ENVIRONMENTAL CHEMISTRY
BIOL 4120.001 & 5120.001 – Fall 2025

INSTRUCTOR: Dr. Juliana D'Andrilli, EESAT 310D Office Phone Number: (940) 369-5707
Email: Juliana.D'andrilli@unt.edu

LECTURE HOURS AND LOCATION: MWF 10:00 AM to 10:50 AM in Peb 219

STUDENT HOURS: Times: Tuesday 10:00 – 11:00 AM / Wednesday 11:00 AM – 12:00PM
Location: EESAT 310D

I will be available to answer questions about the course material during student hours in my office of the EESAT building, Room 310D, two times a week or by appointment in-person or via Zoom meeting. Students are encouraged to contact me via email if they have questions, are experiencing difficulties in the class, or need further explanation of the course material. My job is to help students succeed. I want students to remember all course-related questions are welcome and that I cannot help solve problems that I do not know about. Come to the student hours and let's find a way to succeed together.

OBJECTIVES: This course is designed for undergraduate science majors and graduate students who are interested in advanced topics in ecosystem science. During the semester, we will explore the natural cycling of elements and the effects of human activities on the biology, chemistry, geology, and ecology of atmospheric, aquatic, and terrestrial environments. Students will develop skills in critical thinking and problem solving, and practice different mechanisms of scientific and professional communication. The goal of the course is to provide a strong foundation in interdisciplinary Earth systems science that will create lasting curiosity and aid in successful next steps in professional STEM fields.

WEBSITE:
4120 and 5120 - https://unt.instructure.com/courses/133174
Canvas is the official internet location for this course. This is the place where course content, lecture slides, reading assignments, announcements, supplementary videos, and updates to the syllabus will be posted. Course PowerPoint or PDF files of the lecture notes will be posted 24 hours before each class, and it is recommended that students use these files as note taking aids during lecture time. I encourage students to make the act of checking this website regularly a part of their weekly routine.

REQUIRED READING: Course required reading will be posted on the Canvas course website with links to content available through the UNT Library. Required reading will not be due before every lecture, so please check the Canvas course page to see when reading assignments are due. Reading the syllabus before class is considered required reading.

GRADING: Grades are calculated based on a point scale of 500 total points for undergraduate students and 550 total points for graduate students. Graduate students have an additional 50 points available based on a presentation and leading the discussion lectures. The breakdown of course points is:

For undergraduate students: 400 points for exams, 50 points for quizzes, and 50 points for participation

For graduate students: 400 points for exams, 50 points for quizzes, 50 points for presentation and discussion lectures, and 50 points for participation

Exams (400 points): Four exams are scheduled for this course at 100 points each. Three exams are scheduled during the semester and one final exam is scheduled during finals week. Note that the final exam will only cover the material presented after the third exam and will not cover the entire semester's course material. Exams will cover material from the lecture slides, the lecture discussions, classroom activities, reading material, and student-led discussion classes. No exam grades will be dropped from the calculation of the final class grade.

- **Exam Policy:** Exams will be conducted in-person during class lecture time. Students must be present to take the exam. Any class notes, computers, phones, and books will need to be put away during exam time.
- **Exam Style / Format:** Exams will be handed out at the beginning of class. Students will be expected to answer multiple choice questions, provide short sentence answers to conceptual questions, and provide a few sentences-to-paragraphs, and, if needed, drawn figures, to describe answers to questions that require solving an environmental scenario "problem." Students will have 50 minutes to take the exam.
- **Missed Exam/Make-up Exam Policy:** Exams may only be missed under extenuating circumstances or university sanctioned event, and must be accompanied by evidence of those circumstances. In these cases, students must communicate with me, the course professor, as soon as possible before the exam, so that a make-up exam opportunity can be arranged. This policy and method of communication also includes conflicts for the final exam. Note that the options to account for the missed exam are at the professor's discretion. Incompletes will only be assigned under extenuating circumstances when a student has at least a C average on the exams taken to date.

Quizzes (50 points): Five quizzes are scheduled for this course at 10 points each. Quizzes are designed to test students on the course material to gauge how much they understand before class review and discussion lectures and the exams. Quizzes will be handed out at the beginning of class. Students will be expected to answer multiple choice and true/false questions. Students will have 20 minutes to take the quiz. The remaining lecture time will be structured for other class participation activities.

Class Participation (50 points): Class participation encompasses three types of activities: completing written in-class assignments to be turned in by the end of the lecture time, speaking during the Q&A forums, review and discussion lectures, and after think-pair-share assignments, participating in class poll questions and scientific communication exercises, and contributing to the class website online discussion forum. With multiple mechanisms of communication in place, students will have opportunities to speak, type, draw, write, and act out scientific concepts. Participation activities also extend to anonymous formats of communication.

For Graduate Students Only
Discussion Lecture Leadership and Class Presentation (50 points):

1) **Discussion Lecture Leadership (25 points):** At the end of each topic module, a discussion lecture is scheduled to review topics, discuss any curiosities, lingering questions, and any content related to the reading material of that topic module. Graduate students will lead the group discussion and the class will participate. This time is scheduled for class participants to think, reflect, and share what they have experienced, learned, or want to learn.
2) **Class Presentation (25 points):** Graduate students will present one 15-minute oral presentation with visual aids (e.g., powerpoint slides, handouts, use of whiteboard, etc.) to the class. The student may select a topic of their choosing related to one of the topic modules of the class. The presentations will occur throughout the semester related to the topic module of their choice. Students must meet and/or communicate their topic with me, Dr. D'Andrilli, to discuss topic selection and when to schedule their presentations at least two weeks prior to giving their presentation. Creativity is encouraged.

GRADING SCALE

Undergraduate Students

GRADE	TOTAL POINTS
A	450 to 500
B	400 to 449
C	350 to 399
D	300 to 349
F	0 to 299

Graduate Students

GRADE	TOTAL POINTS
A	500 to 550
B	450 to 499
C	400 to 449
D	350 to 399
F	0 to 349

CHEATING POLICY: All quizzes and exams are to be taken independently without sharing information about exam questions and answers with classmates. Cheating in any form will not be tolerated. Cheating includes, but is not limited to, talking to other classmates during the quizzes and exams, copying answers from another classmate's quiz or exam, using written or electronic notes for quizzes and exams, or using an electronic devise to communicate with other classmates during quizzes and exams. There is a zero-tolerance policy for cheating in this course. Students caught cheating will receive a zero for the quiz or exam in question and a report will be placed in their permanent academic file. If students are caught cheating twice, they will be permanently removed from the course.

ATTENDANCE: Students are expected to attend class lectures regularly and to follow the attendance policy for this course. It is difficult-to-impossible to listen, learn, participate, and practice using the information presented in lectures without being there in person. Therefore, it is required to attend class, pay attention, and take notes during class time. Research has shown that if students do not attend class, they should expect to do poorly in the course. It is important that students communicate with me, the professor, prior to being absent, so we can discuss and mitigate the impact of the absence on reaching course learning goals. While attendance in class is important, so is the health of the participants, individually, and as a group. In mindfulness of the health and safety of everyone in the class

and university community, please inform me, the professor, if you are unable to attend class meetings due to illness. To learn more about UNT's Attendance Policy, follow this link: https://policy.unt.edu/policy/06-039

CLASSROOM CONDUCT: My job as the course professor is to create and maintain a healthy, safe, and respectful teaching and learning environment. We will work together to respect each other, practice safe and healthy communication, and enjoy high-quality teaching and learning practices as a group. When we put the success of our classroom experience first, then we all healthily succeed. Disruptive, inconsiderate, and inappropriate activities negatively affect class participants and include examples of disruptive talking/online communication during class, arriving late, leaving the classroom for non-emergency reasons, using cell phones during class, and general inattentive behavior. Respecting each other requires dedication and awareness. Awareness includes, but is not limited to, recognizing that each participant brings unique perspectives to the class, remembering that each participant may be experiencing a variety of challenges, and being considerate of others without making assumptions.

COMMUNICATION GUIDELINES: To maintain healthy, safe, and respectful relationships throughout the course, follow these guidelines for in-person and email communication. For more information on healthy communication engagement, follow this link: https://clear.unt.edu/online-communication-tips

- Everyone deserves to be treated with respect when communicating via email, on Canvas discussion forums, and in-person
- Always use your UNT Email Address to communicate with me by email
- Use clear and concise language involving complete words and sentences. College level communication includes complete sentences, correct grammar, and correct spelling. Emojis, emoticons, or other types of expressive symbols should be avoided as they may not display correctly on different screen devices and can cause misinterpretations or confusion. Words typed in all capitals (LIKE THIS) should also be avoided. These practices will help prepare students for professional conversations and reduce misunderstandings and miscommunications.
- When composing an email, please use standard fonts such as Arial, Calibri, Aptos, or Times New Roman at 10-12 font sizes
- Think about who is receiving your emails or spoken words when you communicate to promote healthy and safe practices. Exercise caution when using humor, think about what is being communicated, and avoid material that may be misinterpreted as offensive. It is always better to think about what you want to say and proofread emails before speaking and sending an email.
- For everyone's safety, do not send personal or confidential information via email

DISABILITIES: The University of North Texas provides reasonable academic accommodation for people with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a

disability is verified, the ODA will provide an accommodation letter to be delivered to the professor to begin a private discussion regarding specific needs to be successful in a course. Accommodation may be requested at any time; however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. New letters of accommodation are required for every semester and students are required to meet with professors prior to implementation in class. For additional information, contact the Office of Disability Accommodation by phone: (940) 565-4323, or follow this link to their website: http://www.unt.edu/oda

GETTING HELP: Asking for help is an act of strength, not weakness. The University of North Texas provides resources to help students succeed in their academic endeavors.

Technical Assistance: If a student does not have a computer, laptops are available for students to checkout at Willis Library (first floor entrance) or at the University Information Technology (UIT) Student Computer Lab in Sage Hall. A UNT ID is required. The UIT Help Desk information can be found using this link: https://it.unt.edu/helpdesk. For help with Canvas or other technology issues, students can contact the Student Help Desk in person at Sage Hall, Room 130 between 8am and 9pm, via email: helpdesk@unt.edu, by phone: (940) 565-2324, or by live chat: https://aits.unt.edu/support/chat

UNT POLICIES: The University of North Texas has multiple policies in place to guarantee students' success and safety.

Academic Integrity Policy: UNT has a policy to address academic integrity standards and consequences. According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University. For more information on UNT's Student Academic Integrity Policy, follow this link: https://policy.unt.edu/policy/06-003

Emergency Notification & Procedures: UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to Canvas for contingency plans for covering course materials.

Lecture Recordings: If a lecture or multiple lectures need to be recorded, please note that such recordings are the intellectual property of the university or professor and are reserved for use only by students in this class and only for educational purposes. Students may not post or otherwise share the recordings outside the class, or outside the Canvas Learning Management System, in any form. Photography, audio, and video recordings of lectures during class time by students

are **not allowed** unless previous consent is obtained from UNT and the professor. Failing to follow these restrictions is a violation of the UNT Code of Student Conduct and may lead to disciplinary action.

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Dr. Juliana D'Andrilli
Lecture Schedule
FALL 2025

The schedule is ***tentative*** and may change without notice
Note that **07-November** is the last day to **drop a course with a grade of W**

Week	Date	Topic	Pre-class Reading	In-class Assignment
1	18-Aug	Introduction, Syllabus, and Assumptions Game	Yes	Yes
	20-Aug	Earth's Reservoirs and Ecosystems	Yes	Yes
	22-Aug	Earth's Reservoirs and Ecosystems – Questions Game		
2	25-Aug	Earth's Reservoirs and Ecosystems		
	27-Aug	Earth's Reservoirs and Ecosystems – Activity		Yes
	29-Aug	**Quiz 1** and Discussion		Yes
3	01-Sep	Labor Day Holiday – No Class		
	03-Sep	Eutrophication	Yes	
	05-Sep	Eutrophication	Yes	
4	08-Sep	Eutrophication		
	10-Sep	Hypoxia		
	12-Sep	Hypoxia and **Quiz 2**		Yes
5	15-Sep	Eutrophication and Hypoxia – Activity		Yes
	17-Sep	Eutrophication and Hypoxia – Discussion		Yes
	19-Sep	**Exam 1**		Yes
6	22-Sep	Eutrophication, Hypoxia, and Pollution	Yes	
	24-Sep	Pollution	Yes	
	26-Sep	Pollution		
7	29-Sep	Pollution		
	01-Oct	Pollution and **Quiz 3**		Yes
	03-Oct	Pollution – Activity		Yes
8	06-Oct	Pollution – Discussion		Yes
	08-Oct	Pollution – Discussion and Review		Yes
	10-Oct	**Exam 2**		Yes
9	13-Oct	Climate Change Part I	Yes	
	15-Oct	Climate Change Part I	Yes	
	17-Oct	Climate Change Part I – Activity		Yes
10	20-Oct	Climate Change Part I		
	22-Oct	Climate Change Part I and **Quiz 4**		Yes
	24-Oct	Climate Change Part I		
11	27-Oct	Climate Change Part I – Activity		Yes
	29-Oct	Climate Change Part I – Discussion		Yes
	31-Oct	Climate Change Part I – Discussion and Review		Yes
12	03-Nov	Climate Change Part I – Creative Reflection		Yes
	05-Nov	**Exam 3**		Yes
	07-Nov	Climate Change Part II	Yes	
13	10-Nov	Climate Change Part II	Yes	
	12-Nov	Climate Change Part II		

	14-Nov	Climate Change Part II and **Quiz 5**		Yes
14	17-Nov	Climate Change Part II – Activity		Yes
	19-Nov	Climate Change Part II – Discussion		Yes
	21-Nov	Climate Change Part II – Discussion and Review		Yes
15	24-Nov	Thanksgiving Break – No Class		
	26-Nov	Thanksgiving Break – No Class		
	28-Nov	Thanksgiving Break – No Class		
16	01-Dec	Review and Reflection		Yes
	03-Dec	Review and Reflection		Yes
	05-Dec	Reading Day – No Class		
17	**06-Dec**	**Final Exam (8 – 10 AM)**		Yes