

# ENVIRONMENTAL EDUCATION

MES ELECTIVE, FALL QUARTER 2011

JEAN MACGREGOR

Course description: It is widely agreed that an environmentally literate and concerned citizenry is crucial to environmental quality and long-term sustainability --but how and where is environmental and sustainability literacy fostered? And where “environmental education” occurs, is it effective? This class will explore the history, philosophical underpinnings, and current trends in environmental and sustainability education for both youth and adults, in both formal sectors (schools and colleges) and non-formal ones.

This class will provide a theoretical and practical introduction to the field of environmental education and interpretation. It will be useful to those of you who are interested in environmental teaching as a career, or to those whose environmental work might involve education or outreach components. There will be one Saturday field trip, on November 5<sup>th</sup>.

Meeting Times: Fall Quarter, 2011. Ten Mondays 6-10 p.m. beginning September 26<sup>th</sup> and concluding December 5<sup>th</sup>. Classroom: Seminar II E-3105. In addition, attendance on an all-day field trip to Northwest Trek in Eatonville on Saturday, November 5<sup>th</sup>. Special fees: ~ \$8 admission fee to NW Trek.

## OUTCOMES: AT THE END OF THIS COURSE, YOU SHOULD HAVE:

- A theoretical grounding in environmental and sustainability education: its precursors and history, its various rationales, and the working principles to which professionals aspire.
- An introductory understanding of learning theory, and of educational settings which foster meaningful, lasting learning.
- A working knowledge of several arenas in which environmental and sustainability education is practiced, with attention to both the opportunities and challenges for volunteer and professional environmental educators.
- A framework for evaluation of educational programs.
- An understanding of the increasingly politically charged nature of environmental and sustainability education and implications for professional practice.
- Your own construction of the promise of environmental and sustainability education as well as some of its shortcomings and tensions----and a more nuanced "concept map" of the field.
- A heightened awareness of the importance of fostering environmental and sustainability literacy.

## AT-A-GLANCE: COURSE SCHEDULE

Date	Topic
September 26	Opening class, introductions, concept-maps of environmental education.
October 3	Environmental and sustainability education: evaluation and goals
October 10	The learning process and what fosters significant learning
October 17	Environmental education in formal K-12 education
October 24	Bias, controversy and critics, and political attacks on the field
October 31	Our relationships to place and the living world
November 5	All-day field trip to Northwest Trek Wildlife Park in Eatonville, Washington
November 7	Discussion and analysis - NW Trek's approaches to natural history interpretation
November 14	How educational programs are evaluated
November 28	Engaging adults in environmental care, stewardship, and behavior change "Social marking" presentations
December 5	Citizen engagement and citizen science; citizen science presentations
December 9	Portfolios due
December 12-15	Evaluation conferences

## CLASS POLICIES:

*Class attendance:* Because we are a group of interdependent learners, attendance is not a matter of elective choice, but rather of community responsibility. If unforeseen difficulty prevents your arriving on time for class or your attending at all, please leave a message on my voice mail before the start of class: my TESC phone number is 360-867-6608. If you know in advance that you will be unable to attend a class, please talk with about this with me in advance.

*Inclement weather:* If there is a college closure (which is fairly unlikely) you will hear of it via KGY radio (1240 AM) in the morning or on the campus website. If you are uncertain about whether classes are being held, call the college switchboard (360-867-6000, then choose option 1). For those commuting long distances, use your own best judgment. Please err on the side of safety.

*Individual accountability:* Our learning in class is collaborative, but you are individually accountable for the work on which you will be evaluated. Do your own work, and fully and properly cite all your sources, such as written documents, personal interviews, or information gleaned from websites.

Plagiarism is grounds for no credit. Note, read and use the handout provided on avoiding plagiarism and the proper citation of sources; it is an excellent resource in general.

*Incompletes: Note!* As with all courses taught by the part-time studies faculty here at Evergreen, "incompletes" are not awarded. So, please turn in all your written work on time: your completed homework is your "ticket to class."

## READING ASSIGNMENTS

- John Dewey, *Experience and Education*. Collier Macmillan, 1938.
- Richard Louv, *Last Child in the Woods*. Algonquin Chapel Hill, 2006.
- And substantial additional reading or website links on the Moodle site. You can access the course Moodle site in this way: <http://academic.evergreen.edu/>

## SYLLABUS AND ASSIGNMENTS

Week	Date	Class Topics and Assignments: Except for the first class, reading should be completed <u>before</u> the class; exceptions will be noted in the syllabus.
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Week 1	Sept. 26	Introductions to the class and to our learning community
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- 1) Introductions to each other and the class;
- 2) Concept maps and generating questions at the start;
- 3) Overview of the course and assignments.
- 4) Lecture: fore-runners to environmental education

### HOMEWORK TO FOLLOW UP THIS CLASS AND PREPARE FOR NEXT WEEK:

Read through the handout: “Concept Mapping.” This is useful for conceptualizing topics and for taking notes on your reading! “Concept-mapping” your reading may be helpful as the course progresses. And a second concept map is part of your final assignment at the end of the course!

*“Human history becomes, more and more, a race between education and catastrophe.” H.G. Wells*

Week Oct 3  
2

Defining Environmental Education and Sustainability Education in the shifting landscape of social change, educational change and environmental needs and imperatives.

CLASS EMPHASIS: *What are the comparative imperatives, the content and strategies for these intertwined forms of environmental and sustainability education fields?*

Also, we will get further oriented to the assignments that will come later in the course.

### **Read the following for Assignment #1:**

#### **Environmental Education**

1. (M) Skim through: The Roots of Environmental Education, by Ed McCrea

#### **Early documents, considered foundational**

2. (M) "The Concept of Environmental Education." William B. Stapp et al. *Journal of Environmental Education*, 1 (1). This was the first formal attempt to define and conceptualize environmental education. Stapp is considered a major father if not "the father" of EE and an internationally recognized pioneer in the field. (Pardon the gender-biased language: definitely a product of its times!)
3. (M) The Belgrade Charter, UN Conference, 1975.
4. (M) Framework for EE: Declaration of the Tblisi Conference, 1978. Early international definitions/recommendations for E.E. The Belgrade and Tblisi documents are still recognized as fundamental to the field and are often quoted.

#### **More recent reports and commentary**

5. (M) "Environmental Literacy in America: What Ten Years of NEETF/Roper Research and Related Studies Say about Environmental Literacy in the U.S." by Kevin Coyle.

These two are in one PDF document:

6. (M) "What is Education For?" David W. Orr. *Ecological Literacy: Education and the Transition to a Postmodern World*. Albany, NY: SUNY Press, 1992. pp. 141-148.
7. (M) "Is Environmental Education an Oxymoron?" David W. Orr. *Ecological Literacy: Education and the Transition to a Postmodern World*. Albany, NY: SUNY Press, 1992. pp. 149-152.

Week Oct. 3  
2 **Reading for Assignment #1 continued:**

**Sustainability Education**

1. From the Rio UN Conference on Environment and Development: read Agenda 21, Chapter 36 <http://www.gdrc.org/sustdev/un-desd/c36-a21.html>
2. (M) “The Birth of Sustainability” from *The Sustainability Revolution: Portrait of a Paradigm Shift*, by Andres R. Edwards. Gabriola Island, BC, New Society Publishers, 2005. pp. 11-27.
3. (M) “What is Sustainable Development: Goals, Indicators, Values, Practices” Robe W. Kates, Thomas M. Parris, and Anthony A. Leiserowitz. *Environment: Science and Policy for Sustainable Development*, 47: 3, pages 8–21, April 2005.
4. (M) “Climate Change and Sustainable Development: The Response from Education The Recommendations from the Alliance of Leading Education Institutes.” December 2009.
5. (M) The Earth Charter and (M) Earth Charter History

Week Oct 10  
3 **How People Learn and Implications for Designing Teaching and Learning Environments**

**CLASS EMPHASES**

*What makes learning meaningful and lasting? If this is the case, how should we be teaching?*

**TO PREPARE FOR THIS CLASS:**

**Assignment #2.** Reflective essay on a significant learning environment, which involves (1) reflecting and exploratory writing; (2) reading John Dewey’s book, *Education and Experience*; and (3) then preparing your formal written essay.

**AFTER YOU COMPLETE THIS ASSIGNMENT, PLEASE READ:**

(M) Unit 1 (the first 43 pages) of the document LinkingThinking. This is a PDF of a robust sustainability education curriculum from WWF Scotland.

**SUPPLEMENTARY READING to do AFTER the class, if you are interested.**

(M) “The Personal Context” in *Learning From Museums: Visitor Experiences and the Making of Meaning*, by John H Falk and Lynn D. Dierking. Altamira/Rowman and Littlefield, 2000. pp 15-33.

(M) “Notes on the Learning Process\_MacGregor”

Week Oct 17  
4

## Fostering Environmental Literacy in School Settings: Enabling Curriculum Reform with Committed Teachers, Supportive Resource Professionals and Multi-School Projects

CLASS EMPHASES: *Are schools promising settings for fostering environmental literacy? How do EE professionals support teachers? What is pushing this forward and holding it back?*

Guest speakers: Kathy Jacobson, Chehalis River Basin Education Project, and Erica Guttman, Project Coordinator, Native Plant Salvage Project, perhaps some other local K-12 teachers interested in environmental education.

ASSIGNMENT #3 TO BRING TO CLASS: Bring 3 questions (with a short discussion of why they are significant to you) that emerge from these readings, questions you would like to ask professionals involved with K-12 EE.

### READINGS:

(M) "A Brief Overview of K-12 Public Schooling and Some Themes and Tensions Therein," by Jean MacGregor

#### EE with Younger Learners

(M) "Place-Based Education: Connecting Classrooms and Communities." David Sobel. The Orion Society, Nature Literacy Series Number 4, 2004. pp. 1-23

(M) "Deepening Children's Participation through Local Ecological Investigations," Paul Krapfel, Excerpts from *In Ecological Education in Action: On Weaving Education, Culture and the Environment*. Ed. by Gregory A. Smith and Dilafruz R. Williams. Albany: SUNY Press, 1999. pp. 46-64.

#### EE with Middle and High School Learners

(M) "Reaching Mainstream Teachers with Social Issues Education A Primer from the Front Lines," Wendy Church, Facing the Future Informational Paper, July 2009.

#### Report on Environmental Science Knowledge among Teens Worldwide:

(M) "Students Least Informed about Environmental Science Are Most Optimistic" – a recent headline referring to this report: "Green at 15? How 15 Year Olds Perform in Environmental Science and Geoscience" Organization for Economic Cooperation and Development

#### Leadership from the Washington Office of the Superintendent of Public Instruction

Explore this website: <http://www.k12.wa.us/EnvironmentSustainability/>

Read the Environmental and Sustainability Literacy Plan on this website.

Optional:

Explore these websites for Eco-Schools International and Eco-Schools USA led by the National Wildlife Federation

<http://eco-schools.org/>

<http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA.aspx>

Week Oct 24 Bias, Controversy, Critics and Political Attacks

5

CLASS EMPHASES: *What prompted the critique of environmental education in the 1990s? What are reasoned responses to this critique? What will happen as issues become even more contested in future decades? How can teachers engage students in constructive controversy? Where the political attacks just a Clinton-years phenomenon or will they happen again?*

Guest speaker: Abby Ruskey, Executive Director of the Environmental Education Association of Washington (EEAW) and the E3Washington Initiative.

Browse the website: [www.e3washington.org](http://www.e3washington.org)

**Complete Assignment #4 using the following reading:**

(M) The collection of articles, "Critiques of EE"

The second part of this evening, we will be making plans for research and presentations on the last two class evenings.

*Also, tonight, please bring your laptop computer if you have one. We plan to get logged into and browse the Community Based Social Marketing website as well as some citizen science initiatives.*

*Optional reading on approaches to teaching controversial issues:*

Read also: (M) "Constructive Controversy: The Educative Power of Intellectual Conflict." by David Johnson, Roger Johnson, and Karl Smith. *Change*, 2000. pp.28-37.

Week Oct 31 Developing connections to the living world and to "a sense of place"

6

CLASS EMPHASES: *What is it about special places that have the impact that they do? Are there patterns to the power of place? What are the implications for environmental education programs?*

**READING TO PREPARE FOR THIS CLASS:**

Assignment #5. Response paper to *Last Child in the Woods* and the two articles on Moodle from *Children Youth and Environment* journal as well as your reflections on a remembered landscape.

- Book, *Last Child in the Woods*. We will seminar on this book.
- (M) Two articles from the Journal, *Children Youth and Environment*:
  - "Nature and the Life Course: Pathways from Childhood Nature Experiences to Adult Environmentalism," by Nancy M. Wells and Kristi S. Lekies. *Children Youth and Environment* (16) 1. 1-24.
  - "Increasing Children's Freedom of Movement: Introduction." By Lia Karsten and Willem van Vliet. *Children Youth and Environment* (16) 1 69-73.

***More reading, next page....***

- Oct 31 Other, optional reading and websites:
- (M) The essay, “A Sense of Wonder”, by Rachel Carson
  - (M) “A Child’s Sense of Wildness” in *The Geography of Childhood: Why Children Need Wild Places*, by Gary Paul Nabhan and Stephen Trimble. Beacon Press, 1994. pp. 3-14.
  - (M) “Eden in a Vacant Lot: Special Places, Species, and Kids in the Neighborhood of Life.” by Robert Michael Pyle. In *Children and Nature: Psychological, Sociocultural and Evolutionary Investigations*, ed. by Peter H. Kahn and Stephen R. Kellert. Cambridge: MIT Press, 2002. pp 305-327..
  - (M) Charlotte’s Webpage: Why Children Shouldn’t Have the World at their Fingertips.” by Lowell Monke. *Orion*, September-October, 2005. pp. 23-31.
  - (M) “The Ecology of Grief,” Phyllis Windle. *Bioscience* 42 (5). pp. 363-366.
- The Washington Dept of Fish and Wildlife’s program, “Watchable Wildlife” at: <http://wdfw.wa.gov/viewing/wildview.htm>
- Note resources on nature tourism.

Week Nov 5  
7

## Non-formal Environmental Education: Interpretive Facilities

EMPHASIS: *How do interpretive facilities such as zoos foster environmental literacy?*

Saturday field trip to Northwest Trek Wildlife Park. Depart TESC 8:00 AM and return by ~ 4:30 to 5:00 PM. We’ll collect \$8 for the entrance fee at the gate.

### TO PREPARE FOR THIS FIELD TRIP:

Read the handout with introductory information about NW Trek, and instructions **for Assignment #6**, which is due Monday, November 7.

- ★ (M) Study carefully and think about the packet on Interpretive Principles: excerpts from *Interpreting our Heritage* by Freeman Tilden and *Interpretation for the 21<sup>st</sup> Century* by Beck and Cable. These readings set up your writing assignment about your experience at NW Trek.
- ★ (M) “Free-Choice Science Learning: Framing the Discussion,” by John H. Falk, in *Free-Choice Science Education: How We Learn Science Outside of School*, edited by John H. Falk. New York: Teachers College Press, 2001. pp. 3-20.
- ★ (M) “Zoo Conservation and Ethical Paradoxes.” Norton, Hutchins, Stevens and Maple. *Ethics on the Ark*, Washington, DC: Smithsonian Institution Press, 1995. pp. 1-9.
- ★ (M) “Toward a Responsible Zoo Agenda.” Terry Maple. *Ethics on the Ark*. Washington DC: Smithsonian Institution Press, 1995. pp.20-30.
- ★ (M) “Defining the Good Zoo.” Maple and McManamon. *Ethics on the Ark*, Washington, DC: Smithsonian Institution Press, 1995. pp. 219-232.



Week Nov 7  
7 Non-formal EE: Interpretive Facilities

CLASS EMPHASES: *How do interpreters and interpretive facilities such as zoos, parks, nature centers, museums and aquaria foster environmental literacy and deepen environmental attitudes and values?*

- The expanding field of environmental interpretation.
- NW Trek's interpretive practices and ways we would strengthen them.
- Jean's Lake Baikal project.

TO PREPARE FOR THIS CLASS:

- **Assignment #6, your analysis of the interpretive approaches at NW Trek.**

SUPPLEMENTARY, OPTIONAL READING

- (M) "The Personal Context" in *Learning From Museums: Visitor Experiences and the Making of Meaning* In the Folder 3\_The Learning Process.

Week Nov 14  
8 Intentions, Learning Outcomes, and Assessment and Evaluation:

CLASS EMPHASES: *What are our intentions for student learning and understanding, and how will we know if our work is living up to them?*

**Assignment #7:** Bring your plan for an imagined environmental education project with its learning outcomes clearly stated. We will use these in class.

READING for this class

(M) "What is Backward Design?" and "What is a Matter of Understanding?" from *Understanding by Design*, by Grant Wiggins and Jay McTighe. Prentice-Hall, 2001.

(M) "Operationalizing the Concept." by Charles Roth, EE Reference Collection.

SUPPLEMENTARY RESOURCES

Website: My Environmental Education Evaluation Resource Assistant:  
<http://meera.snre.umich.edu/>

*Evaluating Your Environmental Education Programs: A Workbook for Practitioners*, by Martha C. Monroe and Bora Simmons. North American Association for Environmental Education, 2009.

Week 9 Nov 28 Social marketing: motivating and stimulating behavior change.  
CLASS EMPHASES: *How do we motivate people to adopt responsible environmental behaviors and to become more civically involved?*

Guest speaker: Patricia Pyle, City of Olympia

**Completion of Assignment #8a:** Students in first presentation group will present 8-minute presentations on social marketing initiatives. Bring copies of a one-page handout for the class (see assignment).

**Reading on social marketing:**

The online book, *Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing* by Doug McKenzie-Mohr and William Smith. This book is online at the official website for community-based social marketing: [www.cbsm.com](http://www.cbsm.com). You will need to log into the website with a username and password to read the book. If you're really interested in this emerging field, you can also order/buy a hard-copy via the website.

Week 10 Dec 5 ***Last class, bring potluck food!***

Fostering Citizen Engagement through Citizen Science

CLASS EMPHASES: *How do we motivate people to adopt responsible environmental behaviors and to become more civically involved?*

**Assignment 8b:** Students in second presentation group will present 8-minute presentations on citizen-science initiatives. Bring copies of a one-page handout for the class.

**Reading about civic engagement in general**

(M) Bowling Alone: America's Declining Social Capital," by Robert D. Putnam. *Journal of Democracy*, 6 (1), pp. 65-78. This is a recent classic paper; it led to a book with same title.

(M) "Creating a Public of Environmentalists," by Gregory A. Smith. In *Ecological Education in Action: On Weaving Education, Culture and the Environment*. Ed. by Gregory A. Smith and Dilafruz R. Williams. SUNY Press, 1999.

On the web, check out the discussion courses at Northwest Earth Institute, one of the projects mentioned in Gregory Smith's article. The link is on (M)

**Reading about citizen science**

(M) "Citizen Science: Can Volunteers Do Real Research?" by Jeffrey P. Cohn. *BioScience*, 58(3):192-197. 2008. (Published by American Institute of Biological Sciences)

(M) "A New Dawn for Citizen Science." By Jonathan Silvertown. *Trends in Ecology and Evolution*, 24 (9). 2009.

(M) "Citizen Science as a Tool for Conservation in Residential Ecosystems." By Caron B. Cooper et al. *Ecology and Society*, 12 (2), 2007.

Eval  
Week  
Prep

Dec 9<sup>th</sup> is the due date for your portfolio and Assignment #9:

1. Your end-of-course concept map and reflective paper.
2. Your draft self-evaluation.
3. Your concept map from the first night of class.
4. All your written assignments with my feedback.

Eval  
Week

Evaluation Week: An evaluation conference is optional in this elective, but usually worthwhile. It affords the opportunity for me to share my draft evaluation of you; for you to get feedback on your draft self-evaluation and to give me your impressions of the class.

I will hold evaluation conferences Monday-Wednesday, Dec 12-13-14. There will be a sign-up sheet for evaluation conferences at our Dec 5<sup>th</sup> class.

Final assignment (#10) Faculty Evaluation: please turn this in to the Program Support Office in Lab I. Then, you're done!