	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	0.50	Lab Scheduled	2.00	1	Lab Scheduled	35.00
		Contact DHR	0		Contact DHR	0
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00 Total Student Learning Hours: 192.50

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:
Hands-on approach to restoring local habitats using native plants in the landscape. Overview of natural plant communities as models for restoration. Course includes study of dominant and typical plant constituents of each plant community in Sonoma County, focusing on species currently used in restoration. Matching plant species to local conditions for successful restoration, students will do field work at Shone Farm as well as develop individual restoration projects.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Schedule of Classes Information:
Description: Hands-on approach to restoring local habitats using native plants in the landscape. Overview of natural plant communities as models for restoration. Course includes study of dominant and typical plant constituents of each plant community in Sonoma County, focusing on

species currently used in restoration. Matching plant species to local conditions for successful restoration, students will do field work at Shone Farm as well as develop individual restoration projects. (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

Outcomes and Objectives:
Upon successful completion of this course, students will be able to:
1. Perform a site analysis.
2. Describe procedures used in site preparation.
3. Demonstrate knowledge of maintenance requirements for re-vegetation projects.
4. Identify exotic and invasive plants and strategies to control them.
5. Discuss the importance of native plant habitat for wildlife.
6. Preserve and maintain a native habitat.
7. Describe the geographic profile of local watersheds.
8. Plan a successful landscape restoration project.
9. Differentiate between restoration and natural landscaping.
10. Demonstrate skill at restoration planting techniques.
11. Perform field monitoring at a restoration site.
12. Make informed selections and purchase seeds and container/bare root/field grown plants.
13. Explain what constitutes relict and restored sites.
14. Select appropriate species of and sources for plants.

Topics and Scope:

I. Overview
   A. Defining landscape restoration
   B. Geographic profile of a watershed
   C. Local plant communities and associations
II. Site analysis

- A. Physical factors
  - 1. Soils
  - 2. Exposure
  - 3. Climate
- B. Plant/wildlife survey
- C. Desired vegetation type
  - 1. Analysis
  - 2. Species selection
- D. Invasive and exotic species

III. Project Planning and Goals
- A. Natural versus restoration landscaping
  - 1. Human needs
    - a. Recreation
    - b. Waste water sites
    - c. Flood control areas
  - 2. Ecological needs
    - a. Importance of native plant habitat for wildlife
    - b. Requirements for encouraging wildlife
  - 3. Use of relict and restored sites to establish goals
- B. Timelines
- C. Materials
  - 1. Selecting appropriate species
  - 2. Sources for plants
- D. Layout
  - 1. Blueprints and specs
  - 2. Topographic maps
  - 3. Geologic surveys

IV. Salvage Considerations
- A. On/off site
- B. Plants
- C. Soil
- D. Techniques

V. Succession

VI. Restoring healthy soils
- A. Mycorrhizae
- B. Weeds
- C. Mulches

VII. Invasive species
- A. Identification techniques
- B. Removal
- C. Pesticides

VIII. Out planting requirements and techniques
- A. Site preparation for planting
- B. On site layout techniques for materials
- C. Plant protection strategies
- D. Efficient labor techniques
- E. Tools used in restoration
- F. Field monitoring practices
- G. Record keeping

IX. Maintenance of revegetation projects
- A. Irrigation
- B. Weed control

C. Grazing
D. Fire
E. Pest control
F. Thinning and replanting

X. Ecological restoration resources
A. Books
B. Web
C. Government agencies
D. Community based projects
1. Environmental groups
2. Landowners

Assignment:

1. Weekly reading assignment: 10 - 20 pages.
2. Individually planned restoration project, written (4 - 8 pages), graded 50% problem solving, 50% writing.
3. Oral presentation of project.
4. Field work: restoration activities at Shone Farm.
5. Lab activities:
   a. Plant identification techniques;
   b. Planting techniques;
   c. Invasive species removal.

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.

Restoration project	Writing 10 - 30%

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

Field work, Restoration project	Problem solving 10 - 40%

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

Lab & field techniques	Skill Demonstrations 10 - 60%

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

None	Exams 0 - 0%

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

Attendance and participation; oral presentation	Other Category 10 - 20%

Representative Textbooks and Materials:
A Flora of Sonoma County. Best, Howell, Knight, Wells. California Native Plant Society. 1996.(Classic)
Landscape Restoration Handbook. Harker, Libby, Harker, Evans, Evans. Lewis Publishers. 1999. (Classic)
A Guide to Restoring Native Riparian Habitat in the Russian River Watershed. Sonoma County Water Agency an Circuit Rider Productions, Inc. Circuit Rider Productions. 1998. (Classic)
Know Your Natives. Jeanette Wrysinski. Yolo County Resource Conservation District. 2000. (Classic)
Jepson Manual, Higher Plants of California. James C. Hickman. Regents of the University of California. 1993. (Classic)