Environmental Biology ESCI 3443.001
Department of Physical and Environmental Sciences
FALL 2019

A. COURSE INFORMATION

Course number/section: ESCI 3443.001, CRN 11900
Class meeting time: TR 8:00 – 9:15 AM
Class location: OCNR 130
Course Website: https://bb9.tamucc.edu/

B. INSTRUCTOR INFORMATION

Instructor: Dr. John S. Wood
Office location: CS 130A
Office hours: M, W 11:30 am - 2:00 pm, T 3:00 pm – 4:30 pm
Telephone: 361-825-4185
e-mail: john.wood@tamucc.edu
Appointments: Contact via email or phone to schedule an appointment. Additional hours available by appointment.

C. COURSE DESCRIPTION

Catalog Course Description
Historical, contemporary, and projected concerns of human activities on biological aspects of ecosystem functioning.

Extended Course Description
This course is described as the historical, contemporary and projected concerns of human activities on biological aspects of functioning ecosystems. This course covers topics of a diverse nature: origins of life on Earth, biogeochemistry, ecological principles, biodiversity, biological succession, human population dynamics, demographic transition, renewable resources, air/water pollution, global climate change, deforestation, environmental toxicology, and Environmental politics. As part of lab, students will be required to report views regarding important global, regional and local environmental issues. After taking this course, the student will be able to discuss concepts relevant to environmental biology, critically evaluate issues, and present viewpoints associated with these issues.

D. PREREQUISITES AND COREQUISITES

Prerequisites
BIOL 1407 - Biology II or permission of instructor.

Co-requisites
SMTE 0096 Environmental Science Laboratory Safety Seminar (required every semester for lab-based courses. The Safety Seminar must be completed before the Census Date of the semester to participate in the lab portion of this course.)
E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

*Essential Environment: The science behind the stories, 6th ed.*
Jay Withgott & Mathew Laposata

Lecture PowerPoints will usually be provided and materials will follow the textbook closely. There are textbook reading assignments, so you should not expect that 100% of the materials you will be tested on could be found in your notes. Many online quizzes will allow the use of the textbook. Most will not allow time to look up the answers, so it is highly suggested you read the text first. Students may decide to share textbooks to cut costs.

**Supplies**
Please bring a laptop or tablet to class if you have one available. We will use them in lecture and lab.

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

By the end of this course, students should be able to:

1) Learn and be able to characterize the various types of environmental issues affecting society
2) Describe the common types of environmental systems, perturbations, and mitigating solutions that affect the environment
3) Explain and discuss the effects of global warming, pollution, and resource management regarding the environment
4) Describe the interactions and impacts of humans on the environment, and
5) Design and perform a full environmental investigation and analysis

G. INSTRUCTIONAL METHODS AND ACTIVITIES

This course will use a variety of instructional methods including PowerPoint lecture presentations by the instructor, assigned readings, class discussions, and a substantial group project.

H. MAJOR COURSE REQUIREMENTS AND GRADING

The lecture and lab section will be treated as a single course.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
<th>POINTS</th>
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</thead>
<tbody>
<tr>
<td>Midterm</td>
<td>25%</td>
<td>250</td>
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<tr>
<td>Final</td>
<td>25%</td>
<td>250</td>
</tr>
<tr>
<td>Homework Quizzes</td>
<td>15%</td>
<td>150</td>
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<tr>
<td>Discussion Assignments</td>
<td>10%</td>
<td>100</td>
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<tr>
<td>Lab and Group Projects</td>
<td>25%</td>
<td>250</td>
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*Midterm* - The midterm exam will be administered during a lab period and is tentatively scheduled for the week of **October 17th**. Expect a mixture of multiple choice, short answer, and essay questions. (250 points).
Final - The final exam will be administered during the normally scheduled exam time on Thursday, December 10th, 8:00 am – 10:30 am. The exam will be comprehensive. Expect a mixture of multiple choice, short answer, and essay questions. (250 points).

Homework Quizzes - Most quizzes will be administered on Blackboard, however some may be at the beginning or end of class, to encourage attendance and punctuality! The Bb quizzes will be available on Tuesday following the end of the lecture class and will remain open until the next Tuesday prior to the beginning of the lecture class. Do not wait until the last minute to complete the quizzes! The quizzes are open for several days; therefore, quizzes will not be reopened if they are missed. There will be 4 timed quizzes throughout the semester (4 x 20 points). I recommend reading the book prior to completing these quizzes because there will not be time to look up answers in your textbook. There will be approximately 7 untimed quizzes (labeled “Weekly Quiz” in the assignments list). These quizzes will allow unlimited time for completion, up until the due date. (7 x 10 points).

Discussion Assignments - The discussion assignment grades include participation in the discussions as well as any associated assignments that accompany the discussions. There will be at least four full days of lecture dedicated to discussions. Discussions will have an assigned paper to read. Details for each of the discussion assignments will be posted on blackboard in advance. (4 x 25 points).

Group Research Project - (225 points total). The group project will involve original research projects conducted throughout the entire semester. Much of lab time will be used for project development, fieldwork/data collection, data analysis, and building a poster to be presented in PowerPoint. These projects should be complex enough to challenge your current knowledge and abilities. Grades will reflect how well you challenge yourself. HINT: Growing plants in the lab does not work.

- Project proposal: (25 points). This will be assigned after the lab period in which the term projects are introduced and due before midnight on Thursday, September 19th. Proposals should include background information from at least 5 quality peer reviewed sources, your research question and hypothesis, proposed experimental design, and equipment/materials needed. The project ideas will be reviewed to assess the feasibility of the projects with the available resources, and feedback will be given during the “project planning day” lab period.

- Research and Scientific poster: (100 points). The group will work together to conduct the proposed research and create a professional poster detailing their research and results. You should use PowerPoint to create your poster. One lab period will be dedicated to instruction on the use of PowerPoint for poster building. Posters should be formatted 48” x 36”. Sections that must be included are Introduction, Methods, Study Site (?), Results, and Discussion. These sections should be split between group members. Posters should be visually appealing. The results section should include a minimum of one figure appropriately displaying your results. Your group will present your poster to the class. If you present this work at another science forum (on or off-campus) during the semester, each group member will receive 10 points Extra Credit.

- Presentations: (75 points) To practice your public speaking and presentation preparation skills, groups will each be required to deliver a 12-15 minute presentation on the research that was conducted, during the last few lecture periods. All members must actively participate in
the presentation. The methods section of the presentation must include pictures of the fieldwork/lab work being conducted.

- **Documentation of Field Work:** (10 points). There will be opportunities to conduct ‘fieldwork’ without supervision during the assigned lab periods (those allotted for project work). To provide evidence of full group involvement in data collection and an adequate amount of fieldwork/lab work conducted, time stamped pictures will be required.

- **Peer Evaluation:** (20 points). Each team member will be graded by their peers for their contributions to the overall project.

**Lab (25 points).** Lab exercises. Attendance, Pop Quizzes, homework.

**COURSE CONTENT/SCHEDULE**

The following is a tentative course schedule. Some topics may take more or less time to cover than anticipated. It is your responsibility to keep up with the changes to this outline. If assignment dates are changed, new due dates will be announced on Blackboard.

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<thead>
<tr>
<th>WK</th>
<th>DATE</th>
<th>TOPIC</th>
<th>READING(S)</th>
<th>ASSIGNMENTS</th>
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<tbody>
<tr>
<td>1.</td>
<td>T 8/27</td>
<td><strong>Lecture:</strong> Introduction to Course Tragedy of the Commons</td>
<td>READ: Tragedy of the Commons (available on BB)</td>
<td>Weekly Quiz 1 due T 9/3</td>
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<tr>
<td></td>
<td>R 8/29</td>
<td>NO LAB THIS WEEK</td>
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<td>2.</td>
<td>T 9/3</td>
<td><strong>Lecture:</strong> Science and Sustainability Discussion (R) - Tragedy of the Commons</td>
<td>Ch 1</td>
<td>Weekly Quiz 2 assigned T (9/3), due T (9/5) 8am</td>
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<td></td>
<td>R 9/5</td>
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<td>3.</td>
<td>T 9/10</td>
<td><strong>Lecture:</strong> Environmental Systems, Matter, Energy and Ecosystems Lab: Creating a Hypothesis</td>
<td>Ch 2</td>
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<td>R 9/12</td>
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<td>4.</td>
<td>T 9/17</td>
<td><strong>Lecture:</strong> Evolution, Biodiversity, Population Ecology Lab: Introduction to Term Projects</td>
<td>Ch 3</td>
<td>Project Proposal Due Lab Day</td>
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<td></td>
<td>R 9/19</td>
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<td>5.</td>
<td>T 9/24</td>
<td><strong>Lecture:</strong> Ecology of Communities Lab: Term Projects Proposal Review</td>
<td>Ch 4</td>
<td>Timed Quiz 1 Due 2/4</td>
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<td></td>
<td>R 9/26</td>
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<td>6.</td>
<td>T 10/1</td>
<td><strong>Lecture:</strong> Economics, Policy and Sustainable Development Lab: Project planning day</td>
<td>Ch 5</td>
<td>Weekly Quiz 3</td>
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<td>R 10/3</td>
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<td>7.</td>
<td>T 10/8</td>
<td><strong>Lecture:</strong> Human Population Discussion Day (R) Lab: Project work</td>
<td>Ch 6</td>
<td>Weekly Quiz 4</td>
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<td>R 10/10</td>
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              Lab: Midterm Exam administered | Ch 7        | Timed Quiz 2        |
|    |            | Lecture: Biodiversity and Conservation Biology  
              Lab: Project work | Ch 8        | Weekly Quiz 5        |
|    | T 10/22 R 10/24 |                                      |             |                      |
|    | T 10/29 R 10/31 | Lecture: Environmental Health and Toxicology  
              Discussion Day (R)  
              Lab: Project work | Ch 10       | Timed Quiz 3        |
|    | T 11/5 R 11/7 | Lecture: Freshwater and Oceans and Coasts  
              Lab: Introduction to Excel statistics, project work/data analysis | Ch 12       |                      |
|    | T 11/12 R 11/14 | Lecture: Global Climate Change  
              Discussion Day(R)  
              Lab: Poster critique activity, Introduction to poster building in PowerPoint. | Ch 14       | Weekly Quiz 6        |
|    | T 11/19 R 11/21 | Lecture: Non-Renewable Energy Sources, Their Impacts and Energy Conservation  
              Lecture: Renewable Energy Alternatives  
              Lab: Poster Work  
              LAST LAB! | Ch 15, Ch 16 | Timed Quiz 4        |
|    | T 11/26 R 11/28 | Lecture: Project Presentations  
              Lab: No Labs! Thanksgiving! |             | Weekly Quiz 7        |
|    | T 12/3     | Lecture: Project Presentations  
              Last Day of Class! |             |                      |
|    |            | **FINAL EXAM**  
              Tuesday, December 10th,  
              8:00 am – 10:30 am |             |                      |

Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.
I. **COURSE POLICIES**

**Attendance/Tardiness:** Attendance is required and makes up a substantial portion of your grade in this course. Any absence without a valid, **reported** excuse will result in the deduction of 2% of your total grade. Excessive tardiness may also result in deduction of attendance points at the discretion of the instructor.

**Late Work and Make-up Exams:** Late submissions of quizzes or assignments that accompany the discussions will **NOT** be accepted for a grade after the due date. The only assignments that will be accepted late are those relating to the research project. For every day that a certain portion of the assignment is late, there will be a 25% reduction in the possible score. An assignment that is 4+ days late will not receive credit. Please discuss extenuating circumstances, as leniency may be granted at the discretion of the instructor or Teaching Assistant.

There will be **NO make-up exams** offered (with VERY FEW exceptions, and only with advance notice). Students with university approved scheduled absences (athletics, military duty, etc.) **MUST** contact the professor well in advance of the scheduled absence to make arrangements to take the exam (**early in most cases**). In case of serious illness, injury or emergency the student should provide documentation (note from the doctor, etc.) to prove the severity of the reason for their absence and work with the instructor to make up the exam.

Any student with three or more final examinations scheduled on the same day may request to take one of the examinations on another day during the final examination period. The time sensitive process is described below the Final Exam Schedule found at: [http://registrar.tamucc.edu/Register%20for%20Classes/Final_Exams.html](http://registrar.tamucc.edu/Register%20for%20Classes/Final_Exams.html)

**Extra Credit:** A limited amount of extra credit will be available. All extra credit must be turned in through Blackboard, and be **ON TIME!** Any extra credit assignment will be available to all class members. **There will be NO extra credit assignments available after Thanksgiving break.**

**Cell Phone Use:** Cell phones should not be used during class. If there is an emergency and you must check your phone, please leave the room. Repeated distractions and lack of attention due to cell phone use may result in dismissal from the class period at the discretion of the instructor. Under no circumstances will exam reviews be recorded in any way.

**Laptop Use:** Laptop use in class is encouraged for note taking and reference to the PowerPoint and articles being discussed. Laptop use should only be for the use of class materials, and laptop use that distracts the student from the class may result in a dismissal from the class period at the discretion of the instructor. Do **NOT** use this class as a study period for other classes.

**Food in Class:** Food is allowed in class as long as it does not cause distraction to other students.

**Appointments** Please avoid ‘ambushing’ the professor before or after class. You will like the outcome of just about everything better if you make an appointment or send an e-mail to my school e-mail account. I cannot maintain confidentiality in the classroom setting in front of other students.
J. COLLEGE AND UNIVERSITY POLICIES

• Academic Integrity (University)
  University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

• Classroom/Professional Behavior
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

• Statement of Civility
  Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

• Deadline for Dropping a Course with a Grade of W (University)
  I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with your academic advisor, the Financial Aid Office, and the instructor, before you decide to drop this course. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Please consult the Academic Calendar (http://www.tamucc.edu/academics/calendar/) for the last day to drop a course.

• Grade Appeals (College of Science and Engineering)
  As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details,
including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://www.tamucc.edu/provost/university_rules/index.html, and the College of Science and Engineering Grade Appeals webpage at http://sci.tamucc.edu/students/GradeAppeal.html. For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

- **Disability Services**
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.
If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.  [http://disabilityservices.tamucc.edu/](http://disabilityservices.tamucc.edu/)

- **Statement of Academic Continuity**
In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

**K. OTHER INFORMATION**

- **Academic Advising**
The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

**GENERAL DISCLAIMER**
I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.