

***Island Ecology for Science Educators***  
**Carolina Beach State Park**  
**Summer 2012**  
**EDN 492 / EVS 485**

**Instructors:**

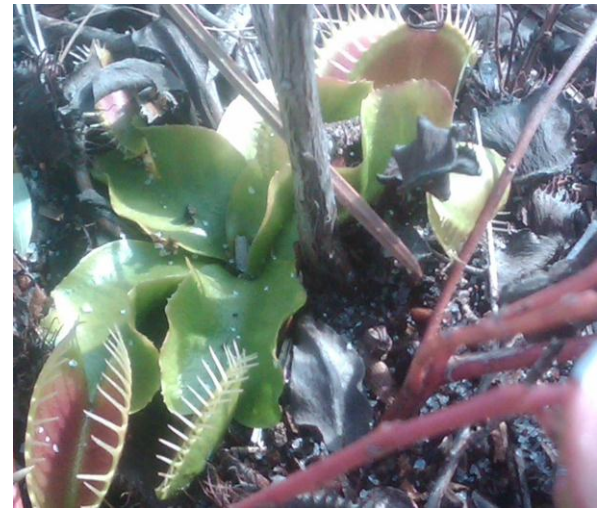
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**The primary mission of the Donald R. Watson School of Education at the University of North Carolina at Wilmington is to develop highly competent professionals to serve in teaching and other educational leadership roles in southeastern North Carolina, the state, and the nation. The Watson School is committed to achieving excellence in teacher and administrator preparation in all of its programs.**

**COURSE OVERVIEW:**

Through interaction with resources and experts, students will develop readily accessible, web-based materials through engagement in field based exploration of plants and animals of coastal ecosystems and environmental issues. The Island Ecology for Educators class focuses on both science content and pedagogical resource development. Our home-base will be the classroom at the visitor center at Carolina Beach State Park.



**Address:**

1010 State Park Road, PO Box 475, Carolina Beach, NC 28428  
<http://www.ncparks.gov/Visit/parks/cabe/main.php>

**Prerequisites:** None

**COURSE OUTLINE:**

On the Monday beginning each week, the instructors will directly address an ecological topic of interest. Students will be out in the field much of the week collecting information and researching their topic of interest. Students will collaborate with guest speakers and their class peers during the week. Students will utilize a web-based template to complete each weekly assignment that will be due the following week.

Please refer to the class calendar and schedule for specific days, times, and locations.

**Opening Session:** Expectations and timeline of course, weekly assignments, final exam, and presentation, the learning cycle lesson plan, and safety precautions while in the field.

**Week 1:** Orientation to coastal and barrier island ecology. Explore and investigate the biological and ecological impacts of local terrestrial fauna (such as salamanders, white tailed deer, fox, snakes, insects, alligators, etc.).

**Week 2:** Examine coastal and barrier island geology including zones of barrier islands (open water, intertidal zone, dunes, over wash, and salt marsh).

**Week 3:** Explore and investigate the biological and ecological impacts of local terrestrial and aquatic flora (such as long leaf pine, Venus fly traps, pitcher plants, live oaks, seaweed, and coastal grasses, etc.)

**Week 4:** Explore and investigate the biological and ecological impacts of local aquatic fauna (such as blue crab, periwinkle, mullet, skates, sea turtles, etc.)

**Week 5:** Investigate the history of Fort Fisher/Carolina Beach and other barrier islands and impacts on environmental science.

### **REQUIRED READINGS:**

Resource Text: **Learning Ocean Science Through Ocean Exploration, Valerie Chase, Editor. National Oceanic and Atmospheric Administration (NOAA).**

**Field Notebook required for notes during hikes and lectures.**

Online Template Platform: [www.sites.google.com](http://www.sites.google.com)

Readings (and online resources): <http://people.uncw.edu/kubaskod/courses.html>

Journals:

- The National Science Teachers Association publishes this journal for science educators. Their mission is to promote excellence and innovation in science teaching and learning. I've found the organization to be the "flagship" community for science practitioners and this journal is specifically designed to serve as a forum for secondary science educators to exchange ideas and teaching methods.
  - The Science Teacher - <http://www.nsta.org/highschool/>
  - Science Scope - <http://www.nsta.org/middleschool/>
  - Science and Children - <http://www.nsta.org/elementaryschool/>

Facebook Link to [Island Ecology for Educators Page](#)

### **OTHER OPTIONAL RESOURCES:**

- Louv, R. (2005). *Last Child in the Woods*. Algonquin Books of Chapel Hill. (selected chapters)
- North Carolina Department of Public Instruction (NCDPI)
  - Students will use this web page to "serve as a curriculum terminal from which you can travel to specific goals and objectives based on discipline and grade level. This service provides a convenient way for teachers, administrators, and parents to verify the instructional objectives of the Common Core and Essential Standards at a given grade and subject area."
  - <http://www.ncpublicschools.org/acre/standards/new-standards/#science>

- North Carolina Professional Teaching Standards
  - “Every public school student will graduate from high school, globally competitive for work and postsecondary education and prepared for life in the 21st Century.”
  - <http://www.ncptsc.org/Final%20Standards%20Document.pdf>
- AAAS, (1993). *Benchmarks for Science Literacy*. Oxford University Press, New York.
  - [www.project2061.org/tools/benchol/bolframe.htm](http://www.project2061.org/tools/benchol/bolframe.htm)
- National Research Council. (1996). *National science education standards*. Washington, DC: National Academy Press.
  - <http://www.nap.edu/readingroom/books/nses/>

## **ATTENDANCE AND PARTICIPATION:**

**Active participation and promptness with work are expected for all class sessions, assignments, and discussions.** Students are expected to be active participants in this class—that is, to complete all reading, writing and activity assignments. Each anticipated absence must be discussed with the instructor in advance. Each unanticipated absence must be discussed with the instructor immediately upon return to class. In the case of excessive absences, your grade may be lowered at the discretion of the instructor.

**Attendance** is required by all students. After the second absence and upon each additional absence, the final grade will be reduced by one letter grade. For instance, a student having missed three classes can only attain a grade of C upon successful completion of all course work.

- 1 -2 absences = no grade deduction (Grade of A, still possible)
- 3-4 absences = one letter grade deduction (Grade of “B”, at best)
- 4-5 absences = two letter grade deduction (Grade of “C”, at best)
- 5-6 absences = three letter grade deduction (Grade of “D”, at best)
- More than 6 absences = please drop the class (Grade of “F”)

In the case of an absence, it is the student’s responsibility to find out what work was missed, and to make work up on his or her own time. I recommend finding a “study buddy” that would be willing to share with you all vital information.

1. Students are not to be **late for class**. Class time will begin promptly - 9:00 AM; ending by 11:00 (check schedule for special time changes for some class sessions).
2. **Complete** all assignments as detailed in the requirements section. Any assignment submitted after the due date may result in a major (30%) grade deduction unless there is a documented emergency. It is the students’ responsibility to make sure all assignments are submitted on time! NO assignments will be accepted later than one week after the due date unless there is a documented emergency. Being absent from class the day an assignment is due is NO excuse for not turning in the assignment. If there is an illness or emergency, be sure to contact the instructor prior to missing class and arrange to have any assignment submitted prior to the missed class.
3. **Adhere** strictly to the UNCW Honor Code (See Student Handbook, Code of Student Life)

[http://www.uncw.edu/stuaff/odos/documents/0910CodeofStudentLife\\_FINAL.pdf](http://www.uncw.edu/stuaff/odos/documents/0910CodeofStudentLife_FINAL.pdf)

4. **Avoid Plagiarism!** Visit the University Learning Center: Writing Services or go to <http://uncw.edu/stuaff/uls/Writing-plagiarism.htm>

**ASSIGNMENTS AND COURSE REQUIREMENTS:**

**Point system:** Each week’s assignment will be comprised of 20 points, final product presentation worth 50 points, and final exam worth 50 points for a total of 200 points.

Using web based templates designed by the instructors; students will utilize technology (FLIP camera video and digital images) to study and document each week’s assigned topic. For each week, the students will: a) research the biological and ecological implications of their assigned topic of the week (photographs, video, and environmental impacts), b) create a science lesson plan to accompany their topic using the inquiry based five E lesson plan format, and c) create student created integrated web pages.

Assignment:	Topic	Point Value	Due Date
<b>Week 1 - Web based template</b>	Overview of island ecosystems and terrestrial fauna	20	5/29
<b>Week 2 - Web based template</b>	Coastal and barrier island ecosystem factors	20	6/5
<b>Week 3 - Web based template</b>	Impacts of local terrestrial and aquatic flora	20	6/12
<b>Week 4 - Web based template</b>	Impacts of local aquatic fauna	20	6/18
<b>Final Session Activity</b>	History and Culture of Barrier Islands	20	6/18
<b>Final Product Presentation</b>		50	6/19
<b>Final Exam</b>		50	6/19

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- a) research the biological and ecological implications of their assigned topic of the week (photographs, video, and environmental impacts),
- b) create a science lesson plan to accompany their topic using the inquiry based five E lesson plan format, and
- c) create student created integrated web pages.

**While out in the field:**

**Follow all rules and regulations of Carolina Beach State Park.**

**It is highly recommended that you wear comfortable clothes, closed toe shoes, sunscreen, bug spray, and a hat!!!**

**SPECIAL CONSIDERATIONS:**

If you are a person with a disability and anticipate needing accommodations of any type in order to participate in this class, please notify Disability Services (Westside Hall, Ext. 7555), provide the necessary documentation of the disability and arrange for the appropriate authorized accommodations. Please identify yourself to me so that I can implement these accommodations.

## **University Mission Statement**

The University of North Carolina at Wilmington is a public comprehensive university dedicated to excellence in teaching, scholarship and artistic achievement, and service. Through the College of Arts and Sciences, the professional schools, and the graduate school, the university seeks to stimulate intellectual curiosity, imagination, rational thinking, and thoughtful expression in a broad range of disciplines and professional fields. Of prime importance is the university's commitment to undergraduate teaching. The humanities, the arts, the natural and mathematical sciences, and the behavioral and social sciences comprise the core of the undergraduate curriculum. Strong graduate programs complement the undergraduate curriculum. The university considers scholarly practice, research, and creative activities essential for effective learning.

**UNCW practices a zero-tolerance policy for violence and harassment of any kind. For emergencies contact UNCW CARE at 962-2273, Campus Police at 962-3184, or Wilmington Police at 911. For University or community resources visit <http://www.uncw.edu/stuaff/care/>.**