SYLLABUS
ENV 415: ENVIRONMENTAL ASSESSMENT AND MANAGEMENT

INSTRUCTOR: Jason Paul, Division of Environmental Science.
INSTRUCTOR OFFICE HOURS: 3:00 to 5:00 pm on MTWR or By Appointment;
Office: Forestry Room 122
INSTRUCTOR PHONE NO: Office: 936-468-3812; E-MAIL: pauljason@sfasu.edu

COURSE MEETING TIMES: Lecture: 9:30 to 10:45 Tuesday and Thursday;
Laboratory 12:00 to 2:50 Friday*
* From 1/25-2/15, lab will be from 9:00 – 12:00 am or unless otherwise noted due to Instructor
availability from training course schedule.

CATALOG COURSE DESCRIPTION: Four semester hours, three hours lecture and three hours lab per
week. Environmental management and planning in the United States with reference to the principles and
procedures for preparing Phase I and Phase II Environmental Site Assessments and environmental impact
statements. Senior standing or permission of instructor.

PREREQUISITE: Seniors Only. If you have not successfully completed (minimum “C” grade) FOR
209/BIO 313, ENV 210, ENV 349, GIS 224, GIS 390, you should drop this course and complete
these sophomore and junior-level courses before enrolling in ENV 415. If you have successfully
completed BLW 478, ENV 402, ENV 403, ENV 412, ENV 420 and ENV 450, information from these
courses will be useful in developing the required environmental assessment document that meets high
expectations.

TEXTBOOK: There is no required textbook. Students will be responsible for content in assigned
handouts.

PROGRAM LEARNING OUTCOMES:

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<thead>
<tr>
<th>Course</th>
<th>PLO 1 Environmental Assessment</th>
<th>PLO2 Environmental Management</th>
<th>PLO3 Environmental Policy &amp; Professional Ethics</th>
<th>PLO4 Critical Thinking, Oral &amp; Written Communication</th>
<th>PLO5 Professional Career &amp;/or Graduate Degree Program</th>
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<td>ENV 415</td>
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A. Describe the principles and procedures for preparing environmental site assessments and
environmental impact statements (All PLOs).
B. Introduce techniques for the assessment of various environmental variables (PLO1).
C. Describe the application of environmental rules and regulations to regulated entities (PLO3).

STUDENT LEARNING OUTCOMES:

<table>
<thead>
<tr>
<th>Proficiency Levels</th>
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<tbody>
<tr>
<td>N/A – Not Applicable</td>
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<tr>
<td>B-Basic</td>
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<td>I-Intermediate</td>
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<td>A-Advanced</td>
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<td>M-Mastery</td>
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LECTURE OUTLINE:
The instructors reserve the right to change topics in order to incorporate new information to the course. The percent of time during the semester spent on each topic may change to accommodate pace of instruction.

Weeks 1 -3  Phase I ESA and Environmental Auditing
Desktop Evaluation
Environmental Compliance Questionnaire and Auditing
Identification of RECs
Vapor Intrusion
Phase I Preparation

Exam 1 – Phase I ESA Requirements and Concepts

Weeks 4 -8  Phase II ESA
RCRA and CERCLA
Introduction to TRRP
Exposure Route and Application of Appropriate PCLs
Principals of Hydrogeology and Contaminant Transport
Phase II ESA Preparation

Exam 2 – Phase II ESA, Contaminant Transport, and Principles of Hydrogeology

Weeks 9-12  NEPA Concepts and EIA/EIS
Regulatory Framework -NEPA
ISO 14000
Components of an EIS
Impact Prediction – Leopold Matrix
WHAP
Public Notification
Examples of Mitigation and Monitoring Due to Project Impacts

Week 13  Water Quality and Permitting
Section 319 Programs (Non-point source control)
Total Maximum Daily Loads
NPDES/TPDES

Week 15  Environmental Ethics and Justice

NEPA and EIS Concepts, Water Quality and Permitting, and Ethics and Justice will be included on Final Examination

LABORATORY: The laboratory will primarily serve as an independent study period to be used for completion of the Phase I and Phase II ESAs (See Below). Because each student has the laboratory scheduled each week, this guarantees that teams can arrange to meet at least one time each week without conflict for data collection, assessment, and report preparation. One or two additional scheduled laboratories may occur during the semester in order to provide student tutorial by the instructor. Students will be notified in advance, if additional scheduled laboratories will occur.
Environmental Site Assessment (ESA) Reports

The Phase I ESA Report will be an individual written report. Each individual will select a facility of choice from anywhere within the U.S. The facility should preferably be a petrochemical plant, refinery, electrical power plant, or a facility of similar size and complexity that either produces or utilizes substances regulated under RCRA. The facility can also be a current or former mining site or superfund site. Once the site is picked, the name and location of the facility will be provided to the Instructor for approval. The student will develop an environmental questionnaire for a mock interview with the Instructor (or another individual as approved in advance by the Instructor). A desktop review will also be conducted, and mock photos will be provided by the instructor for the students to determine potential RECs for the facility. A report outline and other guidance will be provided by the Instructor during the semester. Each student will turn in a bound copy of their Phase I ESA and a digital (pdf copy) of their document.

Phase II ESA: Two-person teams will be selected to complete data collection and the Phase II ESA. The instructor will choose the teams through random draw. The proposed project site will be determined from one of the Phase I ESAs that were completed previously by each group member. The Instructor will require an aerial photograph of the chosen facility in order to generate mock monitor well and soil boring locations. Mock data will also be generated from which the students will conduct data analysis for the Phase II ESA. Each team shall work independently on data evaluation and report preparation.

The Instructor will provide an outline and further detail of report structure during the semester. Nonetheless, each team should reference publicly available Phase II ESAs on the web in order to gain an understanding of report format and content. Some or all of the skills you have learned in previous courses may be applicable to this assignment (Ecology, Soils, GIS and Mapping, Env. Measurements, Hydrology). Some concepts of hydrogeology will also be instructed to the students during the course in order to aid them in completing portions of the Phase II ESA. Thoroughness of Content and Professional Presentation will be important considerations in determining the grade on your document. On the date(s) assigned in the Grading section, each team shall make a 20 minute PowerPoint presentation on the Phase II ESA. At that time, each team will turn in two bound copies of their Phase II ESA and will be required to provide a digital (pdf) copy of their document.

COURSE POLICIES:

Attendance: Lecture and scheduled laboratory attendance is mandatory. Lectures and scheduled laboratories will start promptly at the assigned time. Tardiness will not be tolerated and may result in you being locked-out of the room and counted as absent. If you have a legitimate reason for being persistently tardy, discuss the issue with the professor. If lectures or laboratories are missed because of a university recognized excused absence, it will be the responsibility of the student to notify the professor and, if necessary, provide appropriate documentation before assistance will be provided on missed information. For lectures only, students will be allowed only two unexcused absences for the semester. Each additional unexcused absence will result in a 5 percent point reduction for each occurrence from the final point total. Refer to the SFASU Policy Manual for details.

http://www.sfasu.edu/policies/class_attendance_excused_abs.asp

Acceptable Student Behavior: Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D-34.1). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic,
classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the iCare Program: [http://www.sfasu.edu/judicial/earlyalert.asp](http://www.sfasu.edu/judicial/earlyalert.asp). This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

**Responsible use of technology:** It is expected that all students will only use cell phones, PDAs, laptop computers, MP3 players and other technology outside of class time or when appropriate in class. Answering a cell phone, texting, listening to music or using a laptop for matters unrelated to the course may be grounds for dismissal from class or other penalties.

**Cell phones (including text messaging):** The use of a cell phone, including text messaging, will not be tolerated in the classroom or during a scheduled laboratory. Make sure that cell phones are turned-off and stowed before entering the classroom. If a cell phone rings during a lecture or laboratory, or I observe the use of text messaging, I will deduct ten (10) points from the offending student's total point score for each occurrence. The use of cell phones during an exam will be considered cheating. See Course Policy Below.

**Cheating, Plagiarism, Unprofessional Behavior:** Cheating and Plagiarism will not be tolerated. The severest penalty (F for the course) will be awarded if caught cheating or plagiarizing. An excerpt from the SFASU Policy and Procedures Manual below contains further details.

"It is the responsibility of the student to abstain from cheating. Dishonesty of any kind with respect to examinations, written assignments [completed] in or out of class, alteration of records, or illegal possession of current examinations or keys to examinations shall be considered cheating... Courtesy and honesty require that any ideas or materials borrowed from another must be fully acknowledged. Offering the work of another as one’s own is plagiarism. The subject matter of ideas thus taken from another may range from a few sentences or paragraphs to entire articles copied from books, periodicals, or the writing of other students. The offering of materials assembled or collected by others in the form of projects or collections without acknowledgment is also considered plagiarism. Any student who fails to give credit for ideas or materials taken from another is guilty of plagiarism." A full description on the university policy on academic dishonesty can be found on-line: [http://www.sfasu.edu/policies/student_academic_dishonesty.pdf](http://www.sfasu.edu/policies/student_academic_dishonesty.pdf)

**Scheduling Exams**
One-hour exam dates will be announced at least 7 working days prior to the exam. Final exam will occur during finals week at the time designated according to SFASU’s posted Finals Schedule.

**Learning Disability**
Persons who require special accommodations necessary to complete course requirements must first contact the Disability Services Office at 468-3004. Following notification from the Disability Services Office, all reasonable accommodations will be provided in order to assist the student in successfully completing the course.

**Grading:**
1. Two, 1-hour exams 200 points
2. Comprehensive Final Exam 150 points
3. Phase I ESA and Phase II ESA (200 points each) 400 points
Phase I Report Content and Scoring

Overall Professionalism/Format of Report 10%
Introduction and Environmental Description 15%
Desktop Evaluation 15%
Environmental Questionnaire 10%
REC Table and Results Discussion 25%
Conclusion 20%
Literature Cited 5%

Phase II Report Content and Scoring

Overall Professionalism/Format of Report 10%
Executive Summary with Conclusions 15%
Introduction and Environmental Description 15%
Results, Data Assessment and Figures 35%
Conclusion and Recommendations 20%
Literature Cited 5%

4. Lab Assignments as related to Phase I, Phase II reporting and EIS exercises (40 pts. ea.)
   A. Phase I Environmental Questionnaire and Aerial  Due Jan. 29
   B. Phase I Desktop Evaluation  Feb. 15
   C. Leopold Impact Prediction Matrix (Lab Exercise)  TBD
   D. WHAP (Lab Exercise)  TBD
   E. Phase II Figures, Tables and Maps  Due April 5

4. Team Presentation  50 points

Phase I ESA Due February 22, 2019

Phase II ESA Due Tuesday April 23 and Presentation Due Friday April 26, 2019 – Start of Lab Period

Total Points Available in Course  1000 points

Additional Report Grade Information

Phase II Only: Each team member will receive the identical score for their memos, EIS report and presentation. If necessary, the instructors may reduce the score for an individual student that did not meet expectations to complete any of the assignments related to the EIS. The reduced score will be based on the documents referenced below and observations of the instructors.

1. For each major document content item listed above, a team member shall be identified as the lead.
3. A peer-evaluation of your team member’s performance quality and quantity.