Environmental Soil Science

Syllabus

Instructor: Kenneth W. Farrish
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Department: Environmental Science

Lecture: ZOOM: Live at class time and recorded
Laboratory: Forestry Bab Building, Room 109, 1:00pm to 3:50pm W

Laboratory Instructors: Martin Hadsell
Room 109B Forestry Laboratory Building
hadsellmc@jacks.sfasu.edu

Amy Rambo
Room 109C Forestry Laboratory Building
ramboak@jacks.sfasu.edu


Course Description: Three semester hours, two hours lecture and three hours laboratory per week. The physical, chemical and biological properties of soils, the role of soils in environmental quality, biogeochemical cycles, soil management techniques, and soil classification. Prerequisite: CHEM 1334

Course Objectives: The primary objective of this course is to make the student aware of the importance of soils as part of the environment. This required core course will address the needs of environmental science and related majors, and the subject matter supports courses in ecology, hydrology, remediation and reclamation, and site assessment. Required field trips.

Program Learning Outcomes: BS Environmental Science
1. Demonstrate competency in environmental assessment;
2. Demonstrate understanding in environmental management;
3. Demonstrate understanding in environmental policy and professional ethics;
4. Demonstrate competency critical thinking communicated through effective scientific written reports and oral presentations.
5. Demonstrate preparation to pursue a professional career and/or graduate degree programs.

### B.S. Environmental Science Program Learning Outcomes

<table>
<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>
</tr>
</thead>
<tbody>
<tr>
<td>ENVR 3349</td>
<td>A</td>
<td>A</td>
<td>I</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

N/A – Not Applicable  B-Basic  I-Intermediate  A-Advanced  M-Mastery

Definition of Rating Categories:

1. **N/A** – Not Applicable – course does not support the Program Learning Outcome.

2. **B** – Basic – course supports Program Learning Outcome by providing students with fundamental information, definitions, concepts, and lab activities relative to the expected outcomes.

3. **I** – Intermediate – course supports Program Learning Outcome by providing students with topic-specific information, concepts, applications, and lab activities that increase the students’ skills in making tactical implementation decisions relative to the expected outcomes.

4. **A** – Advanced – course supports Program Learning Outcome by providing students with transitional, high level topic-specific information, activities, and opportunities that enable the students to apply their critical thinking and tactical skills to resolved increasingly challenging strategic situations.

5. **M** – Mastery – course supports Program Learning Outcome by providing students with opportunities to independently apply tactical and strategic planning skills to successfully accomplish real-world, non-academic management objectives. Completes students’ preparedness for entry-level professional activity accomplishment.

Student Learning Outcomes: The primary objective of this course is to make the student aware of the importance of soils as a major component of the environment. The course will cover aspects of the physical, chemical and biological properties of soils and how these relate to land management. This required course will address the needs of environmental science majors and minors. The subject matter supports courses in environmental hydrology, wetland delineation and function, environmental planning, and environmental assessment and management.
## Course Calendar (Tentative*):

<table>
<thead>
<tr>
<th>Lecture Topics</th>
<th>Text Chapters</th>
<th>Dates*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1</td>
<td>8/28, 8/30</td>
</tr>
<tr>
<td>Soil Formation and Morphology</td>
<td>2</td>
<td>9/04, 9/06, 9/11</td>
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<tr>
<td>Soil Physical Properties</td>
<td>4</td>
<td>9/13, 9/18, 9/20</td>
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<tr>
<td><strong>EXAM 1</strong></td>
<td></td>
<td>9/25</td>
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<tr>
<td>Soil Water</td>
<td>5</td>
<td>9/27, 10/02, 10/04</td>
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<tr>
<td>Soils and the Hydrologic Cycle</td>
<td>6</td>
<td>10/09, 10/11</td>
</tr>
<tr>
<td>Soil Aeration and Temperature</td>
<td>7</td>
<td>10/16, 10/18</td>
</tr>
<tr>
<td><strong>EXAM 2</strong></td>
<td></td>
<td>10/23</td>
</tr>
<tr>
<td>Soil Colloids and Chemical Properties</td>
<td>8</td>
<td>10/25, 10/30</td>
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<tr>
<td>Soil Organisms</td>
<td>11</td>
<td>11/01</td>
</tr>
<tr>
<td>Soil Organic Matter</td>
<td>12</td>
<td>11/06</td>
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<tr>
<td>Plant Nutrients and Fertility Management</td>
<td>13,14,15,16</td>
<td>11/08, 11/13</td>
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<tr>
<td><strong>EXAM 3</strong></td>
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<td>11/15</td>
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<tr>
<td>Fall Break</td>
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<td>11/18-11/26</td>
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<tr>
<td>Plant Nutrients and Fertility Management</td>
<td>13,14,15,16</td>
<td>11/27, 11/29</td>
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<tr>
<td>Soil Classification</td>
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<td>12/04, 12/06</td>
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<tr>
<td><strong>EXAM 4</strong></td>
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<td><strong>12/11 (FINALS WEEK)</strong></td>
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*Schedule likely to change

### Course Policies:

A. Grading System - Four exams together will comprise 80 percent (each 20 percent) of the final grade. The overall laboratory grade will comprise the remaining 20 percent of the final grade. The overall laboratory grade is calculated as the mean of the four laboratory reports, three quizzes, and one assignment. **All environmental science majors must make a grade of C or better in each core environmental science (ENV) core course to have the course count toward graduation. This course is a core environmental science course.**

B. Grading Scale - The following scale is adhered to strictly. Individual overall means are calculated to the first decimal place.

- 90.0 - 100 = A
- 80.0 - 89.9 = B
- 70.0 - 79.9 = C
- 60.0 - 69.9 = D
- < 60.0 = F

C. Late Assignments - Make-up exams will only be given if arrangements are made with the instructor before missing the scheduled exam. A documented excuse will be required. Otherwise, missing exams will be
counted as zeroes in the overall grade computation. Late laboratory assignments will not be accepted.

D. Attendance - Attendance in the laboratory section is mandatory. The final laboratory grade will be reduced by one letter grade per unexcused absence.

E. Other Policies

Academic Integrity (A-9.1)
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Definition of Academic Dishonesty
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

See the complete policy at: http://www.sfasu.edu/policies/academic_integrity.asp

Withheld Grades Semester Grades Policy (A-54)
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

Students with Disabilities
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided.
Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

**Mental Health and Wellness**
SFA values students’ mental health and the role it plays in academic and overall student success. SFA provides a variety of resources to support students’ mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources:
SFA Counseling Service
www.sfasu.edu/counselingservices
Rusk Building, 3rd Floor
936-468-1041

SFA Human Services Counseling Clinic
www.sfasu.edu/humanservices/139.asp
Human Services, Room 202
936-468-1041

Crisis Resources:
Burke 24-hour crisis line: 1.800.392.8343S
Suicide Prevention Lifeline: 1.800.273.TALK (8255)
Crisis Text Line: Text HELLO to 741-741

**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 computer for matters unrelated to the course may be grounds for dismissal from class or other penalties.

**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 10.4). 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 Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed. Please read the complete policy at: http://www.sfasu.edu/policies/student-code-of-conduct_10.4.pdf