

**Texas A&M University-San Antonio  
College of Arts and Sciences**

**Water Resources Science and Technology**

**WATR 4181 RESEARCH PROJECT (1 SCH)**

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**COURSE MATERIALS**

- *Research Methods for Science* by Michael P. Marder. ISBN: 0521145848
- Access to the internet.

**COURSE DESCRIPTION**

This course provides an independent research opportunity that will allow undergraduates majoring in Water Resources Science and Technology to make an original intellectual contribution to the subject. The research will be conducted in collaboration with a faculty mentor. Students may repeat the course once as an elective for additional credit.

**COURSE OUTCOMES**

Depending on the research experience, a student enrolling in WATR 4181 can:

Level	Experience	Expectations
Entry	First-time research experience	The expectation is to learn how to develop a hypothesis, a research problem and related questions. Students will also learn how to perform literature search, read technical papers, and brief writing.
Intermediate	Students with at least one semester of research experience	The expectation is to learn how to frame a problem, develop research plan, and conduct lab experiments, field sampling, or surveys.
Advance	Students with at least two semester of research experience	The expectation is to develop the ability to evaluate the feasibility of a research plan, independently collect and present data, and write a research report.

**METHOD OF INSTRUCTION**

Regular meetings with research project advisor on small group or individual basis. Meetings will guide students to perform literature searches, discuss articles relevant to students' research projects, present research progress, and write reports.

Students must submit the **research notebook** on which all details should be recorded during the course of the research experience. You may ask for one from your advisor or use your own notebook.

### **METHOD OF ASSESSMENT**

Literature survey, methodology design, and discussion (20%)

Two Interim project reports and presentations (every five weeks) (30% @ 15% each).

Final research report and presentation (50%)

### **RESPONSIBILITIES AND EXPECTATIONS**

Participating in a research project means that you will:

- Honor the time commitment and stick to it.
- Follow lab safety rules and policy...and the etiquette
- Accountable to the quality of work
- Take ownership of your work