ENVS 2202K – Introduction to Environmental Science

Fall 2019 – 4 credits

Dr. Dan Ferreira

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| **Lecture**: Online  **Lab:** M/W 9:05 – 11:50 AM (SC-245)  **Office Hours**: By appointment (just email me) | **Phone**: 470-578-5011  **Email**: DFerreira@kennesaw.edu  **Office Location**: SC-339 |

The environment is all around us. We interact with it every day and we depend on it to supply us with air to breathe, water to drink, and food to eat. The environment provides all of the resources we need to live comfortably in our modern civilization. Understanding the fundamentals of how the environment works and how human beings impact it will allow you to make informed decisions about how you use those resources.

**Student Learning Outcomes – By the end of the semester, you should be able to:**

* Describe Integrated Science and the basic concepts involved in the study of the subject
* Identify various ecosystems
* Describe various ecosystem components and functions and their impact on the environment
* Discuss human population by calculating human population growth and identifying the impact of such growth on the environment
* Describe various sources of energy from several perspectives: their origins, costs, and environmental impact
* Identify various pollutants to our air, water, and land and discuss their environmental impact
* Interpret environmental issues affecting the earth and its populations, including water use, food production, and urban development
* Define biodiversity and identify its value
* Identify the need for environmental regulations
* Explain the balance between the implementation costs of environmental regulations and their impact on humankind

**Textbooks**

Environmental Science: Earth as a Living Planet, 8th Edition, by Daniel Botkin & Edward Keller. Published by John Wiley & Sons, Inc.

Experiments in Environmental Science by Dan Ferreira. Published by Kendall Hunt.

**Assessment Rubric (How I will grade exams and assignments)**

*Full credit* – The student has completely identified what the question is asking for and fully justified the answer he/she proposed. The justification is based in a solid understanding of the concepts covered in class.

*Partial credit* – The student has identified what the question is asking for and has proposed an answer. However, their answer is not fully backed up by the material learned in class, or the answer fails to take some important aspect of the question into account.

*No credit* – The student has not identified the specific issues presented in the question. The answer does not make sense or is not based in any way on the material learned in class.

**\*NOTE\***: If I cannot read your answer, you get **NO CREDIT**. Make sure your answers are legible.

**Covid-19 Statement**

The health and safety of my students is my number one concern. I want to give every student the best educational experience that I can while keeping everyone safe from the spread of Covid-19. If any student feels ill with symptoms of Covid-19 such as fever or coughing, please do not come to lab. If you have any symptoms of illness, please consult a medical professional and get tested for Covid-19. Failure to show up to lab due to illness will not result in any negative repercussions to your grade. All I ask is that you email me prior to your scheduled lab time to let me know that you will be missing lab because you are sick.

As mandated by the University System of Georgia, the university requires the use of face masks in the classroom and in KSU buildingsto protect you, your classmates, and instructors.  Per the University System of Georgia, anyone not using a face covering when required will be asked to wear one or must leave the area. Repeated refusal to comply with the requirement may result in discipline through the applicable conduct code.

Reasonable accommodations may be made for those who are unable to wear a face covering for documented health reasons. Please contact Student Disability Services at sds@kennesaw.edu for student accommodation requests.

In order to allow for proper social distancing within the lab room, the lab will be split in such a way that no more than 12 students will attend any given lab session. A description of how this split will be accomplished for each particular week can be found at the end of this syllabus after the course outline.

**Course Norms:**

I want everyone to feel comfortable contributing their thoughts and ideas in lecture. In order to do that, we need to create an atmosphere of mutual respect between all members of the class. If you have questions about any of these policies or have special circumstances I should know about, please feel free to let me know.

*Diversity and Inclusion Statement*: I value all students in my classroom and will always work to make my classroom an inclusive place where all of my students feel like their voices will be heard and respected. I believe that diversity is a strength and that having diverse perspectives on any issue we discuss in this class will only improve our understanding of those issues. I especially want any minority students in my class to know that I value and support them and that I am **always** willing to do whatever I can to make sure that they have as valuable an experience in my course as any other student in the class. If any of my students feels like their educational experience is being impacted in my course (or any of their other courses for that matter) because of their race, ethnicity, sexual orientation, socioeconomic status, religion, or any other personal attribute, please come talk to me and I will do whatever I can to help you. If you would prefer to communicate with me anonymously, there is a drop box on my office door and you may leave any anonymous comments or feedback for me there.

*Makeup Assignments/Exams:* I will allow students to hand in lab reports late or make up assignments/exams that they miss for legitimate reasons, BUT ONLY WITH APPROPRIATE DOCUMENTATION. If you do not have official documentation of your reason for missing class (a doctor’s note, a hospital discharge form, an official request to be excused from a coach, etc) you will receive a zero grade on any work you miss or do not hand in on time. Documentation must be submitted within a reasonable (as determined by me) time period after the absence in order for the absence to be excused.

*Extra Credit*: There is **NO EXTRA CREDIT** in this class. The grade you receive will be calculated based on the criteria described below. If you wait until the last week of the semester to start worrying about your grade, I guarantee you that you will be disappointed.

*Electronic Devices (cell phones, PDAs, music players, etc.)*: Cell phones should be set to silent mode upon entering class. All other electronic devices must be turned off to maintain a respectful class atmosphere. You will be asked to leave if you disregard this requirement. If you wish to use a laptop in class, do not use the laptop for any purpose not related to the class (i.e. surfing the internet, playing games, etc). Such activities are distracting to everyone around you and seriously impact the ability of other students to learn. Repeated violations of this policy will result in you being banned from bringing a laptop to class in the future.

*Academic Honesty*: Every KSU student is responsible for upholding the provisions of the Student code of Conduct, as published in the Undergraduate and Graduate catalogs. The Student Code of Conduct addresses the University’s policy on academic honesty, including provisions regarding plagiarism and cheating, unauthorized access to University materials, misrepresentation/falsification of University records or academic malicious/intentional misuses of computer facilities and/or services, and misuse of student identification cards. Incidents of alleged academic misconduct will be handled through the established procedures of the Student Conduct and Academic Integrity department, which includes either an “Informal” resolution by a faculty member, resulting in a grade adjustment, or a formal hearing procedure, which may subject a student to the Code of Conduct’s minimum one semester suspension requirement. Cases of plagiarism on the term paper will be treated as violations of the Honor Code and will be subject to any of the punishments described above. If you don’t know whether a particular action is plagiarism, check with me or check with Aaron Wimer. I don’t want to have to impose these penalties on anyone, and I know you don’t want to have them imposed on you either, so please make things easier on both of us and just don’t cheat.

*Accommodations:* Any student with a documented disability or medical condition needing academic accommodations of class-related activities or schedules must contact the instructor immediately. Written verification from the KSU Student Disability Services (http://www.kennesaw.edu/stu\_dev/dsss/welcome.html) is required. No requirements exist that accommodations be made prior to completion of this approved University documentation. All discussions will remain confidential.Course requirements will not be waived, but accommodations will be made, when appropriate, to assist you to meet the requirements.

Students are solely responsible for managing their enrollment status in a class; nonattendance does not constitute a withdrawal.

**Grading**

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| Quizzes - 5%  Lab – 15%  Term Paper – 10%  Exams – 17.5% each (52.5% total)  Final Exam – 17.5% | A = 89.5 – 100  B = 79.5 – 89.4  C = 69.5 – 79.4  D = 59.5 – 69.4  F = 59.4 and below  **Note: There will not be any grade curving in this course.** |

**Term Paper – due December 4th by 10:00 PM *(No extensions, no late papers will be accepted!)***

The term paper is a 4-6 page research paper (double spaced, 12 pt Times New Roman font, 1” margins) intended to show that you are capable of locating credible, legitimate sources of information, synthesizing those sources into a cohesive narrative, and then using that information to support an argument on a topic of your choice.

No later than September 18th, each student should pick an environmental topic of interest to them and **email it to me** to make sure it’s acceptable. Failure to submit a topic by this deadline will result in a 5 point penalty on your term paper grade. Each subsequent week that you don’t turn in a topic will result in additional 5 point penalties. No more than 2 students will be allowed to choose the same topic, so if the topic you’re interested in is likely to be popular (i.e. global warming, invasive species, electric cars, etc), I suggest you pick your topic early! I plan to be flexible on the topics I will allow. The only criteria is that they must be related to the environment. If you are having trouble thinking of a topic, I will be happy to help you select one.

An outline of your term paper showing the specific topics to be covered and the sources you will be using must be **emailed to me** by October 30th. Please note: WIKIPEDIA IS NOT A SOURCE. Neither are blogs or personal webpages. Only legitimate sources will be accepted (scientific journals, major news outlets, gov’t reports, etc). A minimum of five scientific sources will be required and no more than two popular sources may be used. If you need help finding legitimate sources for your term paper, there are resources available through the library. Failure to turn in the outline on time will result in a 10 point penalty on your grade. Each subsequent week that you don’t turn in your outline will result in additional 10 point penalties.

The final term paper is due in the D2L dropbox by 10:00 PM on December 4th. At 10:00 PM the dropbox will close and if your term paper is not submitted **YOU WILL GET A GRADE OF 0%. NO EXCEPTIONS.** I strongly urge you not to wait until the last minute to submit your term paper. If you try to submit your term paper at 9:59 PM and your internet goes down or your computer crashes, you will get a grade of 0%.

This term papercounts for 10% of your total grade in the course. I urge you to take it seriously and not wait until the last minute to start working on it. The term paper will be checked with the Turn It In plagiarism filter which searches the internet to match phrases and sentences from your paper with source material online. If you copy material from the internet, the system will identify that and report it to me. **Plagiarism is a violation of the Honor Code and can result in serious penalties, including a permanent record on your transcript.**

**Important Dates**

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| 8/21 – End of drop/add  8/31 – Last day to pay  9/7 – Labor Day holiday  10/7 – Last day to withdraw  11/23-11/29 – Thanksgiving Break  12/7 – Last day of class  12/9, 1:00 PM – 3:00 PM – Final Exam | **9/19: Term paper topic due**  **10/30: Term paper outline due**  **12/4, 10:00 PM: Final term paper due** |

**Course Outline (This schedule is subject to change as the semester progresses)**

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| **Week of** | **Topic** | **Background Reading** | **Lab Topic** |
| 8/17 | Themes in ES, Critical Thinking in Science | Ch.1-Ch.2 | **1.Zoning & Planning** |
| 8/24 | Systems, Feedback loops, Residence Time, Population Growth, Carrying Capacity | Ch.3-Ch.4 | **2.Science & The Popular Media** |
| 8/31 | Origins, Biogeochemical Cycles | Ch.6 | **3.Life Cycle Assessments** |
| 9/7\* | Energy Flow | Ch. 5 | NO LAB |
| 9/14 | **Exam 1**, Ecosystems | Ch. 5 | 4.Biomagnification (Early Groups) |
| 9/21 | Ecosystem Restoration, Forests & Wilderness Conservation | Ch. 9, Ch. 12 | 4. Biomagnification (Late Groups) |
| 9/28 | Fisheries, & Endangered Species, Biodiversity & Invasive Species | Ch. 13 | 7. Invasive Species (Early Groups) |
| 10/5 | Ecological Niches, Agriculture & The Green Revolution | Ch. 11 | 7.Invasive Species (Late Groups) |
| 10/12 | **Exam 2**, Environmental Economics | Ch. 7 | 6. The Tragedy of the Commons (Early Groups) |
| 10/19 | Valuing the Environment, Fossil Fuels: Sources & Impacts, Researching sources for your term paper | Ch. 7 | 6. The Tragedy of the Commons (Late Groups) |
| 10/26 | Alternative Energy Sources | Ch. 15, Ch. 16 | **9. Soil Contamination – Part 1** |
| 11/2 | The Atmosphere & Climate Change, Toxicology | Ch. 17, Ch. 20 | 11.Paleoclimatology (Early Groups) |
| 11/9 | **Exam 3**, Air Pollution | Ch. 10 | 11. Paleoclimatology (Late Groups) |
| 11/16 | Water Supplies, Water Pollution | Ch. 21, Ch. 18 | **12. Soil Contamination – Part 2** |
| 11/23 | **THANKSGIVING BREAK – NO CLASSES** | | |
| 11/30 | Environmental Law, The Future of Environmental Science | Ch. 19 | NO LAB |
| 12/7 | Catch up / Makeup day |  |  |

Labs in the course schedule that are **BOLDED** are shorter labs that will be split and taught twice each lab session. Half of the students in each lab section will meet from 9:05 AM – 10:20 AM and the other half of the students will meet from 10:35 AM – 11:50 AM on their assigned day. Splitting the lab this way will allow us to meet face to face with proper social distancing within the lab room. Labs that are not bolded will meet at the scheduled start time of 9:05 AM and will be taught twice over the course of two weeks. Half of the students in the lab section will meet the first week and half of the students in the lab section will meet the second week.