

**University of Florida**  
**School of Forest Resources and Conservation**  
**Environmental Education Program Development**  
**FNR 4070C and 5072C**

3 credits; Fall 2005

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Office Hours: Monday afternoon, and by appointment

Class Meets: Monday and Thursday: Periods 2-3; 8:30 – 10:25 am

Good environmental education (EE) programs are designed to meet environmental and educational goals for specific audiences. The development of a good program includes: a comprehensive needs assessment to understand the audience and available resources; a pre-test of the materials prior to full-scale implementation; a training program for staff or volunteers; and an evaluation procedure to continue improving the program. This course will introduce students to the theory and techniques of program development for adult and youth-based environmental education activities in the non-formal arena (such as nature centers, extension, wildlife refuges, residential camps, zoos, museums, environmental organizations, and resource agencies). Through lectures, discussions, readings, field trips, writing assignments, guest speakers, and exercises, the course will explore how environmental education programs can be developed and evaluated in a variety of contexts. Students will work together in to develop tools, implement, and analyze tools for a program evaluation. Familiarity with popular environmental education programs is important, and may be obtained through The College of Education course: Environmental Education Methods and Materials (EDG 4930).

**Course Description:**

A comprehensive approach to program development, from needs assessment to evaluation, will be applied to youth-based non-formal environmental education.

**Course Objectives:**

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

- Generate a variety of education program formats for achieving EE goals
- Use Logic Model for program planning
- Apply learning theory to environmental education goals
- Develop appropriate program objectives
- Develop and use evaluation tools
- Explain how education reform is changing the nature of EE
- Respond to attacks on EE programs
- Compare the results of evaluating a program with several different tools
- Write a fundable grant proposal for EE program development

## Materials:

*Readings on reserve on-line – see Course Reserves at [www.uflib.ufl.edu](http://www.uflib.ufl.edu)*

*Book to buy: **Evaluation Methodology Basics**, by E. Jane Davidson, Sage Pubs. 2005.*

*Materials to order at no charge: go to EPA Publications unit: <http://yosemite.epa.gov> and search for Guidelines for Excellence; order Environmental Education Materials: Guidelines for Excellence – **EPA Number 171B04003** and Nonformal Environmental Education Programs: Guidelines for Excellence -- **EPA Number 171BO4001** from:  
National Service Center for Environmental Publications  
P.O. Box 42419 Cincinnati, OH 45242-2419 Phone 800/490-9198*

## Course Policies:

Students are expected to attend class, engage in discussion, submit assignments on time, and participate in groupwork. Absences will be excused if accompanied by appropriate paperwork. After three unexcused absences, 1% per day will be deducted from the final course grade. Assignments are to be turned in during class on the day they are due.

## University of Florida Policies

### Academic Honesty

As a result of completing the registration form at the University of Florida, every student has signed the following statement: “I understand that the University of Florida expects its students to be honest in their academic work. I agree to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University.”

### UF Counseling Services

Resources are available on campus for students having personal problems or lacking clear career and academic goals with interfere with their academic performance. These resources include:

1. University Counseling Center, 301 Peabody Hall, 392-1575 (personal and career counseling);
2. Student Mental Health, Student Health Care Center, 392-1171 (personal counseling);
3. Center for Sexual Assault /Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161 ext. 4231 (counseling related to sexual assault and abuse);
4. Career Resource Center, Reitz Union, 392-1601 (career development assistance and counseling).

### Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

## Course Agenda

| <b>Week</b> | <b>Monday – (2-3)</b>                         | <b>Thursday -- (2-3)</b>                                  |
|-------------|---|---|
| 1           |   | Aug 25<br>Welcome, Intros, Project Introduction           |
| 2           | Aug 29<br>EE History and Diversity            | Sept 1<br>Making an Evaluation Plan                       |
| 3           | Sept 5 – <b>No Class</b><br>Labor Day         | Sept 8<br>Observation and Rubric                          |
| 4           | Sept 12<br>Program Development                | Sept 15<br>Focus Groups and Guide                         |
| 5           | Sept 19<br>Learning Theories                  | Sept 22<br>Revise Tools                                   |
| 6           | Sept 26<br>Teaching Methods                   | Sept 29<br>Observe program; conduct Focus Groups          |
| 7           | Oct 3<br>EE Reform                            | Oct 6<br>Data Analysis                                    |
| 8           | Oct 10<br>Education for Sustainability        | Oct 13<br>Question Writing                                |
| 9           | Oct 17<br>Social Marketing                    | Oct 20<br>Survey Development                              |
| 10          | Oct 24<br>EE Backlash                         | Oct 27 – <b>No class</b><br>Pilot with Gainesville people |
| 11          | Oct 31<br>Midterm                             | Nov 3<br>Revise Surveys                                   |
| 12          | Nov 7<br>Developing Program Proposals         | Nov 10<br>Observe program; pilot surveys                  |
| 13          | Nov 14<br>Concept – Audience – Objectives     | Nov 17<br>Data Analysis; Draft Report Pieces              |
| 14          | Nov 21<br>Training – Budget – Support letters | Nov 24 – <b>No class</b><br>Thanksgiving                  |
| 15          | Nov 28<br>Present Draft Proposals             | Dec 1<br>Prepare Project Reports                          |
| 16          | Dec 5<br>Present Project Reports              |   |

# Assignments

1. EE Teaching Methods. Work with your group to teach the class how to implement a set of teaching methods. Use your creativity to demonstrate and discuss these methods. Use examples and cases of programs or projects that use these methods. Information is available in books, resources, and websites. Each person will submit a description and analysis of a program or curriculum that demonstrates one of your methods (3-5 pages double spaced). Due in class Sept 26. The groups:

- a. Experiential Strategies: games, role-play, storytelling, case studies, field trips
- b. Community Projects: service learning, citizen science, issue investigation
- c. Mass media and Print: op-ed, news releases, brochures, posters, billboards
- d. Technology: video, Web sites, simulation/models

2. Program Proposal. Using the EPA EE RFP, <http://www.epa.gov/enviroed/grants.html> develop a proposal for an EE program that meets the RFP criteria. Present a draft of your ideas on November 28 to your colleagues and a written version to me, and incorporate comments into your final, due on the day of the final: December 14 by 9:30 AM. This assignment is in lieu of a final.

3. Evaluation Project. We have been asked to help Brevard Zoo develop an evaluation plan and set of tools for their Lagoon Quest program at the Indian River Lagoon. Each of you will be engaged in developing and using an observation rubric, a focus group guide, an interview guide, and a survey. You will work with a group to analyze the data, revise these tools, and present a portion of the final report to our client. This will involve 2 trips to Melbourne on a weekday; details will be arranged to best suit the majority. An alternate project with Southwest Florida Water Management District may be available.

|                                | <b>Value</b> | <b>Due</b> |
|--------------------------------|--------------|------------|
| <b>EE Program Review</b>       | 15%          | 9/26       |
| <b>EE Proposal</b>             | 30%          |            |
| Submit draft                   |              | 11/28      |
| Present draft                  |              | 11/28      |
| Submit final                   |              | 12/14      |
| <b>Evaluation Project:</b>     | 30%          |            |
| Observations Rubric and Report | 6%           |            |
| Focus Group and Report         | 6%           |            |
| Interview Guide and Report     | 6%           |            |
| Survey                         | 6%           |            |
| Presentation and Report        | 6%           | 12/5       |
| <b>Midterm</b>                 | 25%          | 10/31      |

## Grading Scale:

|             |    |             |    |             |   |
|-------------|----|-------------|----|-------------|---|
| 90% - 100%  | A  | 87% - 89.9% | B+ | 80% - 86.9% | B |
| 77% - 79.9% | C+ | 70% - 76.9% | C  | 60% - 69%   | D |
| Below 60%   | E  |             |    |             |   |

## Reading List for FRN4070C & 5072C Environmental Education Program Development

### What Can EE Programs Look Like?

**Readings for August 29**

- Monroe, M. 2001. Just Say Yes to Youth Environmental Stewardship. IFAS Fact Sheet. University of Florida. <http://edis.ifas.ufl.edu/FR120>
- Disinger, John. 1993. Environment in the K-12 Curriculum: An Overview. In Wilke, R.J. (ed) *Environmental Education: Teacher Resource Handbook*. Arlington VA: NSTA and Kraus International Publications.
- Hungerford, Harold R., R. Ben Peyton, Richard J. Wilke. 1980. Goals for Curriculum Development in Environmental Education, *Journal of Environmental Education*. 11:3, 42-47.

### How are Programs Developed?

**Readings for September 12**

- Fien, John, William Scott, and Daniella Tilbury. 2002. Exploring Principles of Good Practice: Learning from a meta-analysis of case studies on education within conservation across the WWF network. *Applied Environmental Education and Communication*. 1(3): 153-162.
- Israel, Glenn D. 2001. Using Logic Models for Program Development. University of Florida IFAS Fact Sheet AEC 360. <http://edis.ifas.ufl.edu/WC041>
- Monroe, Martha C. 1983. Bridging the gap between the natural and the built environments with nature center programs. NAAEE Conference Proceedings.
- Monroe, M., J. Washburn, T. Goodale, and B. Wright. 1997. *National Park Education Programs Making a Difference: Evaluating PARTNERS, A Parks as Classrooms Program*. Washington DC: National Park Foundation.
- <http://citnews.unl.edu/TOP/english/contentsf.html> -- Website for Bennett and Rockwood Hierarchy, Targeting Outcomes of Programs (TOP). See also [http://www.phcris.org.au/resources/research/evaluation\\_frameset.html](http://www.phcris.org.au/resources/research/evaluation_frameset.html)
- <http://www.uwex.edu/ces/pdande/evaluation/evallogicmodel.html> -- Website from Univ of Wisconsin, Program Development and Evaluation program on Logic Model
- Jacobson, S., M. McDuff, and M. C. Monroe. In Press. Chapter 1 from Conservation Education and Outreach Techniques. Oxford University Press. Draft will be emailed to you.

### Learning and Education Theory

**Readings for September 19**

- Jacobson, S., M. McDuff, and M. C. Monroe. In Press. Chapter 2 from Conservation Education and Outreach Techniques. Oxford University Press. Draft will be emailed to you.
- Munson, Bruce H. 1994. Ecological Misconceptions. *Journal of Environmental Education*. 25(4) 30-34.

Bitgood, Stephen. 1993. What do we know about school field trips? *What research says about learning in science museums, Volume 2*. Washington DC: Association of Science-Technology Centers, 12-16.

Hammond, W. F. 1996-97. Educating for Action. *Green Teacher* 50, pages 6-14.

## Teaching Strategies

**Readings for September 26**

Your unit will be emailed to you:

Experiential Education: Chapter 5 from Jacobson, McDuff and Monroe

Community-based Projects: Chapter 7 (and parts of 4)

Educational Technology: Chapter 11

Written Materials: parts of Chapters 9 and 10

## Education Reform

**Readings for October 3**

Monroe, Randall, and Crisp. 2001. Improving student achievement with environmental education. IFAS Fact Sheet. University of Florida. <http://edis.ifas.ufl.edu/FR114>

Lieberman, Gerald A. and Linda L. Hoody. 1998. *Closing the Achievement Gap: Using the environment as an integrating context for learning. Executive Summary*. State Education and Environment Roundtable. More information at [www.seer.org](http://www.seer.org)

Ernst, J. A. and M. C. Monroe. 2004. The effects of environment-based education on students' critical thinking skills and disposition toward critical thinking. *Environmental Education Research* 10:4, 507-522.

Archie, Michele. 2001. *Moving into the Educational Mainstream*. Alexandria VA: ASCD, 8 pages.

## Education for Sustainability

**Readings for October 10**

IUCN announcement. Supporting the United Nations Decade of Education for Sustainable Development 2005-2014. 4 pages.

Knapp, Doug. 1998. The Thessaloniki Declaration—The beginning of the end for environmental education? *EE Communicator* 28(2): 12-14.

Fien, John. 1996. Teaching for a sustainable world. *Connect*. 21(4)1-3.

Caduto, Michael. 1997. Endangered Environmental Education. *EE Communicator*, 27(4): 12-13.

Jickling, B. 1992. Why I don't want my children to be educated for sustainable development, *Journal of Environmental Education*, 23(4): 5-8.

Jickling, B. and H. Spork. 1998. Education for the environment: a critique, *Environmental Education Research* 4(3): 309-328.

Fien, J. 2000. 'Education for the Environment: a critique'—an analysis, *Environmental Education Research* 6(2): 179-192.

## Agency-based programs

**Readings for Oct 17**

Hino, Jeffery C. and Edward C. Jensen. 1996. Science-Based TV Spots: Educating the public about forestry. *Journal of Applied Communications*. 80:1, 5-19.

- McKenzie-Mohr, D. 2000. Fostering sustainable behavior through community based social marketing. *American Psychologist* 55:5, 531-537.
- Blanchard, Kathleen A. Seabird conservation on the North Shore of the Gulf of St. Lawrence, Canada: The effects of education on attitudes and behaviour towards a marine resource. In Palmer, J. W. Goldstein, and A. Curnow (eds.) *Planning education to care for the earth*. Gland, Switzerland: IUCN Commission on Education and Communication. 39-50.

## EE Backlash

### Readings for October 24

- Poore, Patricia. 1993. EnviroEducation: Is it Science, Civics--or Propaganda? *Garbage*. April-May 1993, 26-31.
- Salmon, J. 2000. Are we building environmental literacy? *Journal of Environmental Education*. 31:4 (4-10).
- Are they building environmental literacy? *ZPG Fact Sheet*.
- Holsum, Robert. 2001. Viewpoint: The politics of environmental education. *Journal of Environmental Education*. 32:2. 4-7.

## Writing a Program Proposal

### Readings for November 7

- Archie, Michele. 1993. *Grant funding for your environmental education programs: Strategies and Options*. Troy, OH: NAAEE. Pages 13-22.
- McDuff, Mallory. 2002. Needs Assessment for Participatory Evaluation of Environmental Education Programs. *Applied Environmental Education and Communication*. 1(1): 25-36.
- Grieser, Mona. Participation. Chapter 3. *Environmental Education and Communication for a Sustainable World*. Available on-line at [http://www.greencom.org/greencom/books/eec\\_handbook.asp](http://www.greencom.org/greencom/books/eec_handbook.asp)
- NAAEE. 2004. Nonformal Environmental Education Programs: Guidelines for Excellence. North American Association for Environmental Education. Washington DC. (order your copy on-line)

## Objectives, Training, and Materials

### Readings for November 14

- Mager, Robert F. 1997. *Preparing Instructional Objectives*. Atlanta GA: Center for Effective Performance. Chapters 1 and 4 (pp 1-12, 43-49).
- NAAEE. 2004. Environmental Education Materials: Guidelines for Excellence. North American Association for Environmental Education. Washington DC. (order your copy on-line)
- Newstrom, John W. and Mark L. Lengnick-Hall. 1991. One size does not fit all. *Training and Development*, 45:6, 43-48.
- Lane, Jennie, Richard Wilke, Randy Champeau, and Dan Sivek. 1995. Strengths and weaknesses of teacher environmental education preparation in Wisconsin. *Journal of Environmental Education*. 27:1, 36-45.

Place, Nick T. 2001. Principles of Effective Extension Educational Programs. IFAS Fact Sheet. University of Florida. AEC 361. <http://edis.ifas.ufl.edu/WC042>

## Evaluation, Budget, Details

## Readings for November 21

Bennett, Dean B. 1988-89. Four steps to evaluating environmental education learning experiences. *Journal of Environmental Education*. 20:2,14-21.

Patton, Michael Quinn. 2002. Utilization-focused Evaluation (U-FE) Checklist. Workshop handout.

Monroe, Martha C. Pre-testing EE&C Products, in Day, Brian and Martha Monroe, *Environmental Education and Communication for a Sustainable World*. Washington DC: AED. Pp57-59.

[http://www.greencom.org/greencom/books/eec\\_handbook.asp](http://www.greencom.org/greencom/books/eec_handbook.asp)

Jacobson, Susan K. 1991. Evaluation model for developing, implementing, and assessing conservation education programs: Examples from Belize and Costa Rica. *Environmental Management*. 15:2, 143-150.

## Resources for Thursday Sessions

Parsons, Chris. 1993. Front-end Evaluation: How do you choose the right questions? In *Visitor Studies: Theory, Research and Practice* Volume 6. Jacksonville AL: Visitor Studies Association, pp 66-71.

Israel, Glenn D. 1994. Using Focus Group Interviews for Evaluating Extension Programs. University of Florida IFAS Fact Sheet PEOD-14. <http://edis.ifas.ufl.edu/PD036>

Monroe, Martha C. 2002. Evaluation's Friendly Voice. *Applied Environmental Education and Communication*. 1(2): 101-106.

Davidson, E.J. 2005. *Evaluation Methodology Basics*. Thousand Oaks, CA: Sage. In local bookstores!