

**ESE 6402 (17441)**  
**Environmental Chemistry**  
10:00 pm - 11:50 pm T R  
Health Science Building NURS 131

**Instructor:**

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**Learning Objectives:**

- To develop chemistry understanding around the themes of environmental quantitative analysis.
- To establish a knowledge of trace analysis, contemporary instrumental analysis, and statistics.
- EPA methods for analyses of compounds of concern.
- To be acquainted contemporary literatures in environmental issues of interest.

**Contents:**

- Introduction to Trace Environmental Quantitative Analysis
- Sample Preparation Techniques to Isolate and Recover Organics and Inorganics
- Determinative Techniques to Measure Organics and Inorganics
- Calibration/Detection Limits
- Verification/EPA Methods
- Quality Assurance/Quality Control
- Statistical Treatment of Analytical Data

**Evaluations:**

1. Assignments (including presentations) (35 %) – both individual and group
2. In class Participation (including providing feedback and questions during presentations and attendance) (10%) - individual
3. Final presentations (20%) – group and individual
4. Final reports (30%) - group
5. Self reflection and evaluation (5%) - individual

You will submit an essay to reflect on what you have learned, how you could benefit from the knowledge from this course, and your learning experience in this class. How will you evaluate yourself? Put some thoughts to this assignment.

A: 90% - 100%, B: 80% - 89%, C: 70%-79%, D: 60%-69%, F: <60%

**Academic honesty:**

Materials (written or otherwise) submitted to fulfill academic requirements must represent a student's own efforts. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Violations will be taken seriously and will be referred to the Dean of Students Office for possible disciplinary action. Students may be suspended or expelled from UTEP for such actions.

**Students with Disabilities**

If you have or believe you have a disability, you may wish to self-identify. You can do so by providing documentation to the Center for Accommodations and Support Services (CASS) located in Union E Room 203. Students who have been designated as disabled must reactivate their standing with CASS on a yearly basis. Failure to report to this office will place a student on the inactive list and nullify benefits received. If you have a condition which may affect your ability to exit safely from the premises in an emergency or which may cause an emergency during class, you are encouraged to discuss this in confidence with the instructor and/or the director of Disabled Student Services. You may call 747-5148 for general information about the Americans with Disabilities Act (ADA).

**Course withdraw policy**

- Classes dropped prior to the official census date will be deleted from the student's semester record.
- After this date, the University permits any student to drop with an automatic "W" by the course dropping deadline.
- After this date students who withdraw must receive grades of "F".

**COVID-19 Precautions**

- The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people.
- If you are symptomatic, have been exposed to someone with COVID-19, or have an underlying medical condition such as pregnancy, can drive-up to the UTEP Testing Site at 3333 N. Mesa at Kern Drive from 7:30 a.m. to 3 p.m. Monday through Friday (starting Aug. 9, 2022) to get tested for COVID-19. You also have access to free on-campus testing in the UTEP Student Health and Wellness Center located in Union Building East, first floor. See <https://www.utep.edu/ehs/covid/> for details.
- Please stay home if you are tested positive for COVID-19 or are experiencing COVID-19 symptoms. Please report a positive COVID-19 test to covidaction@utep.edu so the UTEP COVID Action Team can follow up with you.

**Tentative Schedule: (The contents are subject to change. Any changes will be announced in class.)**

<b>Week</b>	<b>contents</b>	<b>Note</b>
1. (8/22-26)	Introduction	
2. (8/29-9/2)	Sample Preparation Techniques	
3. (9/5-9)		9/7 Census Day – Last Day to drop without W
4. (9/12-16)		Final Paper Topic Presentation
5. (9/19-23)		
6. (9/26-30)	Determinative Techniques	Progress Report (I) – Title Page; Author guide
7. (10/3-7)		
8. (10/10-14)		
9. (10/17-21)	Calibration, Verification, Limit of Detection/Limit of Quantification	
10. (10/24-28)		10/28 Course drop deadline.
11. (10/31-11/4)		Progress Report (II) – paper outlines
12. (11/7-11)	Quality Assurance/Quality Control	
13. (11/14-18)		
14. (11/21-25)	Statistical Treatment of Data	Nov 24-25 <sup>th</sup> , Thanksgiving Holiday - University Closed
15. (11/28-12/2)		Final Presentation

*This Syllabus is subject to change. Any changes will be announced in class and posted on the course Blackboard site during the semester. You are solely responsible for getting the most updated information.*

## **Guidelines for Final Report (submitted to Blackboard by December 3, 2022 11:59 pm)**

### Title page (1 page): 10 pts

Include (1) Review Paper Title; (2) your names and academic program, (3) Intended journal to be submitted and a short description on why you choose this journal, i.e. why your review paper fits the scope of the journal; (4) four potential reviewers including the contact information (email) and justification; and (5) Credit Statement (<https://www.elsevier.com/authors/policies-and-guidelines/credit-author-statement>).

### Cover Letter (1 page) – 10 pts

Construct a cover page to address to the editor. You can check out the author guide of the journal to find the required content.

Key points to include in your letter to the editor (adopted from :

<https://authorservices.taylorandfrancis.com/publishing-your-research/making-your-submission/writing-a-journal-article-cover-letter/#:~:text=Name%20of%20the%20journal%20you,journal%20would%20be%20interested%20in>)

- Editor's name
- Your manuscript's title
- Name of the journal you are submitting to
- Statement that your paper has not been previously published and is not currently under consideration by another journal
- Brief description of the research you are reporting in your paper, why it is important, and why you think the readers of the journal would be interested in it
- Contact information for you and any co-authors
- Confirmation that you have no competing interests to disclose.

### Review Paper – 80 pts

Select a topic relating to the course (broadly defined).

- 1) Abstract (10%)
- 2) Background/Problem Statement/Significance– Provide a detailed description of the relevant topic background including your current understanding of the problem, the current state of knowledge, knowledge gaps, and significance to the field. (15 pts)
- 3) Objective – Clearly identify the objective(s) that your paper will address. (5 pts)
- 4) Content of Review (35%)
- 5) Conclusion and future direction (not your future direction but what should be addressed in future research).
- 6) References – 50 to 100 references are expected.  
The format is depending on the journal specific requirement.

Additional details can be found in “What is a review article? Learn how to write a review article” at <https://authorservices.taylorandfrancis.com/publishing-your-research/writing-your-paper/how-to-write-review-article/>

**Guidelines for Final Presentation (PowerPoint submitted to Blackboard by December 3, 2022 11:59 pm)**

1. Time – 25 minutes (20 min of presentation and 5 min of Q&A). The time limit will be strictly reinforced.
2. You will be evaluated based on the contents and presentation.
  - Contents
    - a) Title page
    - b) Background
    - c) Review objectives
    - d) Contents
    - e) Future direction
  - Presentation – The list contains (but not limited to) some criteria for a good presentation.
    - a) Is the background enough for the audience to understand your project? Does it generate interest for the talk?
    - b) Is the presentation well organized? Does the order of the presentation make sense?
    - c) Are all the key topics clearly presented?
    - d) Are the slides professionally prepared? Do consider graphs and animation to draw attention of the audience.
    - e) Are the slides visible and legible? Color scheme well-designed? Figures understandable? Text easy to read?
    - f) Is the talk presented professionally?
    - g) Is the presenter clear and loud enough?
    - h) Is the speed of speech appropriate?
    - i) Is the Q&A session well handled?