

EDUC 393 Special Topics:
Environmental Education in
Marine Environments
Bamfield Marine Station/SFU
Summer session, 2000



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Course Description

This course will be of interest to all teachers interested in environmental education in general or with a particular interest in learning more about the seashore, intertidal and marine environments. The course is multidisciplinary in nature and is appropriate for teachers of all subject and grade levels (especially science and social studies). The course explores a variety of different coastal environments from the environmental science and environmental education perspectives. During the first portion of the course, you will be introduced to a selection of marine environments and given opportunities to explore and research ecological relationships occurring within and among them. Course activities include a variety of presentations from working scientists, laboratory sessions, seminars on marine topics and field opportunities for research and guided inquiry. In the second portion of the course, you will explore the marine environment as a focus for curriculum development and instruction. This part of the course will include multiple perspectives on the goals and interdisciplinary nature of environmental education (including a review of available curricular materials) and a grounding in appropriate models for learning and teaching. As a final project, you will explore the application of this new knowledge through the development of curriculum materials for use in a variety of classroom or educational fieldtrip settings.

Topic Outline

- To become familiar with theoretical rationales and conceptual structures for marine and environmental education (eg. scientific/ecological, economic, political/regulatory, aesthetic, legalistic, artistic, and socialistic frameworks).
- Developing science processes: observing, inferring, predicting, classifying, measuring and recording, controlling variables, building models, interpreting data.
- Opportunities for learning concepts: properties of water, tides and currents, beaches, life cycles, habitat, predator-prey relationships, energy flow, adaptation, zonation, etc
- Monitoring human impacts: human ecology, sustainability, recreation, pollution, marine conservation, resource management, other interventions (marine tourism, mariculture, etc.
- Review of marine and environmental topics in B.C. Science and Social Studies curriculum guides, evaluation of currently available marine and environmental education curricula.
- Considering teaching models/strategies: teaching-learning cycle, sensory awareness, creative drama, role-playing, simulation, critical thinking, individual case studies, concept mapping.

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Course Text

No textbook is required, though many reference materials will be utilized throughout the course. A package of course handout materials will be made available for purchase by the students.

Evaluation

Throughout the course, you will be evaluated on a variety of group and individual assignments. All course assignments will be judged for their overall appropriateness, quality, organization and detail. As this course is intended to be an immersion experience in scientific inquiry and environmental education, you are expected to attend and actively participate in all aspects of the course including fieldtrips, lectures, labs, seminars and group discussions.

Assignments

In the scientific or inquiry portion of the course, you will be required to summarize, design, conduct and report on a scientific inquiry. During the environmental education portion of the course, you will be required critique, demonstrate and develop educational activities.

Scientific inquiry

Individual research article summary (include original).	15 marks
Collaborative design of a study (topic and methodology).	15 marks
Group report on research (including results/discussion).	25 marks
Group presentation of findings (study/research findings).	10 marks

Reflection/Application

Individual attendance/participation in activities.	05 marks
Written critique (with framework and rationale)	10 marks
Group demonstration of educational activities.	10 marks
Summary /viewpoint on an environmental issue.	10 marks

Extension

Collaborative development of marine curriculum	25 marks
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(total for course) 125 marks