

**UNIVERSITY OF NORTH CAROLINA AT GREENSBORO
SCHOOL OF EDUCATION
DEPARTMENT OF CURRICULUM AND INSTRUCTION**

Course Syllabus – Spring 2006

1. **Course Prefix and Number:** CUI 623-01
2. **Course Title:** Environmental Education in the K-12 Classroom
3. **Credits:** 3:3:4
4. **Course Prerequisites/Corequisites:** Admission to graduate school or permission of instructor
5. **For Whom Planned:** This course is for teachers and graduate students with a science degree who are enrolled in one of our Masters Degree Programs. It is also very appropriate for doctoral students interested in environmental education.

6. **Instructor Information:**

Catherine E. Matthews, Ph.D.

347 Curry: Science Education Lab, UNCG, Tuesdays 5:00-7:50 PM

340 Curry Building, 334-3444

Email: cmatthews@uncg.edu Blackboard Course Page: blackboard.uncg.edu

Office Hours: By Appointment and following class each Tuesday 7:50 - 8:30 PM & Thursday 2 - 3 PM

7. **Course Purpose/Catalog Description:** The purpose of this course is to introduce teachers to the world of environmental education. This course will include the study of environmental education curricula and methods of implementation. The course is designed for teachers who have had no professional preparation in science courses such as paleontology (fossils finds), ornithology (birds and birding), herpetology (reptiles and amphibians), marine biology (seashore science), or entomology (six legged creatures). At the conclusion of the course, teachers will be able to present extensive, exciting, hands-on science units for students in each of these sciences. The focus of the course will be on environmental education experiences.

“Teachers will design, conduct and evaluate environmental education activities in their K-12 classrooms. Course activities partially fulfill requirements for North Carolina environmental education certification. Weekend field trip is required.”

8. **Teachers Academy Conceptual Framework Mission Statement:** The mission of professional education at UNCG is to prepare and support the professional development of caring, collaborative, and competent educators who work in diverse settings. This mission is carried out in an environment that nurtures the active engagement of all participants, values individual as well as cultural diversity and recognizes the importance of reflection and integration of theory and practice. UNCG’s professional programs are guided by shared commitments to: (a) equity and excellence in teaching, research and service; (b) professional integrity and ethical deliberation in dealing with students and colleagues (university-based, school-based, and community-based); (c) the construction of a professional knowledge base through collaboration and collegiality; and (d) the dissemination of professional knowledge, skills and dispositions through the preparation

and continuing professional development of teachers, principals and other school personnel.

Course Goals and/or Objectives/Student Learning Outcomes: This course is aligned with INTASC principles, ISTE/NETS and the NC Advanced Competencies for Teachers (2005). The goal of this course is to prepare teachers to teach environmental education using a constructivist approach to teaching and learning. Objectives include the following: teachers will:

- a. Develop or nurture an interest in an area of environmental education
- b. Read the professional literature related to environmental education, read the NC *Environmental Education Plan*
- c. Be aware of and participate in professional organizations, especially EENC (Environmental Educators of North Carolina) & NAAEE (North American Association for Environmental Education)
- d. Reflect on their own growth as teachers
- e. Create, develop and teach developmentally appropriate curriculum (lesson plans, units and activities) for K-12
- f. Explain critical issues of environmental education literacy
- g. Use technology in environmental education
- h. Use curriculum integration strategies in the development of EE curriculum materials

10. Teaching Strategies: In this course, teaching strategies include cooperative learning, group presentations, individual presentations, inquiry learning approaches, technology integration, class discussions, readings, field trips and independent research.

11. Evaluation Methods and Guidelines for Assignments: Grading: Attendance and class participation are critical components of this course. You are expected to attend and fully participate in each class session. More than one absence will affect your grade in this course. If you must be absent for any reason please notify the instructor by phone or email prior to your absence. Guidelines for assignments are enclosed.

This course is graded on the following system as described in the *Graduate School Bulletin*: A, superior; B, good; C, weak but acceptable on a limited basis for graduate credit and F, failure. Pluses and minuses are recorded and are used to calculate GPA. Guidelines for assignments are enclosed.

12. Required Texts/Readings/References:

Louv, R. (2005). *Last Child in the Woods: Saving our Children from Nature-deficit Disorder*. Algonquin Books: Chapel Hill.

Additional Required Readings: Students are required to read books and articles and peruse curriculum materials as directed in class.

Other Readings TBA

13. **Topical Outline:** see attached course schedule

14. **Other Information:** This class will meet at the times and on the dates indicated on the course schedule. All assignments should be submitted on time. All assignments should be word-processed, spell-checked, checked for grammatical errors, **double-spaced** and conform to *APA Handbook* guidelines. All class members will abide by the UNCG Academic Honor Policy.

All students are expected to attend each class session and be prepared for class discussion and class activities. More than one 3-hour absence from class will result in a lowered course grade, as it is impossible to make up total class time missed in terms of class interaction and class discussion. Nevertheless, students are responsible for material covered during their absences and should make up any absences from class. It is the students' responsibility to submit documentation that substantiates their efforts to deal with any absences. Students who are not prepared for class in that they have not completed reading assignments or other non-graded assignments will be penalized in their grade for this course. Some assignments may be submitted electronically, as a word file. Some assignments may be shared on Blackboard. All material for this course should be kept in a course notebook that should be brought to each class session. Please bring books as indicated to class each session.

15. **Alignment with State and National Standards:** See course goals/objectives and individual assignment descriptions and matrix.

Tentative Course Outline

Session	Date	Topic
1	Jan. 10	First Day of Class, Introductions, What is EE? Invasive Species, <i>Cane Toads</i> Exotic Species Activity, A Case Study: The Cane Toad <i>All Wrapped up in Kudzu</i> The NC Connection: Invasive Plants in the Piedmont Online resource called Pushy Plants and Alien Animals http://www.naturalsciences.org/conservation/invasives/index2.htm http://www.eenorthcarolina.org/ (you are required to join list serve)

2	Jan. 17	Keeping Common Plants and Animals Common Natural History Literacy Sycamore Trees, Birds & Insects Pages 1 – 111 in the Louv book Discussion of Field Trip Possibilities/Foci in Class
3	Jan. 24	Pages 113 - 198 in the Louv book Expert Topics Selection & Discussion of Topic Choices
4	Jan. 31	Pages 199 – 310 in the Louv book
5	Feb. 7	Second whole class reading selection/Book Clubs Meet your undergraduate partners for projects (they each will complete a 5 hour service requirement under your direction) and they will become birding experts this semester, meeting tonight at 7: 15 PM
6	Feb. 14	
7	Feb. 21	
8	Feb. 28	
	March 7	<i>Spring Break, no class tonight</i>
9	March 14	
10	March 21	Field Experience at Local Wetlands <i>Fieldwork:</i> The Great Horseshoe Crab Field Trip Videotape
1.	March 28	
12	April 4	
	April 5	Water Festival, Greensboro, optional

13	April 11	Online class assignment for tonight. We will not meet at UNCG, Guilford County Schools Spring Break
14	April 18	Bird Hike with undergraduates in freshman seminar
15	April 25	Last regularly scheduled class session
16	May 2	Final exam period with full class agreement (the scheduled final period is the following week as today is a Friday on the University calendar) Course Evaluations, Students Share Units/Articles with the Class All course assignments due!

Criteria for Evaluation of Student Performance in CUI 623:

Course grades will be based on attendance and participation in class and outside involvement in additional environmental education activities. Written products such as a unit and/or an article documenting the teaching of this unit or presentation of other ideas in the classroom will be completed.

Required for Environmental Education 30%

1. Attend all classes (absences must be made up by choosing other course options double time); attendance in this course is critical.
2. Be prepared for class by completing readings prior to class meetings.
3. Lead discussions in class on chapters or assigned reading of the texts for the class.
4. Read, investigate, & portray a Naturalist. Use Women in Science models for ideas.
Also, visit the Ecology Hall of Fame at <http://www.asle.umn.edu/resources/envwriters.html> sponsored by the Association for the Study of Literature and Environment.
5. Read another book on environmental education & share with class.
6. Peruse the EELE manuals in the TLC and choose one state park to specialize in, visit if possible, complete the EELE activities and share information with our class.
7. Two field trips with our class, spring trip to coast, another trip to study birds and/or reptiles and amphibians or cave exploration, etc. (one outside of class time)
8. Use the Internet and locate resources, design a web page, do a class study, etc. In other words, integrate the use of technology into environmental education.

Natural History Literacy Scrapbook 20%

It is impossible to be an effective environmental educator if you are unfamiliar with the local flora and fauna in the Piedmont. You must 'know' your organisms if you are to be able to identify exotics or introduced species and you must have a feel for common organisms if we are to keep common organisms common. I expect a lot of diversity in this course product as you need to start where you are. If you already 'know' a lot of organisms then your goal is to add 10 of each. If you are uncomfortable in the out-of-doors and unfamiliar with our natural history in North Carolina then you are starting from a very different place. Therefore, each of you will

create a scrapbook or other similar product (with instructor approval) that demonstrates your knowledge of and ability to identify and discuss at least 10 insects, 10 herps, 10 birds, 10 mammals, 10 trees, 10 wildflowers

Credit Options for Environmental Education 50% (Each choice = 25%)

1. Try an activity/use a resource (i.e. *NatureScope* publication) in your classroom for each of 6 weeks. Document what you do, how students respond, how you would modify the activity for future instruction, etc. in a short paper (2-3 pages) per activity.
2. Attend several (at least three) environmental education functions during the semester. Options include events at the North Carolina Museum of Natural Sciences in Raleigh, special events at the Greensboro Natural Science Center, the Piedmont Environmental Center, etc.
3. Write an article for the appropriate journal on some facet of environmental education. The article should be on some facet of environmental education and you may use either the *Snail Shell Science* article or the Kudzu article as models for your writing.
4. Design and teach a major unit in environmental education. The unit will be integrated and will include objectives, formal lesson plans, varied approaches, sections on materials, resources, and a bibliography.
5. Get involved with local chapters of Audubon, Sierra Club, The North Carolina Bird Club, The North Carolina Fossil Club, The Haw River Festival etc. in local cause(s), event(s), or activities.

Name _____

Comments about Required Activities for Environmental Education 50%

1. Attend all classes (absences must be made up by choosing other course options double time); attendance in this course is critical.
2. Be prepared for class by completing readings prior to class meetings.
3. Lead discussions in class on chapters or assigned reading of the texts for the class.
4. Read, investigate, & portray a Naturalist. Use Women in Science models for ideas.
5. Read another book (get instructor approval) on environmental education & share with the class.
6. Peruse the EELE manuals in the TLC and choose one state park to specialize in, visit if possible, complete the EELE activities and share information with our class.
7. Two field trips with our class, spring trip to coast, another trip to study birds and/or reptiles and amphibians or cave exploration, etc.
8. Use the Internet and locate resources, design a web page, do a class study, etc. In other words, integrate the use of technology into environmental education.
9. Complete a natural history literacy scrapbook that demonstrates your knowledge of Piedmont flora and fauna and includes ideas about how you will help your students also become environmentally literate. (due May 2nd) (20%)

Credit Options for Environmental Education 40% (Each choice = 20%)

1. Try an activity/use a resource (i.e. *NatureScope* publication) in your classroom for each of 6 weeks. Document what you do, how students respond, and how you would modify the activity for future instruction in a short paper (~5 pages) per activity.
2. Attend several (at least three) environmental education functions during the semester. Options include events at the North Carolina Museum of Natural Sciences in Raleigh, special events at the Greensboro Natural Science Center, and the Piedmont Environmental Center. When in doubt, OK the event with the course instructor.
3. Write an article for the appropriate journal on some facet of environmental education. The article should be on some facet of environmental education and you may use either the *Snail Shell Science* article or the *Kudzu* article as models for your writing.
4. Design and teach a major unit in environmental education. The unit will be integrated and will include objectives, formal lesson plans, varied approaches, sections on materials, resources, and a bibliography.
5. Get involved with local chapters of Audubon, Sierra Club, The North Carolina Bird Club, The North Carolina Fossil Club, The Haw River Festival etc. in local cause(s), event(s), or activities.

At least one of these two assignments is due by March 16th. The other is due by April 20th.

TEXTS

Barker, R. 1997. *And the Waters Turned to Blood*. New York, NY: Simon Schuster.

Comstock, Anna Botsford. 1986. *Handbook of Nature Study*. New York, NY: Cornell University Press.

Phillips, Kathryn. 1994. *Tracking the Vanishing Frog: An Ecological Mystery*. New York, NY: St. Martin's Press. (class copies provided for use during the course)

Field Guides: Birds, Butterflies and Moths, Fossils, Insects, Seashore, Spiders, Trees, Weeds, etc. (At least two field guides on subjects of your choice, we have many field guides in the lab for you to use)

Burnett, Robin. 1992. *The Pillbug Project*. Washington DC: National Science Teachers Association.

Caduto, Michael & Joseph Bruchac. 1988. *Keepers of the Animals*. Golden, Colorado: Fulcrum Inc.

Dillard, Annie. *An American Childhood* or *Pilgrim at Tinker Creek*

The Weird-O (class copies provided for use during the course)

Interstate New Teacher Assessment and Support Consortium (INTASC)

Model Standards for Beginning Teachers Licensing and Development (CPT Graduate Students)

Principle #1- CONTENT PEDAGOGY

Principle #2 – STUDENT DEVELOPMENT

Principle #3 – DIVERSE LEARNERS

Principle #4 - CRITICAL THINKING

Principle #5 - MANAGEMENT AND MOTIVATION

Principle #6 – COMMUNICATION AND TECHNOLOGY

Principle #7 - PLANNING

Principle #8 - ASSESSMENT

Principle #9 – REFLECTIVE PRACTICE AND PROFESSIONAL DEVELOPMENT

Principle #10 – SCHOOL AND COMMUNITY INVOLVEMENT

ISTE's NETS (National Educational Technology Standards for Teachers)

(CPT Graduates)

I. Teachers demonstrate a sound understanding of technology operations and concepts.

II. Teachers plan and design effective learning environments and experiences supported by technology.

III. Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning.

IV. Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.

V. Teachers use technology to enhance their productivity and professional practice.

VI. Teachers understand the social, ethical, legal, and human issues surrounding the use of technology.

NC Advanced Competencies of a Master Teacher, 2005

A. Instructional Expertise - The candidate demonstrates instructional expertise by applying the theoretical, philosophical, and research bases for education practice in P-12 settings to improve student learning.

Indicators:

1. The candidate plans, implements, and evaluates instruction that is rigorous, coherent, and consistent with a well-developed theoretical and philosophical base and best practices emerging from educational research.

2. The candidate designs and modifies instruction and learning environments based on assessment of student learning problems and successes.

3. The candidate monitors the effects of instructional actions, selection of materials, and other instructional decision on students' learning and behavior.

4. The candidate incorporates findings from educational literature into school and classroom strategies to improve student learning.

5. The candidate understands and links subject matter and students' developmental and diverse needs in the context of school settings.

6. The candidate uses technology to create learning environments that support students' learning.

7. The candidate seeks, implements, and evaluates the best pedagogical practices for the subjects taught within the context of a specific school setting.

8. The candidate demonstrates the ability to integrate literacy across the curriculum.

B. Knowledge of Learners - The candidate incorporates knowledge of the nature of the learner, learning

processes, variations in learning abilities and learning styles, and strategies for evaluating learning into the planning, delivery, and evaluation of instruction.

Indicators:

1. The candidate seeks to increase understanding of and respect for differences in students, including exceptionalities.
2. The candidate designs and delivers instruction that is responsive to differences among all learners.
3. The candidate reflects on and modifies instruction that fosters student learning.
4. The candidate understands and respects differences between the learning behaviors and outcomes expected in diverse communities.
5. The candidate creates and maintains a classroom environment conducive to learning in which all learners feel welcome and can be successful.

C. Research - The candidate uses research to examine and improve instructional effectiveness and student achievement.

Indicators:

1. The candidate critically reads and applies historical and contemporary educational literature including theoretical, philosophical, and research materials.
2. The candidate uses student and school performance data to improve student learning, classroom process, and school practices.
3. The candidate investigates educational problems through action research.

D. Content Knowledge - The candidate demonstrates advanced depth and breadth of knowledge and skills in the academic discipline and in education.

Indicators:

1. The candidate analyzes and articulates relationships between and among theory, philosophy, research findings, and current practice as appropriate to the discipline.
2. The candidate analyzes and articulates relationships between and among theory, philosophy, research findings, and current practice across disciplines.
3. The candidate demonstrates theoretical and applied advanced content knowledge.
4. The candidate understands current knowledge and trends in education.

E. Professional Development and Leadership - The candidate engages in continued professional development and provides leadership at the classroom, school, and community levels, and within the profession.

Indicators:

1. The candidate initiates professional inquiry through reading, dialogue, reflection, professional development, and action research.
2. The candidate seeks, evaluates, and as appropriate, acts on input from educators, parents, students, and other members of the community for continuous improvement.
3. The candidate participates, formally and informally, in appropriate professional communities.
4. The candidate participates in collaborative leadership to address education problems
5. The candidate provides leadership in working with parents and strengthening the home-school partnership.