FNR 5072C: Environmental Education Program Development

Spring, 2026
Online, 3 credits

Instructor

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Course Description

This course provides a comprehensive approach to program development in non-formal environmental education, from needs assessment to evaluation.

Good environmental education (EE) programs are designed to meet environmental and educational goals for specific audiences. They use appropriate teaching strategies to engage learners and build capacity to resolve environmental issues. The development of a good program includes: a comprehensive needs assessment to understand the audience and available resources; a pretest of the materials prior to full-scale implementation; a training program for staff or volunteers; and an evaluation plan to continue improving the program. This course will introduce students to program development for adult and youth-based environmental education activities in the non-formal sector (such as nature centers, extension, residential facilities, environmental organizations, and resource agencies). Students will be able to select assignments to help them develop the skills and information they wish to explore: program design, program evaluation, evaluation tool development, or literature review of a current issue. Students will also explore artificial intelligence (AI) and critically reflect on the role of AI in the field of environmental education.

Course Learning Objectives

- Describe the roots of environmental education in the U.S.
- Explain how people learn information, concepts, and skills.
- Describe the strategies and guidelines for EE materials and program development that should lead to excellence in EE.
- Develop a logic model that describes an EE program.
- Create an EE lesson plan.
- Create and use an evaluation tool.
- Develop an EE program proposal.
- Describe education for sustainable development and compare it to EE.
- Enhance AI literacy through critically using AI in the coursework.

Text Books

- Krasny, M. E. (2020). *Advancing environmental education practice*. Cornell University Press. – *Free eBook*
- Ernst, J. A., M. C. Monroe, and B. Simmons. 2012. Evaluating Your Environmental Education Program: A Workbook for Practitioners. North American Association for Environmental Education. – $25 on Acorn Naturalists website.
- *Project Learning Tree Activity Guide* – Online Course+E-Book
- Other readings are linked on Canvas -- http://ufl.instructure.com

Weekly Course Schedule

Wk	Dates	Theme In Class	Engage Online (due)	Live Discussion
1	1/12	Intro, history	Review Canvas site and syllabus	Course Intro 4-5pm on 1/13
2	1/19	What is EE? NAAEE Guidelines	Read and discuss (1/25) or live discussion	
3	1/26	EE outcomes	Read and discuss (2/1) or live discussion	
4	2/2	Learning and teaching	Read and discuss (2/8)	Wk 2-3 discussion 5-6pm on 2/3
5	2/9	PLT training - Emily Blum	Teaching unit (2/15)	PLT training 4-7pm on 2/10
6	2/16	Program development Logic Models	Read and discuss (2/22) or live discussion	
7	2/23	Writing proposals	Read Submit 1-page proposal and a logic model for feedback (3/8)	
8	3/2	Evaluation plans and tools	Design a survey (3/1)	Wk 6-7 discussion TBD
9	3/9	Midterm	Midterm (3/15)	
10	3/16	Spring break, no class		
11	3/23	Citizen science Final projects	Read and discuss (3/29)	Proposal presentation TBD
12	3/30	Civic Engagement	Read and discuss (4/5) or live discussion Proposal (4/5)	
13	4/6	International EE	Read and discuss (4/12) or live discussion	Wk 11-12 discussion TBD
14	4/13	Important EE Issues	Read and discuss (4/19)	
15	4/20	Project Presentations		Project presentation TBD
16	4/27	Exam week, no class	Project (4/26)	

Assignments

Graduate students come to this course with varying amounts of experience in environmental education. Some are employed as environmental educators and want to advance their existing knowledge and skills, while others are new to environmental education. We also have students who are interested in environmental education research and completing a thesis or dissertation on related education and communication topics. To help everyone achieve their goals, this course has a core of common readings, a take-home midterm, and one assignment, and a suite of options that can be used for the remaining points. If this collection doesn't meet your needs, please set up a time to talk to me about what would be more ideal. It may be possible to "mix and match" options.

1. **Reading discussions**. Read and write reflections on the readings and respond to two other students' posts. For Weeks 2, 3, 6, 11, and 12, you may choose to participate in one live discussion to replace one Canvas discussion. **24 points.**

2. **Teaching Unit:** Develop a unit of at least 1 week in length (assuming 1 hour of teaching time/day) for a grade level and class of your choice. First identify at least one Florida state standard that you will meet and select at least four activities from PLT that would enable an educator to achieve that standard. Next, develop SMART objectives for the unit. Provide an explanation of why you have chosen these activities and what additional information or activities you would include to link the activities together and address the standard. Also provide information on how you would assess student learning for the unit. Four to five pages single spaced using template. **10 points.**

3. **EE Proposal.** Writing project proposals is an essential skill for environmental educators. Develop an idea for a project that meets the priorities as specified in the Proposal Workbook. The workbook includes several exercises to help you develop a great proposal and to generate questions. You can dream up the organization or use a real one. You will write the budget, letters of support, and justification for the program. Submit a one-page summary of your plans (single spaced) and a logic model on **March 8 for feedback**. In the week of March 23, you will provide a 5-minute **presentation** (or recording) to the class on why your proposal deserves funding and why the program will be successful. Submit your **final proposal on April 5**. **21 points.**

4. **Survey**. Develop a survey that can be either for your proposal or for the project you choose**. 5 points.**

5. **Midterm**. A take-home midterm will be assigned during week 9. 15 points

6. Select one option from below for 25 points. Final report is due on April 19th.
    a. **Program Evaluation Option**. Practitioners may wish to evaluate an existing program. You will describe the program, create a logic model and evaluation plan to guide your work, develop and pilot test evaluation tools and use them to collect

data from a target population. You will also analyze that data and create a report. Those who select this option will meet to share experiences, ask questions, and get assistance. Use weeks 4, 5, and 6 to work on your evaluation and get help from everyone. You will need to collect data between March 5th and April 5th to have time to finish your analysis by the end of the term.

b. **Program Development Option**. This is very similar to the Evaluation Option, but the program doesn't exist yet. You will conduct a needs assessment and resource analysis to determine what type of program may be most useful. You will also meet with others to get advice and ask questions. Use weeks 4, 5, and 6 to work on your needs assessment and get help from everyone. You will need to collect data between March 5th and April 5th to have time to finish your analysis by the end of the term.
c. **Literature Review/Analysis**. Those who are preparing to do research may appreciate an opportunity to dive into a current issue in EE that is of interest to you and make a significant and scholarly contribution to the field. This could take the form of writing an article (perhaps following the model of Duvall and Zint) or the lit review section of your thesis or dissertation. Please meet with me to review options of interest. See Duvall, J. and M. Zint. (2007). A review of research on the effectiveness of environmental education in promoting intergenerational learning. Journal of Environmental Education. 38(4): 14 – 24.

Assigned Readings

Week 1 Introducing EE: History and Goals

Biedenweg K., Monroe, M.C., & Wojcik, D.J. 2016. Chapter 1, Foundations of Environmental Education, pp 9-28, in Monroe, M.C. and M. E. Krasny (eds), *Across the Spectrum: Resources for Environmental Educators*. Washington DC: NAAEE.

Optional

NAAEE. The history of EE. Lesson 2. Timeline of EE history; Lesson 3. Origins and early days.

Week 2 What is EE? Guidelines for Excellence

Ginger Potter (2009) Environmental Education for the 21st Century: Where Do We Go Now?, The Journal of Environmental Education, 41:1, 22-33.

Monroe, M.C. 2012. The co-evolution of ESD and EE. Journal of Education for Sustainable Development. 6(1): 43-47.

NAAEE. 2022. Environmental Education Programs: Guidelines for Excellence

NAAEE. 2021. Environmental Education Materials Guidelines for Excellence

NAAEE. 2019. K-12 Environmental Education: Guidelines for Excellence (Executive Summary)

Optional

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.

Stapp, W. B. et al. (1969). The concept of environmental education. *Journal of Environmental Education*, 1:1, 30-31.

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

Simmons, B., Y. Bhagwanji, and R. Ribe. (2016). Promoting excellence in environmental education, pp. 85-112. In Monroe, M.C. and M. E. Krasny (eds), Across the Spectrum: Resources for Environmental Educators. Washington DC: NAAEE. http://naaee.net/publications/acrossthespectrum

Week 3 EE Outcomes

Krasny, M. E. (2020). *Advancing environmental education practice*. Cornell University Press. Chapter 1. Theory of Change; 4. Environmental Behaviors; 5. Collective Environmental Action; and any two other chapters in Part III.

Chawla, L. & Cushing, D. 2007. Education for strategic environmental behavior. *Environmental Education Research* 13(4): 437-452.

Optional

Ardoin, N. M., Bowers, A. W., & Gaillard, E. (2020). Environmental education outcomes for conservation: A systematic review. *Biological Conservation*, *241*, 108224.

Ardoin, N. M., Bowers, A. W., Roth, N. W., & Holthuis, N. (2018). Environmental education and K-12 student outcomes: A review and analysis of research. *The Journal of Environmental Education*, *49*(1), 1–17.

Week 4 Learning and Teaching; Pedagogy for EE

Jacobson, S., McDuff, M., & Monroe, M. C. 2015. Chapter 2 Learning and teaching. *Conservation Education and Outreach Techniques* (2nd ed., pp 33-60). Oxford University Press.

Monroe, M.C., E. Andrews, K., & Biedenweg. 2007. A framework for environmental education strategies. *Applied Environmental Education and Communication*. 6(3): 205-216

Search for and read an article that explores any type of learning approach in the context of environmental education (e.g., project-based learning, problem-based learning, inquiry-based learning, place-based learning, nature-based learning, or game-based learning).

Optional

Wals, A. E. J., Brody, M., Dillon, J., & Stevenson, R. B. (2014). Convergence between science and environmental education. *Science*, *344*(6184), 583–584.

Kuo, M., Barnes, M., & Jordan, C. (2019). Do experiences with nature promote learning? Converging evidence of a cause-and-effect relationship. *Frontiers in psychology*, *10*, 305.

Harris, F. (2025). Journeys through forest school: A model for understanding diverse educational experiences of children. *Environmental Education Research*, 1–14.

Ojala, M., Östman, L., Van Poeck, K., Bengtsson, S., Håkansson, M., & Hansson, P. (2025). Teaching controversial sustainability issues at the junior high-school level: an explorative study of teaching traditions and associations with ways of teaching. *Environmental Education Research*, 1–22.

Bowers, A. W., & Creamer, E. G. (2021). A grounded theory systematic review of environmental education for secondary students in the United States. *International Research in Geographical and Environmental Education*, *30*(3), 184–201.

Week 5 PLT Training

Week 6 Program Development and Logic Models

Stern, M. J., Powell, R. B., & Hill, D. (2013). Environmental education program evaluation in the new millennium: what do we measure and what have we learned? *Environmental Education Research*, *20*(5), 581–611.

Ernst, J. A., M. C. Monroe, & B. Simmons. (2012). Evaluating Your Environmental Education Program: A Workbook for Practitioners. North American Association for Environmental Education. **Chapter 1.**

Israel, G. (2001). Using Logic Models for Program Development. IFAS Fact Sheet. University of Florida. AEC 360.

Diehl, D. C. and Galindo-Gonzalez, S. (2015). SMART Objectives. IFAS Fact Sheet. University of Florida. FCS6018.

[Revisit] NAAEE. (2022). Environmental Education Programs: Guidelines for Excellence

Optional

Li, Y., and Krasny, M. E. (2019). Practice change in environmental education: Lessons from professional development. *Environmental Education Research*. 25(7), 1119-1136.

Logic Model Development Guide: W.K. Kellogg Foundation

University of Wisconsin-Madison, Program Development and Evaluation program. (2008). Developing a logic model.

Week 7 Writing Project Proposals

Monroe, M. C., Li, J., & Oxarart. 2019. Writing an Environmental Education Proposal

Week 8 Evaluation Plans and Tools

Ernst, J. A., M. C. Monroe, & B. Simmons. 2012. Evaluating Your Environmental Education Program: A Workbook for Practitioners. North American Association for Environmental Education. Chapter 2, 3, and 4.

Krasny, M. E. (2020). Advancing environmental education practice. Cornell University Press. Chapter 2. Evaluation.

Salazar, Kunkle and Monroe. (2020). Guide to Assessing Connection to Nature. Washington DC: NAAEE.

Optional

Powell, R. B., Stern, M. J., Frensley, B. T., & Moore, D. (2019). Identifying and developing crosscutting environmental education outcomes for adolescents in the twenty-first century (EE21). *Environmental Education Research*, *25*(9), 1281-1299.

Ardoin, N.M., M. DiGiano, J. Bundy, S. Chang, N. Holthuis, K. O'Connor. 2013. Using digital photography and journaling in evaluation of field-based environmental education programs. *Studies in Educational Evaluation*, 41, 68-76.

Week 9 Take-home Midterm, no class

Week 10 Spring break, no class

Week 11 Citizen Science

Jordan, R. C., H. L. Ballard, T. B Phillips. 2012. Key issues and new approaches for evaluating citizen science learning outcomes. Frontiers in Ecology, 10(6), 307-309.

Dickinson, J. L, J. Shirk, D Bonter, R. Bonney, R. L. Crain, J. Martin, T. Phillips, K. Purcell. 2012. The current state of citizen science as a tool for ecological research and public engagement. Frontiers in Ecology and the Environment, 10(6), 291-297

Week 12 Civic Engagement

Ardoin, N. M., Bowers, A. W., & Gaillard, E. (2023). A systematic mixed studies review of civic engagement outcomes in environmental education. Environmental Education Research, 29(1), 1–26.

Russ, A., & Gaus, M. B. (2021). Urban agriculture education and youth civic engagement in the US: a scoping review. Frontiers in Sustainable Food Systems, 5, 707896.

Week 13 Important EE Issues

Explore *Environmental Education Research* or Journal of Environmental Education identify an issue addressed in two articles that interest you but have not been covered in class.

Week 14 International EE

Search for and read two research articles from *Environmental Education Research* or Journal of Environmental Education that examine EE programs in international contexts.

Week 15 Final Presentations

Week 16 Finish Projects

Course Logistics

Students are expected to attend live sessions or watch recordings, engage in online discussion, submit assignments on time, and participate in group work. Assignments are to be turned in during class or on Canvas on the day they are due. A late assignment will be docked 10% per day from the final score for each day it is late (unless an extension is arranged with the instructor). I am happy to provide feedback on drafts of your assignments to help you improve your writing.

If you would like feedback, please send a draft by email more than 72 hours before the submission deadline.

AI Policy

Generative AI tools may be used for certain assignments, but you must provide an AI disclosure with a link to the AI conversation whenever you use them.

Grading Policy

Course grading is consistent with UF grading policies.

Grading Scale:

A	93 – 100%	C	73 – 76%
A-	90 – 92%	C-	70 – 72%
B+	87 – 89%	D+	67 – 69%
B	83 – 86%	D	63 – 66%
B-	80 – 82%	D-	60 – 62%
C+	77 – 79%	E	below 59%

Academic Policies and Resources

Academic policies for this course are consistent with university policies. See https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Campus Health and Wellness Resources

Visit https://one.uf.edu/whole-gator/topics for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

Please contact UMatterWeCare for additional and immediate support.

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.

Privacy and Accessibility Policies

- Instructure (Canvas)
  - Instructure Privacy Policy
  - Instructure Accessibility