Instructor: Credit Hours: 4
Phone: Class Hours: 3
E-mail: use e-learn (D2L) mail system Laboratory Hours: 3
Room:

Catalog Course Description

Study of environmental problems at global, national, and local levels; class 3 hours, lab 3 hours. Ecological principles, geophysical processes, and human population dynamics; scientific approach applied to understanding environmental concepts using hands-on laboratory and field experiences.

Prerequisites

None.

Corequisites

Students must be concurrently enrolled in an ESC 1110 laboratory section.

Entry Level Standards

Beginning students should have met established entrance requirements into college level courses or may enter the course as a special student.

Textbook/Materials


Strongly Recommended: Each student is strongly encouraged to have a USB flash drive for course materials.
I. **Outcomes**

**PSLO 5:** Issues in today's world require scientific information and a scientific approach to informed decision making. Therefore, the goal of the Natural Science requirement is to guide students toward becoming scientifically literate. This scientific understanding gained in these courses enhances students' ability to define and solve problems, reason with an open mind, think critically and creatively, suspend judgment, and make decisions that may have local or global significance. To achieve this, the student will demonstrate an ability to achieve the following **Course Learning Outcomes:**

CSLO 1: Conduct an experiment, collect and analyze data, and interpret results in a laboratory setting.

CSLO 2: Analyze, evaluate and test a scientific hypothesis.

CSLO 3: Use basic scientific language and processes, and be able to distinguish between scientific and non-scientific explanations.

CSLO 4: Identify unifying principles and repeatable patterns in nature, the values of natural diversity, and apply them to problems or issues of a scientific nature.

CSLO 5: Analyze and discuss the impact of scientific discovery on human thought and behavior.

II. **Student Indicators**

Upon successful completion of this course a student should be able to:

SI 1 Describe the processes and scope of science and how it relates to the environment; describe the environment as a set of measurable interacting components; and discuss their personal role in the environment as assessed through successful completion of laboratory exercises, quizzes, laboratory exams, and lecture exams.

SI 2 Describe matter and energy and discuss the laws concerning how they interact with each other in the environment; discuss types of resources and implications of their use; and describe types of pollution and discuss ways to reduce their impact as assessed through successful completion of laboratory exercises, quizzes, laboratory exams, and lecture exams.

SI 3 Explain how ecosystems function as integrated sets of interacting components and principles and discuss the implications of changes components as assessed through successful completion of laboratory field experiences, projects, quizzes, laboratory exams, and lecture exams.

SI 4 Explain basic earth processes and discuss their implications to human society as assessed through successful completion of laboratory exercises and field experiences, projects, quizzes, laboratory exams, and lecture exams.

SI 5 Explain basic concepts of weather and climate and discuss their implications to human society as assessed through successful completion of laboratory exercises, quizzes, laboratory exams, and lecture exams.
SI 6  Describe human population dynamics and discuss the implications of human population changes over time as assessed through successful completion of laboratory exercises, quizzes, laboratory exams, and lecture exams.

SI 7  Work collaboratively to gather, analyze, and draw conclusions from environmental data as assessed through successful completion of hands-on laboratory activities, quizzes, and exams.

SI 8  Create projects representing the integration of lecture concepts and laboratory data collection and analysis.

SI 9  Respond thoughtfully and logically to lecture and laboratory instructors’ oral and written questions.

SI 10  Attend to detail, follow oral and written directions, and demonstrate self-discipline by completing all lecture and laboratory requirements thoughtfully and on time.

NOTE: More specific learning objectives may be available via the course website. Consult your instructor for details.

III. Required Assessments

During this course a student will have the opportunity to actively participate in the activities offered. Activities may include but are not limited to the following:

A-1  Unit Quizzes

Students take a series of seven unit quizzes on the major topics of an introductory environmental science course using basic scientific language which they will apply to problems or issues of a scientific nature.
(PSLO 5: CSLO 3, CSLO 4, and CSLO 5)

A-2  Unit Discussions

Students use basic scientific language to discuss seven relevant environmental situations and processes, distinguish between scientific and non-scientific explanations, and identify unifying principles and repeatable patterns in nature.
(PSLO 5: CSLO 3, CSLO 4, CSLO 5)

A-3  Comprehensive Lecture Final Exam

Students take one comprehensive lecture final exam using basic scientific language to identify unifying principles and apply them to issues of a scientific nature.
(PSLO 5: CSLO 3, 4, and 5)
A-4 Laboratory Write-Ups

Students will collect and analyze data and interpret results in a laboratory setting and present their results using basic scientific language, and be able to distinguish between scientific and non-scientific explanations. Write-ups will also help students identify unifying principles and repeatable patterns in nature, the values of natural diversity, and apply them to problems or issues of a scientific nature.  
(PSLO 5: CSLO 1, CSLO 2, CSLO 3, CSLO 4)

A-5 Comprehensive Laboratory Final Exam

Students take one comprehensive laboratory final exam using basic scientific language to identify unifying principles and apply them to issues of a scientific nature.  
(PSLO 5: CSLO 3, 4, and 5)

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<tr>
<th>CSLO:</th>
<th>CSLO 1</th>
<th>CSLO 2</th>
<th>CSLO 3</th>
<th>CSLO 4</th>
<th>CSLO 5</th>
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<tr>
<td>Assessments:</td>
<td>Lab Write-Ups</td>
<td>Lab Write-Ups</td>
<td>Unit Quizzes, Discussions, Lec. Final Exam, Lab Write-Ups, Lab Final Exam</td>
<td>Unit Quizzes, Discussions, Lec. Final Exam, Lab Write-Ups, Lab Final Exam</td>
<td>Unit Quizzes, Discussions, Lec. Final Exam, Lab Final Exam</td>
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IV. Topics:

1. Introduction: Science and the environment
2. Matter, energy, resources, and pollution
3. Ecology I: biogeochemical cycles, ecosystem structure, species interactions
4. Ecology II: population ecology, biomes, and succession
5. Earth Science: internal and external processes; local, regional, and global issues
6. Weather and Climate: concepts and applications; local, regional, and global issues
7. Human Populations: dynamics, issues, urbanization, hazards and risks

V. Assessment

Lecture: Seven 30-minute online unit quizzes plus a comprehensive in-class final exam will be administered in lecture. Seven graded discussions will be completed during the semester. 

Unit quizzes will be taken online in eLearn. Each quiz will have 25 questions and will last 30 minutes. The quizzes are unproctored, so students may take them any time from any Internet-connected computer. Quizzes will open at the end of each unit and remain open for one week; no makeup quizzes will be given.

The comprehensive final exam will consist of 75 questions and be administered in-class during each section’s scheduled Final Exam period.

Laboratory: Thirteen Lab Activities are scheduled for the semester. Students will work in groups and independently gathering information and working on projects.
Seven **lab write-ups** will be completed in lab during the semester. Write-ups will consist of PowerPoint files completed by the student and uploaded to the eLearn dropbox.

A **comprehensive Lab final** will be administered during the last regular Lab meeting time of the semester.

**Lab Field Books** will be collected during the Lab Final Exam and will be evaluated for completeness.

**Extra Credit:** 20 points of *extra credit* are available in Lecture; the lecture instructor will determine how they will be awarded. 30 total points of *extra credit* will be given for

### VI. **Course Grade and Grading Scale**

The final course grade will be based on points earned:

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<tr>
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<th>Points</th>
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<tbody>
<tr>
<td>7 Unit Quizzes @ 50 points each</td>
<td>350</td>
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<tr>
<td>7 Discussions @ 100 points each</td>
<td>700</td>
</tr>
<tr>
<td>Comprehensive Lecture Final</td>
<td>150</td>
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<tr>
<td>7 Lab Write-Ups @ 75 points each</td>
<td>525</td>
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<tr>
<td>Lab Book Review</td>
<td>25</td>
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<tr>
<td>Comprehensive Lab Final</td>
<td>150</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>1900</strong></td>
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<thead>
<tr>
<th>Grade</th>
<th>Points Range</th>
<th>Grade Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>1710 – 1900</td>
<td>90%</td>
</tr>
<tr>
<td>B</td>
<td>1520 – 1709</td>
<td>80%</td>
</tr>
<tr>
<td>C</td>
<td>1330 – 1519</td>
<td>70%</td>
</tr>
<tr>
<td>D</td>
<td>1235 – 1329</td>
<td>65%</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 1235</td>
<td>&lt; 65%</td>
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Grades will be available on eLearn during the semester; students will be able to keep up with their course progress throughout the semester.
NOTE: No grades will be given over the telephone.

VII. Course Delivery Format

Standard Format – This format is the traditional format and may use an online format to provide access to “static” materials which include the syllabus, course material, contact information, and presentations. Faculty must make available when requested a copy of the syllabus and any other instructor provided course materials, including their contact information. Faculty may require on-line activities and assignments to include online tests and submission of all written and on-line communications. The extent of on-line activities/assignments may vary by course but will be specified on the syllabus.

Hybrid Format – This format requires significant online activity. Students in hybrid classes must access course content and assessments using the Internet in order to pass the class, whether it meets full-time or part-time in the classroom. Faculty need not hand out a copy of the syllabus and any other required course material, including their contact information.

On-line Format – This format requires that the entire class be conducted online. The syllabus, course material, contact information, and presentations will be provided online through the course management system. Assessments may be conducted online or in a proctored environment.

VIII. College Policies

This class is governed by the policies and procedures stated in the current Chattanooga State Student Handbook. Additional or more specific guidelines may apply. (The Chattanooga State Student Handbook may be found at http://www.chattanoogastate.edu/Student_Services/pdf/sshand.pdf.)

ADA Statement

Students who have educational, psychological, and/or physical disabilities may be eligible for accommodations that provide equal access to educational programs and activities at Chattanooga State. These students should notify the instructor immediately, and should contact Disabilities Support Services within the first two weeks of the semester in order to discuss individual needs. The student must provide documentation of the disability so that reasonable accommodations can be requested in a timely manner. All students are expected to fulfill essential course requirements in order to receive a passing grade in a class, with or without reasonable accommodations.

Disruptive Students
The term “classroom disruption” means – student behavior that a reasonable person would view as substantially or repeatedly interfering with the activities of a class. A student who persists in disrupting a class will be directed by the faculty member to leave the classroom for the remainder of the class period. The student will be told the reason(s) for such action and given an opportunity to discuss the matter with the faculty member as soon as practical. The faculty member will promptly consult with the division dean and the college judicial officer. If a disruption is serious, and other reasonable measures have failed, the class may be adjourned, and the campus police summoned. Unauthorized use of any electronic device constitutes a disturbance. Also, if a student is concerned about the conduct of another student, he or she should please see the teacher, department head, or
Affirmative Action
Students who feel that he or she has not received equal access to educational programming should contact the college affirmative action officer.

Academic Integrity/Academic Honesty
In their academic activities, students are expected to maintain high standards of honesty and integrity. Academic dishonesty is prohibited. Such conduct includes, but is not limited to, an attempt by one or more students to use unauthorized information in the taking of an exam, to submit as one's own work, themes, reports, drawings, laboratory notes, computer programs, or other products prepared by another person, or to knowingly assist another student in obtaining or using unauthorized materials. Plagiarism, cheating, and other forms of academic dishonesty are prohibited. Students guilty of academic misconduct, either directly or indirectly through participation or assistance, are immediately responsible to the instructor of the class. In addition to other possible disciplinary sanctions, which may be imposed through the regular institutional procedures as a result of academic misconduct, the instructor has the authority to assign an "F" or zero for an activity or to assign an "F" for the course.

The instructor reserves the right to modify this syllabus in writing during the course of the semester.

IX. Instructor Policies

Attendance: Attendance and punctuality are desirable characteristics and do affect learning whether or not it is reflected in the exam grades. Roll will be taken at the beginning of all class meetings. Students are expected to attend all class meetings -- regular attendance is crucial to being successful in any course. The student is responsible for all material presented in the lectures and laboratories.

Lab Attendance: It is very important that students attend all of the labs during the semester. If you miss a lab due to illness, you should try to attend another lab later in the week. If you have a lab later in the week that you know you are going to miss (due to a college function, etc.), then you should attend a lab earlier in the week. A schedule of all available lab sections is posted in the laboratory and lecture rooms.

Important: Be sure to inform the instructor of the lab you attend that you are making up a lab. Check with your regular lab instructor concerning lab report assignments for the next week.

Very important: You must attend the lab section that you are registered for; the exception being for a make-up. If you want to move to another lab section, you must fill out a drop-add form and take it to the registrar.

Tardiness: Students are expected to be on time for all classes (lecture and lab). Exams and quizzes begin when class starts; latecomers will either not be allowed to take the exam or will have less time in which to take it, at the discretion of the instructor. If you are too late for a lab quiz a grade of 0 will be recorded.
Late Assignments: Assignments are due on the date and time indicated in the schedule. Assignments are turned in to the eLearn Dropbox; assignments submitted after the due date and time will be marked as late. The late penalty for all assignments is 10 points per day beginning on the day the assignment is due. If a student has extenuating circumstances he/she should discuss the situation with the instructor.

Written Assignments: ALL written work to be turned in must be each student’s original work! Do not copy from classmates, the Internet, or any other sources without proper citation. This includes individual reports even when the work was done as part of a group. A detailed Academic Integrity statement can be found on p. 8, please read this carefully!

Classroom Visitors: Relatives and other guests may not attend classes unless previously agreed upon by the instructor. Children may not accompany adults into classrooms, offices, or other workplaces nor be left unsupervised in the halls or on the grounds of the college. No visitors or pets will be allowed in labs or on field trips.

Personal Communication Devices: If you carry a cellular phone or pager to class, you must silence it during class time (lecture and lab). Students are not to take calls or pages during class. If you have a situation that you must respond to, discuss this possibility with you instructor before class.

Food, Beverages, and Tobacco Products: There is to be no consumption of food or beverages in any carpeted classrooms on campus. No tobacco, food, or beverages will be permitted in the laboratories. Tobacco use is not permitted during field trips.

Inclement Weather: For classes scheduled during severe weather (snow, ice, etc.), students should listen to the local media (radio and television -- see college catalog for a list of stations) for announcements concerning class cancellations or delays. If classes begin at 10:00 am, the student should go to the scheduled 10:00 am class. In the case of laboratories, the student should report to the lab “in progress.”

Information Technology: Students will need a basic understanding of computer use, including use of a word processor, spreadsheet, presentation software, Web browser, and search engine. Computers with appropriate software are readily available on campus. This course makes extensive use of the eLearn system for communication, grade keeping, quizzes, etc. Students must use eLearn email for all course-related correspondence.
**Student Disruption:** Classroom disruption means behavior a reasonable person would view as substantially or repeatedly interfering with the conduct of a class. Examples of disruptive conduct include but are not limited to: violence or threat of violence to self and/or others; excessive noise; disrespectful, loud, or disruptive behavior in the classroom.

A student who persists in disrupting a class will be directed by the faculty member to leave the classroom for the remainder of the class period. The student will be told the reason(s) for such action and given an opportunity to discuss the matter with the faculty member as soon as practicable. Prompt consultation will be undertaken by the faculty member with the Division Dean and the College Judicial Officer. If a disruption is serious, and other reasonable measures have failed, the campus police will be summoned.

**Field Work/Trips:** Many of the labs have exercises where students will be going out-of-doors to gather data. Some of these trips will take place on campus: the Riverwalk, the Pond, and the Sloughs. Other labs are field trips where we will be traveling off-campus. *Except for extremely unusual circumstances, field work and field trips will take place rain or shine!* It is the student’s responsibility to dress appropriately for the field -- be prepared for uphill and downhill hiking, rain, mud, poison ivy, etc.

**Carpooling:** In order to conserve resources and help protect the environment, students are strongly encouraged to carpool on field trips where driving is required. Extra credit may be awarded to students who carpool at the discretion of the instructor. Students must make carpooling arrangements with other students; students may not ride with instructors. Students carpool at their own risk; if for whatever reason the driver is late arriving riders will be counted late as well (although they may still receive carpooling credit).

**College Communications:** All official Chattanooga State communications will be via the Chattanooga State email system known as TigerMail. All students have a TigerMail email address; this account should be checked regularly!

Bear in mind that this is *not the same as eLearn email.*