

ENVIRONMENTAL IMPACT ASSESSMENT OF WATER RESOURCES

WATR 5345

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Texas A&M University – San Antonio
San Antonio, TX

Monday/Wednesday (5:30-6:45PM)
Mode of Delivery: Distance education (DE) synchronous

Fall 2025

ENVIRONMENTAL IMPACT ASSESSMENT OF WATER RESOURCES
WATR 5345
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Instructor:

Dr. Gabriela Sosa

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Office Hour: Tuesday, 10:00-11:00am

Course Description: Evolution of natural resources regulatory policies and how this influences current procedures for environmental/natural resources assessment and management; demonstration of the environmental impact assessment procedures and policy issues associated with environmental impacts.

Learning Outcomes:

1. Review the conservation/environmental history of the United States and how that has influenced current views, laws and regulations related to the environment and land use.
2. Assess the various approaches to environmental impact assessments.
3. Understand the content, purpose, and process of the National Environmental Policy Act (NEPA).
4. Evaluate environmental assessments and environmental impact statements necessary for NEPA compliance.
5. Determine the permitting process needed to comply with the Endangered Species Act, the Clean Water Act, the National Historic Preservation Act, and other resource related laws.
6. Expand awareness of the myriad of laws and regulations that apply to conservation/environmental/land use issues and the professional approach to deal with these often contentious projects.

Prerequisites: Graduate student classification, or approval of instructor.

Textbook and Class Notes:

Eccleston, C. 2017. Preparing NEPA Environmental Assessments: A User's Guide to Best Professional Practices. ISBN 1138075051

Class notes will be available through Blackboard.

COURSE ASSESSMENT

Student performance in this course is evaluated through a combination of a Mid-Term Examination, Final Examination, Discussions, and Project Collaboration. The Mid-Term and Final Exams assess individual understanding of course materials, concepts, and applications. Discussions are held regularly to encourage critical thinking, peer learning, and engagement with current issues. Project collaboration and leadership from graduate students involves group work on the review of an Environmental Impact Assessment; emphasizing teamwork, real-world problem solving, and effective communication. All components contribute to the final grade.

Grade Distribution:

Mid-Term Examination	200
Final Examination	200
Discussion/Assignments, Project Leadership*	200
Semester Project	<u>200</u>
	800 points

*Discussions received after 3:00 p.m. of the due date will not be accepted unless accompanied by a written excuse.

DISTANCE EDUCATION

This will be a synchronous class, lectures will be given in real time, with students and instructors attending together from different locations. Discussion of weekly readings will be conducted through a designated discussion board. Every week students will be required to participate in the discussion board (e.g., answer questions from the readings or related to the lecture). Exams will be submitted electronically and will be made available via Blackboard. Students will have the opportunity to engage and collaborate on a project-based group presentation using tools and resources that allow them to synchronously work together at a distance.

ATTENDANCE

Attendance will be sporadically checked at the beginning of class, particularly when an outside speaker is present. Absence from or an early departure from a presentation by an outside guest speaker, without an adequate excuse, will result in a 30-point reduction in your total points (800) for the semester.

MAKE-UP EXAMINATION

If you miss a regularly scheduled examination, only excused absences will be accepted as a pass to take a make-up examination. An excused absence means that illness or some other problems beyond your control prevented you from preparing for, or being present at, a scheduled exam. You must register your excused absence within 7 days of the missed exam.

ASSUMPTIONS

You are classified as a Junior or Senior.

You have a basic understanding of ecological concepts and the interrelatedness of ecosystem components.

You possess some knowledge of the scientific/technical aspects of air, water, soil, plants, animals, microbes, etc.

You have a basic familiarity with renewable and non-renewable resources and how they relate to environmental quality, ecosystem health and human health.

QUALIFICATIONS/LIMITATIONS

Impossible to cover all aspects of environmental impact assessment in one course.

Will focus on natural resource aspects of environmental assessment with less, but some, attention to environmental hazards and human health.

Will not deal with whether or not environmental laws are appropriate, fair, reasonable, etc. We will accept that they exist and our objective is to assess the environment in the context of existing laws and regulation, and become familiar with the permitting process.

Environmental assessment is not a fixed subject – Science, Technology, Methodology, Laws, and Regulations keep changing and you must constantly make adjustments to those changes.

Outside experts may participate in the course to assist with selected topics.

AMERICANS WITH DISABILITIES ACT (ADA) POLICY STATEMENT

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Support Services (DSS). DSS ensures that students with disabilities have the opportunity to fully participate in their education here at A&M-San Antonio (A&M-SA). Academic accommodations are provided to mitigate disability-related functional limitations that may impact access to, and full participation in, the educational process here at A&M-SA. Approval and provision of accommodations do not guarantee academic success. For additional information, visit <https://www.tamusa.edu/disability-support-services/>

ACADEMIC INTEGRITY

As a member in an academic community, students at Texas A&M University- San Antonio are expected to exhibit a high level of honesty and integrity in their pursuit of higher education, be mature, be self-directed and be able to manage their own affairs. Students who are unwilling to abide by these basic expectations will find themselves facing academic and/or disciplinary sanctions. Student are expected to share in the responsibility and authority with faculty and staff to challenge and make known acts that violate the Texas A&M University- San Antonio Code of Conduct.

Texas A&M University- San Antonio faculty has the discretion to impose grade penalties as deemed necessary. Faculty members are required to report such serious breaches of academic honesty to their chair, their dean and the Office of Student Rights and Responsibilities. In cases of academic misconduct, students may be subject not only to grade sanctions in courses but to disciplinary action. Grade sanctions may be imposed only by faculty members, but suspension or expulsion may be imposed only by the Vice President for Student Affairs.

According to the Student Code of Conduct, the following are violations of Academic misconduct: Cheating, Plagiarism, Multiple Submissions, Collusion, Lying, and Bribery.

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WATR 5345
Fall 2025
3 Credits

M/W, Time (5:30-6:45PM)

COURSE OUTLINE

Week	Lecture	Date	Topics	Due Dates
1	Lecture 1	08/25	Introduction, Course Topics, Requirements	
	Lecture 2	08/27	Environmental Impact Assessment	Discussion Post, Due 3PM
2	Lecture 3	09/01	Labor Day (NO CLASS)	
	Lecture 4	09/03	Environmental Laws, Regulations, Federal Agencies	Discussion Post, Due 3PM
3	Lecture 5	09/08	NEPA – Planning Process, Public Participation	Assignment #1, Due 3PM
	Lecture 6	09/10	NEPA – Social Impact Assessments, Guest Lecture	Discussion Post, Due 3PM
4	Lecture 7	09/15	NEPA – Notice of Intent (NOI), Guest Lecture	
	Lecture 8	09/17	NEPA – Categorical Exclusion (CATEX)	Discussion Post, Due 3PM
5	Lecture 9	09/22	NEPA – Draft Environmental Impact Statement (EIS)	Assignment #2, Due 3PM
	Lecture 10	09/24	NEPA – Determining Significance	Discussion Post, Due 3PM
6	Lecture 11	09/29	NEPA – Mitigation, Guest Lecture	
	Lecture 12	10/01	NEPA – Environmental Monitoring, Reporting	Discussion Post, Due 3PM
7	Lecture 13	10/06	NEPA Review	
		10/08	Mid-Term Exam	
8	Lecture 14	10/13	Fall Break	
	Lecture 15	10/15	Writing the EIS, Guest Lecture	Discussion Post, Due 3PM
9	Lecture 16	10/20	Archeological/Historical/Cultural – National Historic Preservation Act	
	Lecture 17	10/22	State Historic Preservation Office, Guest Lecture	Discussion Post, Due 3PM
11	Lecture 18	10/27	Clean Water Act (CWA)	Assignment #3, Due 3PM
	Lecture 19	10/29	Waters of the U.S. – 404 Permitting, Guest Lecture	Discussion Post, Due 3PM
12	Lecture 20	11/03	Phase I Environmental Site Assessment	
	Lecture 21	11/05	EPA, TCEQ Permits, Guest Lecture	Discussion Post, Due 3PM
13	Lecture 22	11/10	Waters of the U.S. – Mitigation Banking	Assignment #4, Due 3PM
	Lecture 23	11/12	Natural Resource Damage Assessment (NRDA), Guest Lecture	Discussion Post, Due 3PM
14	Lecture 24	11/17	Endangered Species Act (ESA)	
	Lecture 25	11/19	Habitat Conservation Plans, Guest Lecture	Discussion Post, Due 3PM
15	Lecture 26	11/24	NEPA Experts Panel, Guest Lecture	Assignment #5, Due 3PM
		11/26	Thanksgiving Break	
16	Lecture 27	12/01	Group Presentations	
	Lecture 28	12/03	Group Presentations	
17	Lecture 29	12/08	Group Presentations, Final Review	Group Project, Due 7PM
		12/11	Final Exam	