

Fall 202X

SUST 301: Environmental and Coastal Resilience

*Local Biodiversity and Ecosystems*

**Credits:** 3 Credit Hours

**Instructors:** TBD

**Office Hours:** As posted on office doors and by appointment

**Webpage**: Moodle course management system

**Texts:** (To be finalized later)

Pilkey, O.H., Pilkey-Jarvis, L. and Pilkey, K.C. 2016. *Retreat from a rising sea: Hard choices in an age of climate change*. Columbia University Press.

Beatley, T. 2012. *Planning for coastal resilience: Best practices for calamitous times*. Island Press.

Seabrook, C. 2012. *The world of the salt marsh: appreciating and protecting the tidal marshes of the southeastern Atlantic coast*. University of Georgia Press.

Earley, L.S. 2004. *Looking for longleaf: the fall and rise of an American forest*. Univ of North Carolina Press.

Baron, D. 2010. *The beast in the garden: a modern parable of man and nature*. WW Norton & Company.

Kunstler, J.H., 1994. *Geography Of Nowhere: The Rise And Decline of America’s Man-Made Landscape*. Simon and Schuster.

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**CATALOG DESCRIPTION:** (3 credits). This course brings together the interdisciplinary approaches of sustainability to investigate the local ecosystems near CCU. Students apply the principles of sustainability to issues such as biodiversity, anthropogenic impacts, and ecological resilience. Students learn through a combination of lecture, discussion, case studies and field experiences. F, S, Su.

**DETAILED DESCRIPTION:** CCU’s setting is on SC’s coastal plain and zone, a magnificent and biodiverse suite of ecosystems that includes pine and hardwood forests, blackwater rivers, swamps, salt marshes, creeks and bays, beaches, and the nearshore marine environment. Despite our reliance on these natural areas for our livelihoods, recreation, spiritual refreshment, homesites, and natural resources, few students develop any sense of the natural place where they live and take classes. And these natural areas are being altered at breakneck speeds as they are developed or otherwise impacted by humans, threatening what makes our areas special and contributing to the biotic impoverishment of the planet. Through a combination of classroom and field trips, this course introduces students to the ecology of our home and evaluates the resilience of these systems.

**OBJECTIVES:** The vision of this course is to engage students by endowing them with a sense of place at CCU, in Conway, on the Grand Strand, on the SC coastal plain, and on planet earth. Employing local ecosystems as part of teaching an ecological worldview – recognition that we live on a finite planet with limited resources and interdependent social, economic and environmental systems – will be the *sine qua non* of your sustainability education.

**STUDENT LEARNING OUTCOMES (SLOs):** Upon successful completion of this course, **if students prepare responsibly and devote appropriate time** to this course, they should be able to:

* Define *ecosystem* and describe the components of ecosystems
* Define other fundamental concepts in ecology.
* List the world’s major ecosystems and describe their central features.
* List local ecosystems and describe their central features.
* List and explain the rules by which ecosystems operate.
* List and discuss ecosystem services.
* Identify and discuss the ecological roles of organisms in local ecosystems.
* Identify and discuss adaptation of organisms to local ecosystems.
* Identify and apply methods of assessing the health of ecosystems and the organisms that reside in them.
* List and discuss the current and projected anthropogenic impacts (development, climate change, flooding, etc.) on ecosystems globally.
* List and discuss the current and projected anthropogenic impacts (development, climate change, flooding, etc.) on ecosystems locally.
* Summarize and discuss local, national, and global historical and current conservation programs (or lack thereof) for various endangered wildlife.
* Define *ecological resilience* and evaluate the ecological resilience of local and global ecosystems.
* List and discuss ways to effectively protect and manage both global and local ecosystems.
* Investigate, analyze, interpret, and report on the concepts above using critical thinking, visual and quantitative skills, library and web resources, and effective writing.

**STUDY TIPS:** The average student should spend at least 3 hours studying for each hour spent in class to receive an average or above grade in this course. If you want to do better, more studying will be required. Study time should be allocated evenly throughout the semester. We will be happy to provide you with advice concerning study habits if you have difficulty early on in the semester. **Do not expect to pass the course, much less earn a good grade, if you do not devote sufficient high-quality time to this course.**

**ACADEMIC INTEGRITY/CHEATING: Cheating or plagiarism will result in removal from the course and assignment of a grade of F**. Poor grades earned due to cheating or plagiarism cannot be removed through the Repeat Forgiveness Policy. “Cutting and pasting” from online sources or from each other is plagiarism and will be dealt with accordingly.

**GRADING:** Your grade for lecture will consist of:

Two tests (20 pts each) 40 points

Homework/projects/participation 35

2 Book Assignments (7.5 pts each)

Journal (15)

Participation (5)

Final Exam 25

Grading Scale: >90 = A; 87 – 89 =B+; 80-86 = B; 77 – 79 = C+; 70 – 76 = C; 67 – 69 = D+; 60 -66 = D; <60 = F

**CLASSWORK:** All written assignments must be typed, 1.5-spaced, using 11-12 point font, and printed dark enough to read. They should reflect proper grammar and spelling, and thus should be adequately proofread. **Either use previously-used paper or print double-sided. We can provide the former when an assignment is first announced, if needed.** All assignments must be submitted directly to the professor and not e-mailed (unless specifically told otherwise), placed in our mailboxes, or slid under our doors.

**ATTENDANCE POLICY:** According to CCU policy, “An instructor is permitted to impose a penalty, including the grade of F, for unexcused absences in excess of 25% of the regularly scheduled class meetings.” At our discretion, we will offer limited make-up opportunities formissed tests, provided **(a) the absence is excused (based on university policy) and,** **(b) you provide us with written verification of the nature of your absence in a timely manner.**

**There are no make up exams without a university-excused absence or prior permission.** Homework assignments will be distributed in class. They are due on the date indicated. Late assignments will be penalized 40% and will not be accepted after the next class meeting. Please make sure your name is on each piece of paper with the pages stapled together.

**COURSE MATERIALS: You are responsible for all information presented in the text even if this material is not discussed in class, unless otherwise informed**. We will also discuss or view (i.e. video, internet, etc.) supplementary materials from sources outside of the text. You will also be responsible for these materials during exams unless otherwise instructed.

**OTHER CLASSROOM PRACTICES AND POLICIES:** Our approach to teaching favors active learning and critical thinking over passive learning; promotes depth of understanding and insight over simple surveys of material. Our responsibility to you (and to society as well) is to provide a well-planned, rigorous course that enables you to fulfill the course's objectives. Your responsibility is, quite simply, to assume responsibility for your education in this course. Specifically, this means being serious about learning \* being prepared for class (**which means completing the reading and other assignments before coming to class)** \* being engaged in class \* **finding out what you missed if you miss a class (from each other)**. Remember that **you should plan on studying 2 – 3 hours per hour of class. If your preparation is less than this, then you will learn less and likely receive a low grade.**

**Coastal Carolina University’s Americans with Disabilities Act Statement:**

Coastal Carolina University is committed to equitable access and inclusion of individuals with disabilities in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. Individuals seeking reasonable accommodations should contact Accessibility & Disability Services (843-349-2503 or https://www.coastal.edu/disabilityservices/).

The Americans with Disabilities Act indicates "title II and title III entities must permit service animals to accompany people with disabilities in all areas where members of the public are allowed to go." As such, service animals are permitted in lab settings at Coastal Carolina University. Emotional support animals are not permitted in lab settings unless it is approved as a classroom accommodation. Students with service animals are strongly encouraged, but not required, to inform lab instructors of the use of a service animal. This communication provides both the student and the instructor with an opportunity to discuss and plan for the safety of the service animal as well as any other safety concerns. Students and instructors should contact Accessibility & Disability Services (843-349-2503 or www.coastal.edu/ disabilityservices/) regarding any potential accommodations or for support and assistance.

**Coastal Carolina University’s Statement of Community Expectations:**Coastal Carolina University is an academic community that expects the highest standards of honesty, integrity and personal responsibility. Members of this community are accountable for their actions and reporting the inappropriate action of others and are committed to creating an atmosphere of mutual respect and trust.

**CONTACT POLICY:** If you must contact me, please do so according to these rules:

(1) In person, either in my office during office hours, by appointment, before or after class, or when casually encountered. This is the preferred way to contact me.

(2) By e-mail. Please contact me by e-mail **only for urgent or significantly important questions or notifications.** Please read the following guides to emailing professors, and heed the advice:

<https://www.insidehighered.com/views/2015/04/16/advice-students-so-they-dont-sound-silly-emails-essay>

<http://amath.colorado.edu/sites/default/files/2014/08/1882210370/EMAIL_ETIQUETTE.pdf>

Please do not e-mail asking a question you could answer yourself by consulting the syllabus or another student in the class. Also, on the rare occasions when you are allowed or instructed to submit an assignment via e-mail or on Moodle, do not use .odt format or other format not widely accepted.

**FINALLY, please read the following:**

<http://home.snu.edu/~hculbert/contract.htm>

<http://cactus.dixie.edu/smblack/chem1010/contract.pdf>

<http://canpoetry.library.utoronto.ca/wayman/poem5.htm>

<http://canpoetry.library.utoronto.ca/wayman/pub2.htm>

**Your presence in this class in sessions following the distribution of this syllabus connotes that you have read and understood this syllabus and that you will comply with its policies and practices.**

**List of topics covered in this course:**

* **Introduction to global biodiversity and ecosystems**
* **Introduction to local biodiversity and ecosystems**
* **Biodiversity hotspots**
* **Rules by which ecosystems operate**
* **Ecological roles and other fundamental ecological concepts**
* **Is there a *human ecosystem*?**
* **What it takes to lead a reasonable life**
* **Ecosystem services**
* **Coastal hazards (development, climate change, flooding, etc.)**
* **Ecological resilience**
* **Managing ecosystems**
* **Conservation laws and programs**

**List of field trips (Selected from the list below)**

* **North Inlet–Winyah Bay National Estuarine Research Reserve**
* **Hobcaw Barony**
* **Murrells Inlet**
* **Sandy Island**
* **Francis Beidler Forest**
* **Lewis Ocean Bay Heritage Preserve/Wildlife Management Area (**[**https://www2.dnr.sc.gov/ManagedLands/ManagedLand/ManagedLand/104**](https://www2.dnr.sc.gov/ManagedLands/ManagedLand/ManagedLand/104)**)**
* **Freshwater Wetlands (TBD:** [**https://www.anyplaceamerica.com/directory/sc/horry-county-45051/swamps/?page=2**](https://www.anyplaceamerica.com/directory/sc/horry-county-45051/swamps/?page=2)**)**
* **Francis Marion National Forest**
* **Waties Island**
* **Black River kayaking**
* **TIGERS Preserve**
* **Huntington Beach State Park**
* **Playcard Center**

**Test Dates: TBD**