Course Description and Prerequisites
This course will introduce you to research and data analysis methods, and how to effectively summarize these for professional reports or publications. Students will learn how to design and implement research projects in Environmental Science. Students will learn how to analyze data using appropriate statistical methods. Students will develop environmental reporting skills.
Prerequisites: Environmental Sciences Major or Minor with junior status and MATH 1342 with a grade of 'C' or better, or consent of instructor.

Resource Materials

Textbook: None, There will be handouts and web resources provided.

Blackboard: The course Blackboard site will be used to disseminate information and assignments and as a means to submit some assignments.

Tegrity: Some lecture material may be made available through Tegrity.

Additional Materials: Additional readings, assignments, web sites and lecture material will be made available through Blackboard.

Other: Students are expected to know how to use Microsoft Office especially Microsoft Excel and view and print from pdf (Adobe Acrobat) files. All students will need to download SPSS Statistics http://www.utrgv.edu/it/how-to/install-spss-windows-utrgv-computers/index.htm for use in completing class assignments. Download the SPSS Statistics 23 Premium module

Web Links:
- https://www.epa.gov/watershedacademy/online-training-watershed-management
- More on Blackboard site
- NSF – Earth and Environmental Science
- http://www.environmentalscience.org/careers
- https://www.nature.com/subjects/earth-and-environmental-sciences
- Environmental science research topics – pay site for special topics
Learning Objectives/Outcomes for the Course
At the end of this course, you will be able to:

1. Think
2. Plan/Design
3. Act
4. Analyze

In the context of doing Environmental Science research.

Grading
Class grade is based on completion of the following:
- Data analysis exercises/assignments (due in class as assigned) 40%
- EPA Watershed Academy modules 10%
- Student Independent Research Project 40%
  - Proposal (25%), Poster (25%), Presentation (25%), Paper (30%)
- Participation and class attendance 10%

Total grade 100%

Grade Scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>100-90</td>
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<tr>
<td>B</td>
<td>89-80</td>
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<tr>
<td>C</td>
<td>79-70</td>
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<tr>
<td>D</td>
<td>69-60</td>
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<tr>
<td>F</td>
<td>59 and below</td>
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A  Student has exceptional ability to grasp concepts and themes, demonstrates knowledge by applying examples, and performs excellent on all course work with scores 90-100. An A student does not miss any course work, has all assignments is turned in on-time, and has high participation as represented by in-class work.

B  Student has an above average ability to grasp concepts and themes, begins to apply examples to conceptual material, and performs well or very good on course work with scores 80-89.

C  Student has an average ability to grasp concepts and themes, may have problems applying examples, and performs well on course work with scores 70-79, although performance may fluctuate.

D  Student is deficient in the ability to grasp concepts and themes, has difficulty applying knowledge to real-life situations, has minimal participation in class activities and has marginal performance on course work with scores 60-69.

All course-work must be turned in at the beginning of class time. Instructions and due dates for reading summaries, assignments, and concepts maps will be announced in class. Late assignments lose 10% of grade per day. Explanations of individual grades and grading decisions are by appointment.
Important University Dates

Aug. 28 (Mon.) Fall classes begin
Aug. 31 (Thurs.) Last day to add a class or register for Fall classes
Sept. 1 (Fri.) Last day to withdraw and receive an 80% refund
Sept. 4 (Mon.) Labor Day Holiday. No classes.
Sept. 11 (Mon.) Last day to withdraw and receive a 70% refund
Sept. 13 (Wed.) Census Day
Sept. 18 (Mon.) Last day to withdraw and receive a 50% refund
Sept. 25 (Mon.) Last day to withdraw and receive a 25% refund
Nov. 15 (Wed.) Last day to drop a class (grade of DR) or withdraw (grade of W)
Nov. 23 – Nov. 25 (Thurs. – Sat.) Thanksgiving Holiday. No classes.
Dec. 7 (Thurs.) Study Day. No classes.
Dec. 8 – Dec. 14 (Fri. – Thurs.) Final Exams
Dec. 18 (Mon.) Grades Due at 3 p.m.

TENTATIVE TOPICS SCHEDULE

Week 1 Aug. 29, 31
- Introduction to the Course
- Independent research project design, science and society

Week 2 Sept. 5, 7
- The scientific process of Environmental Science
- Sampling the environment

Week 3 Sept. 12, 14
- Sampling the environment
- Environmental Science statistics and using SPSS

Week 4 Sept. 19, 21
- Environmental Science statistics, Independent research project proposal due
- Environmental Science statistics

Week 5 Sept. 26, 28
- Environmental Science statistics, Independent research project finalization
- Environmental Science statistics

Week 6 Oct. 3, 5
- Environmental Science statistics
- Environmental Science statistics

Week 7 Oct. 10, 12
- Environmental Science statistics; EPA Watershed Academy- introduction
- Figures, graphs and tables
Week 8 Oct. 17, 19
- Figures, graphs and tables
- Figures, graphs and tables

Week 9 Oct. 24, 26
- Work on projects
- Work on projects

Week 10 Oct. 31, Nov. 2
- Work on projects
- Professional aspects

Week 11 Nov. 7, 9
- Professional aspects
- Work on projects; Independent research project poster due

Week 12 Nov. 14, 16
- Professional aspects
- Finish EPA Watershed Academy assignments: https://www.epa.gov/watershedacademy

Week 13 Thanksgiving holiday

Week 14 Nov. 28, 30
- Student Independent Research Project presentations

Week 15 Dec. 7
- Finish Student Independent Research Project presentations and written paper due.

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UTRGV Policy Statements

The UTRGV disability accommodation, mandatory course evaluation statement and sexual harassment statement are required on all syllabi. Additional policy statements are optional, such as those covering attendance, academic integrity, and course drop policies.

STUDENTS WITH DISABILITIES: Required on all syllabi. Do not modify. Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive academic accommodations should contact Student Accessibility Services (SAS) as soon as possible to schedule an appointment to initiate services. Accommodations can be arranged through SAS at any time, but are not retroactive. Students who suffer a broken bone, severe injury or undergo surgery during the semester are eligible for temporary services. Brownsville Campus: Student Accessibility Services is located in Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at ability@utrgv.edu. Edinburg Campus: Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at ability@utrgv.edu.
MANDATORY COURSE EVALUATION PERIOD:
Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (http://my.utrgv.edu); you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades. Online evaluations will be available:
Fall 2017 Module 1 Oct. 5 – Oct. 11
Fall 2017 Module 2 Nov. 29 – Dec. 5
Fall 2017 (full semester) Nov. 15 – Dec. 6

ATTENDANCE: Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV’s attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

SCHOLASTIC INTEGRITY:
As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism (including self-plagiarism), and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to the Dean of Students.

SEXUAL HARASSMENT, DISCRIMINATION, and VIOLENCE:
In accordance with UT System regulations, your instructor is a “Responsible Employee” for reporting purposes under Title IX regulations and so must report any instance, occurring during a student's time in college, of sexual assault, stalking, dating violence, domestic violence, or sexual harassment about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at www.utrgv.edu/equity, including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect that is free from sexual misconduct and discrimination.

COURSE DROPS: According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.
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