

**University of North Texas at Dallas
Spring 2016 Syllabus**

**BIOL 1132 – 005 & BIOL 1132 – 305
Environmental Science Lecture & Lab**

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| Instructor Name: | Charcacia T Sanders |
| Office Location: | (Founders Hall (Building 2), Room 305 |
| Office Phone: | Dept. main #: 972.338.1502 cell 214.702-6442 |
| Email Address: | Charcacia.Sanders@untdallas.edu |
| Office Hours: | By appointment only |
| Virtual Office Hours: | |
| Classroom Location: | Lecture: DAL2 243 Lab: DAL2 255 |
| Class Meeting Days & Times: | Lecture: Saturday 9:00 am – 11:50 am Lab: Saturday 12:00 pm – 1:50 pm |
| Course Catalog Description: | Interdisciplinary approach to understanding basic concepts in environmental science including critical scientific thought, biodiversity, resource management, pollution, global climate change, resource consumption and population growth. Emphasis on how these concepts affect and are affected by human society. Includes laboratory. May not be counted towards a major or minor in biology. <i>May be used to satisfy a portion of the Natural Sciences requirement of the University Core Curriculum.</i> |
| Prerequisites: | None |
| Co-requisites: | BIOL 1132 – 305 |
| Required Text: | Karr, S., J. Interlandi, and A. Houtman. 2015. Environmental Science for a Changing World. Second Edition. Macmillan Education. ISBN10: 1464162204; ISBN13: 9781464162206 LaunchPad Access is required |
| Access to Learning Resources: | UNT Dallas Library: phone: (972) 338-1616; web: http://www.untdallas.edu/ourcampus/library UNT Dallas Bookstore: phone: (972) 780-3652; e-mail: 1012mgr@fheg.follett.com |

Course Goals or Overview:

The goal of this course is to introduce students to environmental science and to give students the background information needed to critically think about current environmental issues. Topics will include basic ecology, a review of environmental policy and resource management theories. The course will include discussions of current environmental and conservation challenges. Students will be willing and able to voice and defend their opinions on these subjects as well as be respectful of the opinions of others.

Learning Objectives/Outcomes: At the end of this course, the student will be able to:

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| 1 | Demonstrate the ability to assimilate and critically think about biological and scientific processes and theories |
| 2 | Demonstrate the ability to assimilate and critically think about environmental issues, environmental policy and legislation |
| 3 | Define the role of organisms in their environment and discuss the interrelatedness of organisms, environmental processes, and human cultural and societal needs |
| 4 | Be able to explain the conflicting biological, social, economic and needs of humanity and other living organisms |
| 5 | Identify the major attributes and characteristics of the earth's major ecosystems and explain the role they play in critical ecosystem services |

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| 6 | List and discuss various individual and organizational actions that can mitigate or reverse the negative impact of human activities on the biosphere as well as the various tradeoffs related to global sustainability |
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Course Outline

This schedule is subject to change by the instructor. Any changes to this schedule will be communicated by announcements posted in Blackboard by Monday during the week of the change.

| TOPICS | TIMELINE | ASSIGNMENT |
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| Unit 1: Introduction to Environmental Science and Environmental Quality (Chapters 1 – 3, 24) | Weeks 1 – 3 | |
| Environmental Literacy | 01/23 | |
| The Scientific Process and Environmental Policy | 01/30 | |
| Toxicology | 01/30 | Learning Curves: 1, 3(Due) |
| Lab Introduction and Lab Safety Lab Exercise 1: Environmental Ethics and the Scientific Method | 01/30 | <i>Discussion: Cancer Cure or Conservation</i> |
| Lab Exercise 2: Gasland (Movie) | 02/06 | Worksheet on the Movie: <i>Gasland</i> |
| Exam 1: Chapters 1 – 3, 24 (relevant parts) | | 02/06 |
| Unit 2: Human Populations Dynamics (Chapters 4 – 7, 16 – 17, 25, 30 – 31) | Weeks 4 – 7 | |
| Human Populations and Environmental Health | 02/13 | |
| Lab Exercise 3: Human Population and Environmental Impact | 02/13 | <i>Human Population and Ecological Footprint</i> |
| Feeding the World | 02/20 | |
| Lab Exercise 4: The Carbon Cycle | 02/20 | <i>Measuring Photosynthesis</i> |
| Urbanization and Sustainable Communities | 02/27 | Learning Curves: 4 – 7, 16 – 17 (Due 03/04) |
| Lab Exercise 5: Resource Consumption | 02/27 | <i>Marine Fisheries</i> |
| Lab Exercise 6:Cane Toad (Movie) | 03/05 | Worksheet on the Movie: Cane Toads |
| | | Thesis Statement for Research Paper due on Blackboard (02/29) |
| Exam 2: Chapters 4 – 7, 16 – 17, 25, 30 – 31 (relevant parts) | | 03/05 |
| LAB EXAM 1 – TAKE HOME | | Due: 03/12 |
| Unit 3: Interdependence of Earth’s Systems: Fundamental Principles and Concepts (Chapters 8 – 13, 28 – 29) | Weeks 8 – 12 | |
| Ecosystems and Nutrient Cycling | 03/12 | |
| Lab Exercise 7: The Flow of Energy through Ecosystems | 03/12 | Food Web of a Barn Owl |
| Ecosystem Ecology | 03/26 | |
| Lab Exercise 8: Water and Water Pollution | 03/26 | Water Quality Analysis |

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| Evolution and Biodiversity | 04/02 | Learning Curves: 8 – 13 (Due 04/08) |
| Lab Exercise 9: Land Use and Resource Management | 04/02 | Soil Analysis |
| Lab Exercise 10: Crude Impact (Movie) | 04/09 | Worksheet on the Movie: Crude Impact |
| Exam 3: Chapters 8 – 13, 28 – 29 (relevant parts) | | 04/09 |
| Unit 4: Nonrenewable and Renewable Resources: Distribution, Ownership, and Use (Chapters 14, 18 - 19, 22 – 23, 26 – 27, 32) | Weeks 13 - 14 | |
| | | Annotated Bibliography for Research Paper due on Blackboard (Due 04/11) |
| Energy Resources | 04/16 | |
| Lab Exercise 11: Kilowatt Ours (Movie) | 04/16 | Worksheet on the Movie: Kilowatt Ours |
| Land and Water Resources | 04/23 | |
| Unit 5: Global Changes and Their Consequences (Chapters 15, 20 – 21, 24, 29) | Weeks 13 - 14 | |
| Water Pollution | 04/30 | |
| Air Pollution and Climate Change | 04/30 | |
| STUDENT PRESENTATIONS | 04/30 | |
| | | Research Paper due on Blackboard (05/02) |
| Exam 4: Chapters 14 -15, 19 – 24, 26, 29 - 32 (relevant parts) | | 05/07 |

Course Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

Grading Matrix:

| Instrument | Value (points or percentages) | Total |
|----------------------|-----------------------------------|------------|
| Laboratory Exercises | 4 at 10 points each; 7 at 20 each | 180 |
| Lab Exam | 1 at 40 points each | 40 |
| Learning Curve | 21 at 5 points each | 105 |
| Research Project | 1 project for 100 points each | 100 |
| Exams | 4 exam at 100 points each | 400 |
| Total: | | 825 |

Grade Determination:

- A = 743 – 825 pts
- B = 660 – 742 pts
- C = 578 – 659 pts
- D = 495 – 577 pts
- F = 494 pts or below

Grade determination: Separate letter grades will not be assigned for the lab. While laboratory accounts for only 25% of your grade, you must receive a passing grade (60% or higher) in the laboratory to receive a passing grade in the class.

Exams –You will be given four in-class examinations. Each exam is worth 100 points. The exams will consist of a combination of multiple choice questions. **Attendance is required for all exams.** No make-up exams for

unexcused absences. Any student found cheating on an exam will receive a zero for the exam and may face other disciplinary action.

LaunchPad LearningCurves – On the **LaunchPad platform** each chapter of your book has a series of questions (quiz) that will test your reading comprehension. There is no grade for this assignment, simply by completing the questionnaire you will get the corresponding 5 points per chapter. By completing all 21 assigned Learning Curves on time, you will receive 105 points. Late submissions will not be graded.

To register for the LaunchPad component of the course go to:

<http://www.macmillanhighered.com/launchpad/saes2e/2174045> PLEASE bookmark the page to make it easy to return to.

Research Paper – You will be required to write a 5 page research paper on an environmental issue that our society is currently facing. This research paper should address the biological, social, and economic arguments of the environmental issue that you choose. ***A thesis statement for the research paper (10 pts), as well as an annotated bibliography (20 pts) must be submitted and approved by the respective due dates.*** Additional instructions, guidelines and rubrics for the research paper will be discussed in class and posted on Blackboard.

Presentation – You will give a presentation on an environmental issue that our society is currently facing. Your presentation, which will be made using a PowerPoint presentation and should be approximately 10 minutes, include a description of the issue, the causes of the issue, potential resolutions, as well as properly referenced and relevant primary data from peer-reviewed scientific research articles. Additional instructions, guidelines and rubrics for the presentation will be discussed in class and posted on Blackboard.

University Policies and Procedures

Students with Disabilities (ADA Compliance):

The University of North Texas Dallas faculty is committed to complying with the Americans with Disabilities Act (ADA). Students' with documented disabilities are responsible for informing faculty of their needs for reasonable accommodations and providing written authorized documentation. Grades assigned before an accommodation is provided will not be changed as accommodations are not retroactive. For more information, you may visit the Student Life Office, Suite 200, Building 2 or call Laura Smith at 972-780-3632.

Student Evaluation of Teaching Effectiveness Policy:

The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider the SETE to be an important part of your participation in this class.

Assignment Policy:

- All assignments will be submitted on Blackboard and will not be accepted via email unless otherwise arranged.
- Learning Curves and Laboratory Activities submitted more than 2 days after the due date will not be accepted and will receive a grade of zero.
- Projects and Exams will not be accepted unless student can provide valid documentation for missing the due date.

Exam Policy:

Exams should be taken as scheduled. No makeup examinations will be allowed except for documented emergencies (See Student Handbook).

Academic Integrity:

Academic integrity is a hallmark of higher education. You are expected to abide by the University's code of Academic Integrity policy. Any person suspected of academic dishonesty (i.e., cheating or plagiarism) will be handled in accordance with the University's policies and procedures. Refer to the Student Code of Academic Integrity at <http://www.unt.edu/unt-dallas/policies/Chapter%2007%20Student%20Affairs,%20Education,%20and%20Funding/7.002%20Code%20of%20Academic%20Integrity.pdf> for complete provisions of this code.

In addition, all academic work submitted for this class, including exams, papers, and written assignments should include the following statement:

On my honor, I have not given, nor received, nor witnessed any unauthorized assistance that violates the UNTD Academic Integrity Policy.

Bad Weather Policy:

On those days that present severe weather and driving conditions, a decision may be made to close the campus. In case of inclement weather, call UNT Dallas Campuses main voicemail number (972) 780-3600 or search postings on the campus website www.unt.edu/dallas. Students are encouraged to update their Eagle Alert contact information, so they will receive this information automatically.

Attendance and Participation Policy:

The University attendance policy is in effect for this course. Class attendance and participation is expected because the class is designed as a shared learning experience and because essential information not in the textbook will be discussed in class. The dynamic and intensive nature of this course makes it impossible for students to make-up or to receive credit for missed classes. Attendance and participation in all class meetings is essential to the integration of course material and your ability to demonstrate proficiency. Students are responsible to notify the instructor if they are missing class and for what reason. Students are also responsible to make up any work covered in class. It is recommended that each student coordinate with a student colleague to obtain a copy of the class notes, if they are absent.

Diversity/Tolerance Policy:

Students are encouraged to contribute their perspectives and insights to class discussions. However, offensive & inappropriate language (swearing) and remarks offensive to others of particular nationalities, ethnic groups, sexual preferences, religious groups, genders, or other ascribed statuses will not be tolerated. Disruptions which violate the Code of Student Conduct will be referred to the Office of Student Life as the instructor deems appropriate.

Optional Policies:

A grade of incomplete "I" will only be given if the student has a passing grade before they are legitimately prevented from attending and completing the course.