GEOL-1405-221CL-FA2020

Environmental Science

Spring 2021

Online/Virtual

Instructor Information:
Name: Meghan Billiot
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Phone: 281-658-0080

Student hours and location: Online. Virtual and Phone Office Hours by Appointment
Monday: 6:30 pm – 7:30 PM
Tuesday: 6:30 pm – 7:30 PM

Required Textbook/Materials:

Environmental Science and Sustainability: Daniel J. Sherman and David R. Montgomery
ISBN: 978-0-393-92389-6 (paperback.)

ISBN: 978-0-393-69018-7 (e-book),

Textbook Purchasing Statement: A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Course Description: A survey of the forces, including human forces that shape our physical and biologic environment, and how they affect life on Earth. Introduction to the science and policy of global and regional environmental issues, including pollution, climate change, and sustainability of land, water, and energy resources. Prerequisite: The following TSI scores or equivalent developmental course: TSI Reading 351 and TSI Math 350.

Course requirements: The course consists of a textbook, in-class labs, and one required field trip. There will also be one or two additional field trips scheduled during class time to be announced in class. Your assessment of the material will be through exams and lab practicals. The following contains more details about each:

1. **Lecture Exams:** Exams cover lecture material, readings, and discussions covered during lecture. There are four exams worth 100 points each, including the final exam which is 50% comprehensive. The format for the exam is multiple choice and will be online.

2. **Lab Practicals:** A lab practicals are usually hands-on exam that covers only what we have worked on in the lab. However, these lab practicals will be virtual also. Although, studying class material will help you in the lab as there is an overlap of the material. There are 3 lab practicals worth 100 points each.

3. **Lecture and Lab Assignments:** There will be both Lecture, Lab and Project based activities and assignments. Each Assignment will tie into the work you will be doing weekly, as well as the Final Project. These will flow through the class so that at the end of the semester, you will have all the required elements for the Final Project.

4. **Quizzes:** There will be 20 Quizzes tied to the textbook and accompanying PowerPoints.

5. **Discussions:** There will be 6 Discussions. Each Discussion will have its own Topic. The initial individuals post will be due by Thursday at 11:59 pm of the week these will be assigned. You will be required to respond to a minimum of 2 of your classmates no later than the following Sunday at 11:59 pm.

6. **Projects:** There will be two projects. The midterm project will be the Biome Project at 50 points. The last will be the Final Project and in PowerPoint or Prezi will be due the 2nd to last week of the semester on Sunday 11:59 pm.

Determination of Course Grade/Detailed Grading Formula:
The grade for this course consists of both a lecture and laboratory component. Students must earn a 70% or better in the laboratory component to successfully pass the course. Earning less than 70% in the laboratory component will result in an F for the course regardless of the lecture grade. Passing the laboratory component and failing the lecture component will not guarantee a passing grade for the course. Deviations from this policy will be at the sole discretion of the instructor.

Determination of Course Grade/Detailed Grading Formula

Lecture Exams (4)	100 Points each x 4 =	400 Points
Lab Practicals: (3) (Lab component)	75 Points each x 3 =	225 Points
Biome Project (1) (Lab component)	50 Points Each x 1 =	50 Points
Lab Assignments (10) (Lab component)	5 Points Each x 10 =	50 Points
Quizzes (20)	5 points Each x 20 =	100 Points
Discussions (5)	25 points Each x 5 =	125 Points
Final Project PowerPoint (Lab component)	50 Points Each x 1 = 50	50 Points
		1000 Total Points

Late Work, Make-Up, and Extra-Credit Policy:
You will have 2 weeks from the original date to complete the make-up. There will be a 20 point deduction applied the work turned in late. There is no make-up for Lab Practical 3 or the Final Exam. If your illness or emergency entails missing more than one week of classes, then we will need to discuss a plan to catch you up on all the work you miss.

Attendance Policy: Virtual

Communicating with your instructor: ALL electronic communication with the instructor must be through your COM email. Due to FERPA restrictions, faculty cannot share any information about performance in the class through other electronic means. (Faculty may add additional statement requiring monitoring and communication expectations via Blackboard or other LMS)

Academic Dishonesty: (Describe your academic dishonesty policy and state consequences if it is violated)

Student Learner Outcome	Maps to Core Objective	Assessed via this Assignment
1. Recognize, describe, and quantitatively evaluate earth systems, including the land, water, sea, and atmosphere, and how these function as interconnected ecological systems.	Empirical and Quantitative Skills	Final Exam Final Project Quizzes
2. Assess environmental challenges facing humans caused by their interaction with the physical and biological environment (e.g., population growth, energy resources, food production, pollution, water and resource use).	Critical Thinking Skills	Brownwood and Google Earth Satellite Lab and Assignments
3. Acquire a scientific vocabulary and critical thinking skills related to environmental science.	Critical Thinking Skills	Lecture Exam 1 Quizzes
4. Assess the effectiveness and feasibility of environmental policy and its impact.	Critical Thinking Skills	Lecture Exam 3
5. Apply the scientific method to environmental investigation.	Communication Skills	Biome/Ecosystem Project
6. Measure and observe aspects of the environment (e.g., air, water, soil) through sampling and sample analysis.	Empirical and Quantitative Skills	Lab Practical 3 Quizzes
7. Develop an assessment plan for an environmental case study.	Critical Thinking Skills	Discussions and Final Project
8. Demonstrate the collection, analysis, and reporting of data.	Communication Skills	Lab Practical 2 Quizzes
9. Demonstrate the ability to work effectively with others to support and accomplish a shared goal, while recognizing and respecting different viewpoints.	Teamwork	Discussions and Final Project

Student Concerns: If you have any questions or concerns about any aspect of this course, please contact me using the contact information previously provided. If, after discussing your concern with me, you continue to have questions, please contact [insert name and title of direct supervisor] at [phone number/email address].

Course outline:

2020	Wk.	Lecture Topic (Ch.)	Lab Activities and Assignments
Jan 19-24	1	Ch. 1 - Environmental Science and Sustainability: What's the Big Idea? Ch. 2 - Ethics, Economics, and Policy: Who or What Do We Value?	• Intro to the Online School Environment • Intro to Lab and Maps • Clicker Questions 1 and 2 • *Discussion 1: Introduce yourself: Why you chose your Article Topic, Provide 2 questions you would like to study further*, Intro of Semester Project
Jan 25-31	2	Ch. 3 - Matter and Energy: What Are the Building Blocks of Sustainability? Ch. 4 - Life: What Shapes Biodiversity?	• Topographic Maps Continued, all Due 9/13/20 • Clicker Questions 3/4 • Topo / Aerial / Google Earth Intro
Feb 1-7	3	Ch. 5 - Conservation: Why Is It Important to Protect Biodiversity? **Exam 1: Ch. 1-5**	• *Discussion 2: What Made you Curious?* • **Lab Exam: Maps and Topographic maps** • Intro to Biome/Ecosystem Project Assignments • Clicker Questions 5
Feb 8-14	4	Ch. 6-Human Population: Can We Have Too Many People? Ch. 7 – Water: How Do We Use It and Affect Its Quality?	• Intro Minerals and Activities • Clicker Questions 6/7
Feb 15-21	5	Ch. 8 – Air: What Are We Breathing? Ch. 9 – Land: How Does It Shape Us?	• Minerals, continue with Rocks and Ores • Clicker Questions 8/9
Feb 22-28	6	**Exam 2: Ch. 6-9:** **Lab Exam: Minerals, Rocks and Ores**	• Rocks and Ores • *Discussion 3:* Historical Discoveries and Inventions • Biome Project Continued
Mar 1-7	7	Ch. 10 – Systems and Cycles: Are We Harming Earth's Life Support System?	• Lab: Water Quality • Clicker Questions 10
Mar 8-14	8	Ch. 11 – Climate: How Does Global Climate Change? Ch. 12 – Food: How Do We Feed Ourselves?	• Clicker Questions 11/12 • *Discussion 4*: Climate Change
March 14-21		SPRING BREAK	SPRING BREAK
March 22-28	9	Ch. 13 – Fossil Fuels: Energy of the Industrial Age??	• Lab: Soil Introduction • Clicker Questions 13 • Assignments
March 29-April 4	10	Ch. 14 – Energy Alternatives: How Are Our Energy Decisions Changing	• Lab: Soil Quality and Testing • Clicker Questions 14

April 5-11	11	Ch. 15 – Waste: What Happens to All the Stuff We Use	• *Discussion 5: Alternative Fuels Great Energy Debate* • **Project: Biomes Due**
April 12-18	12	**Exam 3: Ch. S 11-15 Lab Exam 3: Water, Soil & Energy Presentation of Alternative Fuel**	• Clicker Questions 15 • **Presentation of Alternative Fuel**
April 19-25	13	Ch. 16 – Urbanization: Why Are Cities Growing? Ch. 17 – Environmental Health and Justice: How Does Our Environment Affect Our Health	• Clicker Questions 16/17 **April 26: "W Day" last day to withdrawal**
April 26-May 2	14	Ch. 18 – Decision Making: Why Do Our Choices Matter? Ch. Ch. 19 – Groups and Organizations: How Do We Work Together for Sustainability?	•Clicker Questions 18/19 •Final Project Due: PowerPoint of Article Topic
May 2-9	15	Ch 20 – Government: How Can Policy Influence Sustainability?	Clicker Questions 20 *Discussion 6: What can You do to Influence Sustainability?*
May 10-14	16	**FINAL EXAMS**	

**** DUE DATES AND SCHEDULE ARE SUBJECT TO CHANGE AND ADJUSTED AS NECESSARY****

Institutional Policies and Guidelines

Grade Appeal Process: Concerns about the accuracy of grades should first be discussed with the instructor. A request for a change of grade is a formal request and must be made within six months of the grade assignment. Directions for filing an appeal can be found in the student handbook.<https://build.com.edu/uploads/sitecontent/files/student-services/Student_Handbook_2019-2020v5.pdf. *An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor's professional judgment of the quality of the student's work and performance is also not an admissible basis for a grade appeal.* https://build.com.edu/uploads/sitecontent/files/student-services/Student_Handbook_2019-2020v5.pdf

Academic Success & Support Services: College of the Mainland is committed to providing students the necessary support and tools for success in their college careers. Support is offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

ADA Statement: Any student with a documented disability needing academic accommodations is requested to contact Holly Bankston at 409-933-8520 or hbankston@com.edu. The Office of Services for Students with Disabilities is located in the Student Success Center.

Counseling Statement: Any student needing counseling services is requested to please contact Holly Bankston in the student success center at 409-933-8520 or hbankston@com.edu. Counseling services are available on campus in the student center for free and students can also email counseling@com.edu to set up their appointment. Appointments are strongly encouraged; however, some concerns may be addressed on a walk-in basis.

Textbook Purchasing Statement: A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Withdrawal Policy: Students may withdraw from this course for any reason prior to the last eligible day for a "W" grade. Before withdrawing students should speak with the instructor and consult an advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw is March 3rd for the 1st 8-week session, April 26 for the 16-week session, and May 5th for the 2nd 8-week session.

F_N Grading: The F_N grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The F_N grade may be issued for cases in which the student ceases or fails to attend class, submit assignments, or participate in required capacities, and for which the student has failed to withdraw. The issuing of the F_N grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an F_N grade.

Early Alert Program: The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention are very important to us. I have been asked to refer students to the program throughout the semester if they are having difficulty completing assignments or have poor attendance. If you are referred to the Early Alert Program you will be contacted by someone in the Student Success Center who will schedule a meeting with you to see what assistance they can offer in order for you to meet your academic goals.

COVID-19 Statement: All students, faculty, and staff are expected to familiarize themselves with materials and information contained on the College of the Mainland's Coronavirus Information site at www.com.edu/coronavirus. Students are required to watch a training video, complete the self-screening, and acknowledge the safety guidance at: www.com.edu/selfscreen. In addition, students, faculty, and staff must perform a self-screening prior to each campus visit. Finally, students, faculty, or staff who have had symptoms of COVID-19, received a positive test for COVID-19, or have had close contact with an individual infected with COVID-19 must complete the self-report tool.