

**Department of Teaching and Learning  
College of Education  
Florida Atlantic University**

**SCE 6344 Advanced Methods of Environmental Education**

**Catalog Description:**

Course focuses on strong collaboration among formal and non-formal educators by integrating environmental education into other content areas. Requirements: readings, discussions, outdoor education field trip, service learning and project linking course content to lesson/unit plans.

**Prerequisite or Co-requisite:**

Graduate Level SCE 6345 (all majors)

**Course Connection to Conceptual Framework:**

As reflective decision-makers, students make informed decisions, exhibit ethical behavior, and provide evidence of being capable professionals by documenting and presenting knowledge, skills and dispositions that demonstrate abilities to teach environmental education, through hands-on and inquiry based approaches that indicate awareness of developmental and age appropriate characteristics of children and adults (k-adult).

**Required Texts:**

Environmental education materials: Guidelines for excellence (2004). *North American Association for Environmental Education (NAAEE)*. <http://www.naaee.org> .

Excellence in environmental education: Guidelines for learning (Pre K-12). (2004). *North American Association for Environmental Education (NAAEE)*. <http://www.naaee.org>.

Guidelines for the preparation and professional development of environmental educators. (2004). *North American Association for Environmental Education (NAAEE)*. <http://www.naaee.org>.

Hungerford, H., Blum, W., Volk, T. & Ramsey, J. (Eds.). (2005). *Essential readings in environmental education* (3<sup>rd</sup> ed.). pp.105-160, 423-443. Champagne, IL.: Stipes.

Nonformal environmental education programs: Guidelines for excellence (2004). *North American Association for Environmental Education (NAAEE)*. [www.naaee.org](http://www.naaee.org).

Simmons, B. (Ed.). (2005). Preparing effective environmental educators. *North American Association for Environmental Education (NAAEE)*.

Wiggins, G. & McTighe, J. (2005). Understanding by design. *Association for Supervision Curriculum Development (ASCD)*.

**Guidelines Used in Developing Course Objectives: NAAEE/NCATE**

North American Association for Environmental Education Standards (NAAEE)  
National Council for Accreditation of Teacher Education (NCATE)

**Course Objectives:** <http://www.naaee.org>

1. Students will apply theories of learning and development when planning, delivering, and improving environmental education instruction (3.1).
2. Students will apply understanding of learning processes when planning, delivering, and improving environmental education (3.2).

3. Students will align NAAEE's *Guidelines for Learning (PreK-12)* and associated environmental literacy components with national, state, and district content standards (4.1).
4. Students will use alignment results to select, adapt, and develop environmental education curricular and instructional materials (4.2).
5. Students will seek opportunities to integrate environmental education into standards-based curricula and school programs (4.3).
6. Students will describe and critically review a range of instructional materials, resources, technologies, and settings for use in environmental education (5.1).
7. Students will demonstrate ability to impact learning by delivering developmentally, culturally, and linguistically appropriate environmental education instruction (5.4).
8. Students will integrate assessment that meets diverse needs into environmental education instruction (6.1).

**Written Guidelines (graded acceptable/not acceptable):**

- Written component of your final project must total no more than 12 pages and no less than 10 pages (excluding title page and rationale). A four lesson integrated unit is required.
- Document results of your teaching by including survey results from students, educators, etc.
- Use a #12 Times Roman or equivalent font throughout your written paper.
- Margins must be no more than 1.25" and no less than 1" on all four sides.
- Format all internal citations and reference listings (end of paper) according to APA.
- Accepted rules of English grammar, punctuation, and spelling must be followed.
- Projects must be clipped or stapled. Please do not submit projects in covers or binders.

**Recommended Readings:** (recommended for formal and non-formal curriculum at all levels)

Ansberry, K. & Monrgan, E. (2005). Picture-perfect science lessons: Using children's books to guide inquiry (grades 3-6). *National Science Teachers Association (NSTA)*.

Brown, J. (2004). Making the most of understanding by design. *Association for Supervision Curriculum Development (ASCD)*.

McTighe, J. & Wiggins, G. (2004). Understanding by design: Professional workbook. *Association for Supervision Curriculum Development (ASCD)*.

Ohana, C., Zerry, M., Mayes, V., et al. (Eds.). *Science and children*. (2005, Summer).

Saul, E. (Ed.). (2004). Crossing borders in literacy and science instruction: Perspectives on theory and practice. *International Reading Association (IRA) and NSTA*.

Tomlinson, C. & McTighe, J. (2006). Integrating differentiated instruction: Understanding by design. *Association for Supervision Curriculum Development (ASCD)*.

Yager, R. & Falk, J. (2008). (Eds.). *Exemplary science in informal education settings: Standards based success stories*. Arlington, VA: NSTA Press.

**Recommended Websites:**

Environmental Protection Agency: Lesson Plans and Resources

<http://www.epa.gov/teachers/>

Facing the Future – Lessons and Resources for Teaching about Global Issues

<http://www.facingthefuture.org/default.aspx>

Population Connection

<http://www.populationeducation.org/>

Roots and Shoots (Jane Goodall Institute)

<http://www.rootsandshoots.org/>

### Course Requirements:

Project integrating EE into four different subjects	Points	% of Course Grade
<b>Introduction (Opening):</b> <ul style="list-style-type: none"> <li>Title Page: Letter prefix/number/title of course, your name, course instructor, and title of project/unit.</li> <li>Autobiography: Presented during 1<sup>st</sup> class.</li> <li>Rationale: State your reasons for integrating EE into each of the four lessons presented in your portfolio.</li> </ul>	0 1 4	0% 0% 4%
<b>Service Learning:</b> <ul style="list-style-type: none"> <li>Observe several lessons or activities at formal or non-formal site, at which you are <u>not</u> already working.</li> <li>Analyze the lessons observed and create an original lesson for the site based on goals of the organization and current best teaching practices.</li> <li>Teach your lesson, request feedback from one of the administrators at the site and write reflections.</li> <li>Provide your reflections to personnel at the site and request feedback.</li> </ul>	Up to 12	12%
<b>Readings (1/2 page each):</b> Review of Literature: 10 annotations (APA): <ul style="list-style-type: none"> <li>5 from assigned articles in <i>Essential Readings</i> (from 2p papers)</li> <li>2 from <i>Making the Most . . .</i> or outside readings (from 2p papers)</li> <li>5 from <i>NAAEE Booklets/Monograph</i> (at least one from each)</li> </ul>	Up to 24	24%
<b>Lessons:</b> EE as the unifying link among lessons in 4 different areas.	Up to 20	20%
<b>Outdoor Field Trip (Riverwoods):</b> Participation, written journal, critique of website	Up to 9	9%
<b>Next Steps (Closing):</b> State your plan to use the information gathered (service learning, readings, lessons/units, field trip) to enhance your current or future employment in the field of environmental education (or related field).	Up to 8	8%
<b>Reference List:</b> Bibliography in APA format.	0	0%
<b>Interactive Presentation:</b> <ul style="list-style-type: none"> <li>Open with a 5-minute overview explaining why you selected the 4 subject areas in your portfolio.</li> <li>Teach a <u>different</u> lesson from your portfolio, including an activity in which all of the class can participate.</li> <li>Close by relating the lesson taught and class activity to your future employment plans.</li> </ul>	Up to 7	7%
<b>Quizzes:</b> <i>Understanding by Design</i> (3)	Up to 15	15%
<b>TOTAL</b>	100	100%

**Grading Scale:** Scores are cumulative. Grade scale represents percentage of total points earned.

A	96-100	A-	91-95	B+	87-90	B	83-86
B-	80-82	C+	77-79	C	73-76	C-	70-72
D+	67-69	D	64-66	D-	60-63	F	Below 60

### Attendance Policy:

According to University policy, “Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of nonattendance” (p. 53) Reasonable accommodations are made for religious observances.

### Students with Disabilities:

In Compliance with The Americans with Disabilities Act (A.D.A.), students who require special accommodations due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) located in Boca in the Student Support Building, (SU 80) in Room 133 (561-297-3880); in Davie, LA 240 (954-236-1222); in Jupiter, SR 117 (561-799-8585); or at the Treasure Coast, JU 312 (772-873-3441) - and follow all OSD procedures.

### Honor Code:

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty, including cheating and plagiarism, is considered a serious breach of these ethical standards, because it interferes with the University mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the University community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see

[http://www.fau.edu/regulations/chapter4/4.001\\_Honor\\_Code.pdf](http://www.fau.edu/regulations/chapter4/4.001_Honor_Code.pdf).

### Course Outline:

Weeks	Topics	Assignments Due
1	<p><u>Student Presentations:</u> Autobiographies</p> <p><u>Instructor Presentation:</u> Overview, including syllabus, course requirements, and class structure.</p> <p><u>Instructor Presentation:</u> Formal lesson plan format, including the purpose and importance of each section.</p>	<p>Be prepared to present a written and oral <b>autobiography</b> that includes:</p> <ol style="list-style-type: none"> <li>1. Where you have lived. Where you hope to work. Your dream job.</li> <li>2. Higher education schools you have attended and degrees earned.</li> <li>3. How you became interested in environmental education.</li> <li>4. Whether you are interested in formal (k-12) or non-formal (k-adult).</li> <li>5. Environmental issues that you believe <u>are</u> being adequately addressed either through education or by the government.</li> <li>6. Environmental issues that you believe <u>are not</u> being adequately addressed. Include your suggestions for positive intervention.</li> <li>7. How you anticipate this course will further your career/knowledge.</li> <li>8. Why developing lesson plans is required in this course, especially if you are NOT a teacher or do NOT intend to become a teacher.</li> <li>9. Why you think integrating subject matter is required in this course.</li> <li>10. How you define formal and non-formal environmental education, differentiated instruction, and inquiry-based approaches to learning.</li> <li>11. What the term <i>age appropriate</i> means in environmental education.</li> </ol>

2	<u>Student Presentations:</u> <i>Essential Readings in Environmental Education.</i>	Read and prepare to present a <b>two-page paper</b> on the following articles from <i>Essential Readings in Environmental Education</i> . Your paper must include a one-page summary and one page stating your thoughts regarding each article: 1. Goals for Curriculum Development in Environmental Education, pp.105-113. 2. Curriculum Development in Environmental Education for Primary School, pp. 114-125.
3	<u>Discuss:</u> <i>Guidelines for the Preparation and Professional . . .</i>	Read and be prepared to discuss (booklet online): <i>Guidelines for the preparation and professional development of environmental educators.</i>
4	<u>Discussion:</u> <i>Understanding by Design (UbD)</i>	Read and be prepared to discuss <i>UbD</i> , pp.vi-125: 1. Preface, Acknowledgements, and Introduction. 2. Backward Design. 3. Understanding and Gaining Clarity on Our Goals. 4. Six Facets of Understanding. 5. Essential Questions: Doorways.
5	<u>Discuss:</u> Reasons for selecting your site and content you will teach. Activity: Use assigned readings to help set up your observation format.	1. Call and arrange your observation AND teaching site (location). 2. Be prepared to share the reasons you chose that specific site. 3. Be prepared to share the content area (selected from the following list), from which you will be teaching your first integrated lesson: mathematics, science, reading, social studies, writing, language arts, art and music.
6	<u>Student Presentations:</u> <i>Essential Readings in Environmental Education</i>	Read and be prepared to present a <b>two-page paper</b> on the following articles from <i>Essential Readings in Environmental Education</i> . Your paper must include a one-page summary and one page stating your thoughts and ideas regarding each article: 1. Environmental Education in the K-12 Curriculum: Finding a Niche, pp. 127-140. 2. Integration and Curriculum Design, pp. 141-160. 3. General Teaching Method (GTM), pp. 423-443.
7	<u>Discussion/Activity:</u> <i>Environ Ed Materials...</i> Develop/set up your observation format. <i>Nonformal ...</i> Critique and integrate EE into your observed lesson. <i>Preparing Effective ...</i> integrate/use at least 2 recommended methods.	Read and be prepared to discuss: 1. <i>Environmental Education Materials: Guidelines for Excellence</i> . How does this booklet help you develop and set up your individual observation format? 2. <i>Nonformal Environmental Education Programs: Guidelines for Excellence</i> . How does this booklet help you critique and integrate/ incorporate environmental education into the observed lesson? 3. <i>Preparing Effective Environmental Educators: Monograph Series</i> . How does this booklet help you to understand effective methods that are recommended for the preparation of environmental educators?
8	<u>Discussion and Quiz:</u> <i>Understanding by Design (UbD)</i>	Read, be prepared to discuss and take a short <b>quiz</b> on <i>UbD</i> , pp. 126-190: 1. Crafting Understandings. 2. Thinking Like an Assessor. 3. Criteria and Validity.

<b>9</b>	<p><u>Present:</u> Observation findings &amp; critique each others' observations</p> <p><u>Discuss:</u> <i>Excellence in Environmental . . .</i></p>	<p>Conduct and <b>critique</b> your site observation. Be prepared to discuss the subject area you will be integrating into your EE lesson. Your lesson must tie into the needs of the class or program at your site.</p> <p>Read and be prepared to discuss (booklet online):  <i>Excellence in Environmental Education: Guidelines for Learning . . .</i></p>
<b>10</b>	<p><u>Present:</u> <i>Making the Most . . .</i> OR two outside readings related to your content areas.</p> <p><u>Discuss:</u> Your content area and how you will integrate it into your EE lesson plan.</p>	<p>Read and be prepared to present a <b>two-page paper</b> on <u>either</u> the following readings from <i>Making the Most of Understanding by Design</i> OR two outside articles, chapters or websites related to your content area(s). Your paper must include a one-page summary and one page stating your thoughts and ideas regarding each reading:</p> <ol style="list-style-type: none"> <li>1. Promoting Student Achievement and Addressing State and District Standards, pp. 58-79.</li> <li>2. Promoting Student Understanding, pp. 80-98.</li> </ol>
<b>11</b>	<p><u>Discuss and Quiz:</u>  <i>Understanding . . . (UbD)</i>  Set up: lesson &amp; critique format for lesson.</p>	<p>Read, be prepared to discuss, and take a short <b>quiz</b> on <i>UbD</i> pp. 191-274:</p> <ol style="list-style-type: none"> <li>1. Planning for Learning.</li> <li>2. Teaching for Understanding.</li> <li>3. The Design Process.</li> </ol>
<b>12</b>	<p><u>Share:</u> Feedback from your site supervisor and your own reflections.</p> <p><u>Compile:</u> Portfolio of 4 lessons from <u>different</u> subject areas, including lesson already taught.</p> <p><u>Construct:</u> integrated lessons using EE . . . .</p>	<ol style="list-style-type: none"> <li>1. Teach your 1<sup>st</sup> lesson and get feedback from the supervisor onsite.</li> <li>2. Write up your own <b>reflections</b> on your lesson, delivery, and student participation. Submit reflections with final project.</li> <li>3. Select three <u>other</u> subject areas from the following: mathematics, science, reading, social studies, writing, language arts, art and music.</li> <li>4. Consider how you will integrate these four different lessons using environmental education as the core and tie them to the concept you taught in your 1<sup>st</sup> lesson.</li> </ol>
<b>13</b>	<p><u>Discuss and Quiz:</u>  <i>Understanding . . . (UbD)</i></p> <p><u>Share:</u> Critique of the Riverwoods Field Lab.</p>	<p>Read, be prepared to discuss and take a short <b>quiz</b> on <i>UbD</i>, pp. 275-325:</p> <ol style="list-style-type: none"> <li>1. The Big Picture: UbD as Curriculum Framework.</li> <li>2. "Yes, but . . ."</li> <li>3. Afterward: Getting Started.</li> </ol> <p>Browse the Riverwoods Field Lab internet site and write a <b>critique</b> following the guidelines provided by the instructor.</p>
<b>14</b>	<p>Keep a journal, record information about each of the activities you observe or in which you participate during the Riverwoods field trip.</p>	<p>Bring a journal and a writing implement for field trip to Riverwoods. Prepare the journal, in advance, to record the following information: For rated entries, use the following scale: 5 = Excellent; 4 = Very Good; 3 = Satisfactory; 2 = Fair; 1 = Needs Improvement.</p> <ol style="list-style-type: none"> <li>1. Describe each activity and how it was presented.</li> <li>2. Rate the value of each activity to learning (5-1).</li> <li>3. Rate the knowledge of each presenter (5-1).</li> <li>4. Rate the interest level for the learners (5-1).</li> <li>5. Rate the variety of the formats used by the center (5-1).</li> <li>6. Rate the importance of each activity to EE (5-1)</li> <li>7. Explain whether you would change/improve anything and give your recommendations.</li> </ol>

15	<u>Discuss:</u> Journals <u>Share:</u> Portfolios <u>Critique:</u> Portfolios <u>Present:</u> One Lesson <u>Submit:</u> Portfolios* <u>SPOT:</u> Evaluations	1. Complete your <b>portfolio</b> of four different lessons. 2. Prepare your <b>interactive presentation</b> of one lesson. 3. Complete your Riverwoods Field Lab <b>Journal</b> .  <b>Next Course: SCE 6644 Trends and Issues in EE</b> 1. Recommended for students completing the Master's in EE. 2. Completed the Fall semester before SCE 6196 Capstone in EE.
16	<b>Portfolio Deadline*</b>	<b>You may submit your completed portfolios by e-mail. Date TBA.</b>

SCE 6344 Adv Methods of Environmental Education (Course Change Approval)