1. Catalog Description of the Course. [Follow accepted catalog format.]

Prefix ESRM Course# 350 Title Ecological Restoration Design and Construction Units (4)
2 hours lecture per week
6 hours laboratory per week
Prerequisites ESRM 352

Description  Introduction to environmental engineering. Students will partake in the planning and construction of ecological restoration projects in Santa Barbara, Ventura, and/or Los Angeles Counties. Particular projects will expose students to construction procedures and techniques central to the restoration of riparian, wetland, and terrestrial communities.

Graded

Categories
Lab Fee Required
A - F
Optional (Student’s choice)
Repeatable for up to    units
Total Completions Allowed
Multiple Enrollment in same semester

Mission Based Learning Objectives: Interdisciplinary International Multicultural Service Learning
Title V Section 40404: Government US Constitution US History

2. Mode of Instruction.

<table>
<thead>
<tr>
<th>Component</th>
<th>Units</th>
<th>Hours per Unit</th>
<th>Benchmark Enrollment</th>
<th>Graded Component</th>
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<tbody>
<tr>
<td>Lecture</td>
<td>2</td>
<td>1</td>
<td>20</td>
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<td>Seminar</td>
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<tr>
<td>Laboratory</td>
<td>2</td>
<td>3</td>
<td>20</td>
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<tr>
<td>Activity</td>
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3. Justification and Learning Objectives for the Course. (Indicate whether required or elective, and whether it meets University Writing, and/or Language requirements) [Use as much space as necessary]

This is an elective for the Environmental Science emphasis of the ESRM major.

Learning Objectives. By the end of this course, students will be able to:

• outline local, state, and federal permitting procedures relevant to environmental engineering
• articulate good restoration design principles
• demonstrate basic plant propagation techniques
• perform geodetic surveys relevant to site preparation
• demonstrate basic construction safety practices
• design a planting palette and revegetation plan
• demonstrate conflict resolution techniques
• facilitate communication between various stakeholder groups

This course does not meet the University Writing and/or Language Requirement.

4. Is this a General Education Course

YES ☐ NO ☒

If Yes, indicate GE category and attach GE Criteria Form:

A (English Language, Communication, Critical Thinking)
A-1 Oral Communication ☐
A-2 English Writing ☐
A-3 Critical Thinking ☐

B (Mathematics, Sciences & Technology)
B-1 Physical Sciences ☐
5. **Course Content in Outline Form.** [Be as brief as possible, but use as much space as necessary]

I. Approaches to environmental engineering  
II. Principles of project design  
III. Relevant permitting and regulatory agencies and laws  
IV. Revegetation plan and planting techniques  
V. Plant propagation and seed collection  
VI. Heavy and medium construction equipment renting and basic operation  
VII. Geodetic surveying  
VIII. Engineering techniques  
IX. Construction wrap-up and punchlists

Does this course overlap a course offered in your academic program? YES ☐ NO ✗  
If YES, what course(s) and provide a justification of the overlap?

Does this course overlap a course offered in another academic area? YES ☐ NO ✗  
If YES, what course(s) and provide a justification of the overlap?  
Signature of Academic Chair(s) of the other academic area(s) is required on the signature sheet below.

6. **Cross-listed Courses (Please fill out separate form for each PREFIX)**  
List Cross-listed Courses  
Signature of Academic Chair(s) of the other academic area(s) is required on the signature sheet below.  
Department responsible for staffing:

7. **References.** [Provide 3 - 5 references on which this course is based and/or support it.]


8. **List Faculty Qualified to Teach This Course.**  
Dr. Sean Anderson and other ESRM faculty

9. **Frequency.**  
a. Projected semesters to be offered: Fall ☒ Spring ☐ Summer ☐

10. **New Resources Required.** YES ☒ NO ☐
If YES, list the resources needed and obtain signatures from the appropriate programs/units on the sheet below.

a. Computer (data processing), audio visual, broadcasting needs, other equipment

b. Library needs

c. Facility/space needs
While much of the course will take place in the field, we will need an ESRM Teaching Laboratory to process plant seeds, plant tissues, and soil and a greenhouse for plant propagation.

11. Will this new course alter any degree, credential, certificate, or minor in your program? YES ☒ NO ☐
If, YES attach a program modification form for all programs affected.

Dr. Sean Anderson 10/12/2006
Proposer of Course Date
# Approval Sheet

**Program/Course:** ESRM 349

<table>
<thead>
<tr>
<th>Chair(s)</th>
<th>Date</th>
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<tbody>
<tr>
<td>Program Chair(s)</td>
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<td>General Education Chair(s)</td>
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<td>Curriculum Committee Chair(s)</td>
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<td>Dean of Faculty</td>
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