

ENVIRONMENTAL CHEMISTRY

BIOL 4120.001 & 5120.001 – Fall 2026

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

LECTURE HOURS AND LOCATION: MWF 10:10 AM to 11:00 AM in GAB 112

STUDENT HOURS: By appointment.

I will be available to answer questions about the course material by appointment in virtual meetings (Teams or Zoom). 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. Contact me and we can find a way to succeed together.

OBJECTIVES: This course is designed for undergraduate scholars across multiple disciplines and graduate students pursuing degrees in science 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/151607>

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 and 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 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 individual presentations and leading the discussion lectures as a group. 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

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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 lectures. 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 provide short answers in complete sentences to conceptual questions, provide longer answers in paragraph style, and, if needed, draw 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 missed exams 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, discussion lectures, and the exams. Quizzes will be handed out at the beginning of class. Students will be expected to answer multiple choice, fill in the blank, 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 several 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, participating in review and discussion lectures and 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.

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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		Graduate Students	
<u>GRADE</u>	<u>TOTAL POINTS</u>	<u>GRADE</u>	<u>TOTAL POINTS</u>
A	450 to 500	A	500 to 550
B	400 to 449	B	450 to 499
C	350 to 399	C	400 to 449
D	300 to 349	D	350 to 399
F	0 to 299	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 other classmates' quizzes or exams, using written or electronic notes for quizzes and exams, or using an electronic device to communicate with other classmates during quizzes and exams. There is a zero-tolerance policy for cheating for 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.

Unauthorized Aids During Examinations and Assessments

Students may use only those materials and resources that are expressly authorized by me, Dr. D'Andrilli, for quizzes or exams. Touching, holding, or accessing any unauthorized aid during quiz and exam periods constitutes violations of the Student Code of Conduct, regardless of whether the aid is used. Any item that may be considered an unauthorized aid must be kept out of view and in a closed container (e.g., zipped backpack, buttoned purse, etc.) during quizzes and exams.

Unless specifically authorized in writing by me, the instructor, prohibited aids include,

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but are not limited to:

- Mobile phones and smartphones
- Smartwatches and fitness trackers with communication, recording, or internet capabilities
- Tablets, laptops, and other computing devices
- Earbuds, headphones, and other audio devices
- Smart glasses, cameras, recording devices, and wearable technology
- Artificial intelligence (AI) tools, chatbots, and other generative AI technologies
- Notes, textbooks, study guides, formula sheets, or reference materials
- Any other device, material, or resource not expressly permitted by the instructor

Students are responsible for clarifying any questions about permitted materials before the examination begins.

ATTENDANCE: Students are expected to attend class 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, Dr. D'Andrilli, 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 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 disruptive talking/online communication during class, entering or exiting the class in a disruptive manner, 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

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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, consider 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.

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Academic Integrity Policy: UNT has a policy to address academic integrity standards and consequences. According to [UNT Policy 06.003](https://policy.unt.edu/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.

<><><><><><><> Course schedule on next page <><><><><><><>

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Dr. Juliana D'Andrilli

Lecture Schedule

FALL 2026

The schedule is **tentative** and may change without notice

Note that **06-November** is the last day to **drop a course with a grade of W**

Week	Date	Topic	Pre-class Reading	In-class Assignment
1	17-Aug	Introduction, Syllabus, and Assumptions Game	Yes	Yes
	19-Aug	Earth's Reservoirs and Ecosystems	Yes	Yes
	21-Aug	Earth's Reservoirs and Ecosystems – Questions Game		Yes
2	24-Aug	Earth's Reservoirs and Ecosystems		
	26-Aug	Earth's Reservoirs and Ecosystems – Activity		Yes
	28-Aug	Quiz 1 and Discussion		Yes
3	31-Aug	Eutrophication	Yes	
	02-Sep	Eutrophication	Yes	
	04-Sep	Eutrophication	Yes	
4	07-Sep	Labor Day Holiday – No Class		
	09-Sep	Hypoxia		
	11-Sep	Hypoxia and Quiz 2		Yes
5	14-Sep	Eutrophication and Hypoxia – Activity		Yes
	16-Sep	Eutrophication and Hypoxia – Discussion		Yes
	18-Sep	Exam 1		Yes
6	21-Sep	Eutrophication, Hypoxia, and Pollution	Yes	
	23-Sep	Pollution	Yes	
	25-Sep	Pollution		
7	28-Sep	Pollution		
	30-Sep	Pollution and Quiz 3		Yes
	02-Oct	Pollution – Activity		Yes
8	05-Oct	Pollution – Discussion		Yes
	07-Oct	Exam 2		Yes
	09-Oct	Climate Change Part I	Yes	
9	12-Oct	Climate Change Part I	Yes	
	14-Oct	Climate Change Part I	Yes	
	16-Oct	No Class		
10	19-Oct	No Class		
	21-Oct	Climate Change Part I	Yes	
	23-Oct	Climate Change Part I and Quiz 4		Yes
11	26-Oct	Climate Change Part I – Activity		Yes
	28-Oct	Climate Change Part I – Discussion		Yes
	30-Oct	Exam 3		Yes
12	02-Nov	Climate Change Part II	Yes	
	04-Nov	Climate Change Part II	Yes	
	06-Nov	No Class		
13	09-Nov	Climate Change Part II	Yes	
	11-Nov	Climate Change Part II	Yes	

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	13-Nov	Climate Change Part II and Quiz 5		Yes
14	16-Nov	Climate Change Part II – Activity		Yes
	18-Nov	Climate Change Part II – Discussion		Yes
	20-Nov	Climate Change Part II – Discussion and Review		Yes
15	23-Nov	Thanksgiving Break – No Class		
	25-Nov	Thanksgiving Break – No Class		
	27-Nov	Thanksgiving Break – No Class		
16	30-Nov	Review and Reflection		Yes
	02-Dec	Review and Reflection		Yes
	04-Dec	Reading Day – No Class		
17	09-Dec	Final Exam (8 – 10 AM)		Yes