Texas A&M University-San Antonio
Department of Natural Sciences
Program of Water Resources Science and Technology

WATR 5306 PROPOSAL/THESIS (3 SCH)

Coordinator: Dr. Walter Den
Email: wden@tamusa.edu
Office: (210)784-2815

COURSE MATERIALS
Access to the internet and TAMUSA library resources

COURSE MEETING
Student and advisor should meet in person regularly, especially if experimental works are expected to be involved. Lab safety training must be completed before student can proceed with their work in the lab.

COURSE DESCRIPTION
This course is designed to develop understandings, skills, and outlooks to conduct original, independent research and scientific publication in the field of water resources science and technology. Students will develop research plans that will state the problem and research questions, outline a research strategy and experimental approach, detail the method of data collection, interpretation, and validation, and outline the method of documenting results and conclusions. Students are expected to conduct an extensive and appropriate literature search relating to the research. Students will conduct research by collecting data through an appropriate experimental protocol, and then analyze that data according to techniques appropriate for the type of data collected and to answer the research questions. Students will then draw conclusions answering the research questions and make recommendations. Each student will produce a thesis document that can also be published in part or whole in a peer-reviewed research journal. The student will be encouraged to present research results at appropriate scholarly meetings.

PREREQUISITES
WATR 5306 Proposal: Completion of at least 9 SCH with the graduate program, including 6 SCH of core courses.
WATR 5306 Thesis: WATR 5320; and Completion of 5306 Proposal. This course (Thesis) must be taken in the semester in which the student expects to graduate.

COURSE OUTCOMES
This course helps students develop understandings, skills, and outlooks needed to conduct original, independent research and scientific publication in the field of water resources science and technology. Students will gain competency in the following areas, all of which are important to their professional development and future success in the field:
- Developing research questions
- Literature search

- Conduct original independent research
- Scientific publication
- Developing research plans
- Data collection, interpretation, and validation
- Documenting results and conclusions
- Analyzing data
- Publishing
- Presenting research results at scholarly meetings.

METHOD OF INSTRUCTION
The student works in close consultation with a thesis advisor (Advisor), and a committee of additional faculty relevant to the research topic (Committee). Instruction takes place in an ongoing fashion through advice and consultation, with the Advisor approving student work at each step toward publication and defense of the thesis.

Please refer to "Master Thesis Requirements and Deadlines" and "Graduate Research Project and Thesis Manual" for further instructions.

METHOD OF ASSESSMENT
- Literature survey, methodology design (20%)
- Journaling of experimental process and data collection (20%)
- Completion of an approved Research Proposal if enrolled in WATR 5306 Proposal (60%)
- Completion of Master's Thesis and successful defense of the thesis if enrolled in WATR 5306 Thesis (60%)

**POLICY TO USE AI-ASSISTED TECHNOLOGY
Use of Generative AI Permitted Under Some Circumstances or With Explicit Permission
There are situations and contexts within this course where you may be asked to use artificial intelligence (AI) tools to explore how they can be used. Outside of those circumstances, you should not use AI tools to generate content (text, video, audio, images) that will end up in any student work (reports and theses) that is part of your evaluation in this course. Any student work submitted using AI tools should clearly indicate with attribution what work is the student's work and what part is generated by the AI. In such cases, no more than 25% of the student work should be generated by AI. If any part of this is confusing or uncertain, students should reach out to their instructor for clarification before submitting work for grading. Use of AI-generated content without the instructor's permission and/or proper attribution in this course qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity.