

**CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS**  
**NEW COURSE PROPOSAL**

DATE 12.17.06  
PROGRAM AREA ENVIRONMENTAL SCIENCE AND RESOURCE MANAGEMENT

**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

☐ Corequisites

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.

☐ Gen Ed ☐ CR/NC

☐ Repeatable for up to units

Categories

☒ Lab Fee Required

☒ A - F

Total Completions Allowed

☐ Optional (Student's choice)

☐ 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.**

|            | Units | Hours per Unit | Benchmark Enrollment | Graded Component                    | CS #<br>(filled in by Dean) |
|------------|-------|----------------|----------------------|-------------------------------------|-----------------------------|
| Lecture    | 2     | 1              | 20                   | <input checked="" type="checkbox"/> |                             |
| Seminar    |       |                |                      | <input type="checkbox"/>            |                             |
| Laboratory | 2     | 3              | 20                   | <input checked="" type="checkbox"/> |                             |
| Activity   |       |                |                      | <input type="checkbox"/>            |                             |

**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 ☐

- |                                                               |                          |
|---------------------------------------------------------------|--------------------------|
| B-2 Life Sciences – Biology                                   | <input type="checkbox"/> |
| B-3 Mathematics – Mathematics and Applications                | <input type="checkbox"/> |
| B-4 Computers and Information Technology                      | <input type="checkbox"/> |
| <b>C (Fine Arts, Literature, Languages &amp; Cultures)</b>    |                          |
| C-1 Art                                                       | <input type="checkbox"/> |
| C-2 Literature Courses                                        | <input type="checkbox"/> |
| C-3a Language                                                 | <input type="checkbox"/> |
| C-3b Multicultural                                            | <input type="checkbox"/> |
| <b>D (Social Perspectives)</b>                                | <input type="checkbox"/> |
| <b>E (Human Psychological and Physiological Perspectives)</b> | <input type="checkbox"/> |
| <b>UD Interdisciplinary</b>                                   | <input type="checkbox"/> |

**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.]*

Beach Nourishment: Theory and Practice. 2003. Robert G. Dean. World Scientific Publishing Company.  
 Introduction to Coastal Engineering and Management. 2000. J. William Kamphuis. World Scientific Publishing Company.  
 Introduction to Environmental Engineering, 3<sup>rd</sup> edition. 1998. Mackenzie L. Davis and Davis A. Cornwell. McGraw-Hill Publishers.

**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  
Proposer of Course

10/12/2006  
Date

## Approval Sheet

**Program/Course:** ESRM 349

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|                  |      |
|------------------|------|
| Program Chair(s) | Date |
|------------------|------|

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|----------------------------|------|
| General Education Chair(s) | Date |
|----------------------------|------|

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|-------------------------------|------|
| Curriculum Committee Chair(s) | Date |
|-------------------------------|------|

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|                 |      |
|-----------------|------|
| Dean of Faculty | Date |
|-----------------|------|