Syllabus
ENV 402/ENV 514
Wetlands Delineation and Functional Assessment
ENV 402.001; ENV 402.021
ENV 514.001; ENV 514.021

Instructor: Dr. Hans M. Williams, Arthur Temple College of Forestry and Agriculture.
Office: FO 100; Office Phone: 468-2313; Email: hwilliams@sfasu.edu
Office Hours: M-F: 10:45 to 11:30am and 4:00-5:00pm (except R); or by appointment
Credit Hours: 3 credits: 2, 1-hour lectures, 1, 3-hour laboratory
Meeting Times: Lectures-ENV 402.001/ENV 514.001: TR 9:30-10:20 am, Forestry Room 208
Laboratory-ENV 402.021/ENV 514.021: R 2:00-4:50 am, Forestry Lab Room 103

Graduate Assistant: Ms. Amy Camp, M. S. Candidate, Environmental Science
Office: FL 107B
Email: butleram1@jacks.sfasu.edu
Office Hours By Appointment

Course Description: An introduction to the history, regulations and current technical criteria for the identification and delineation of wetland boundaries and the functional assessment of wetlands.

Program Learning Outcomes: ENV 402 is a core course for all students earning the BS in Environmental Science degree. A grade of "C" or better must be earned or the course must be repeated.

Program Learning Outcomes

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.

<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>ENV 402</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>I</td>
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N/A – Not Applicable  B-Basic  I-Intermediate  A-Advanced  M-Mastery

Student Learning Outcomes: Lecture and laboratories are designed to present concepts and practice current techniques for wetland delineation and functional assessment
(PLO1). Students will also gain a basic understanding of the Section 401 and 404, Clean Water Act permitting process (PLO2 and PLO3). Written reports will be assigned (PLO4). This course should assist in preparing students who desire a career in wetlands regulation and management with state and federal agencies, private industry or private consultants (PLO5).

**ENV 514 Students Only**

The graduate students will be required to make a presentation to the class on a current topic related to jurisdictional wetland identification and delineation or wetland functional assessment. The presentations will be in Power-Point format and be a minimum of 25 minutes in length. The maximum points available will be 100 points.

**Suggested Topics:**

1. Proposed WOTUS changes
2. The Solid Waste Agency of Northern Cook County Supreme Court Decision
3. Current Wetland Mitigation Guidelines
5. Section 404 Exemptions
6. Rapanos versus U. S. Army Corps of Engineers

**Required Textbooks:** The manuals used for this course are public domain, federal documents available free in pdf format at:


http://www.swf.usace.army.mil/Missions/Regulatory/Permitting/ApplicationSubmittalForms.aspx


   -Also Wetlands Data Sheet and Wetlands Scoring Sheet
Lecture Topics/Dates:

Wetlands Regulations/Week 1
- Federal Water Pollution Control Act ("Clean Water Act")
- Food Security Act
- State and Federal Wetland Permitting Process

Wetland Identification and Delineation/ Weeks 2 to 4
- Why a 3 Parameter Approach?
- Wetland Vegetation Criteria and Indicators
- Wetland Soils Criteria and Indicators
- Wetland Hydrology Criteria and Indicators
- Regional Supplements to the 1987 Manual

Wetland Identification and Delineation Field Methods/ Week 5
- Preliminary Office Work
- Routine Field Methods
- Comprehensive Field Methods

Problem Wetlands/Disturbed Wetlands Identification and Delineation/ Weeks 6 and 7

Hydrogeomorphic Functional Assessment/ Weeks 8 to 11
- Functions Versus Values
- Hydrogeomorphic Classification System
- Reference Wetlands and the Reference Domain
- Reference Standards
- Functional Indices, Sub-indices, and Model Development

Texas Rapid Assessment Method (TXRAM) – Wetlands and Streams/ Weeks 12 to 14

Practical Application of Indices - Wetlands Mitigation/ Week 15

Attendance Policy: Attendance for lectures and laboratories are mandatory. There will be no make-up laboratories. Each laboratory unexcused absence will result in a 5% reduction from your final course grade and the forfeiture of the points assigned for that laboratory. After two unexcused lecture absences, each additional lecture absence will result in a 5% reduction from your final course grade.

Students are responsible for providing documentation for an excused absence. See the SFASU Policy Manual, Class Attendance and Excused Absence, Policy 6.7 on SFASU web-site for more information.
(http://www.sfasu.edu/policies/class-attendance-and-excused-absence.pdf)

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 Code of Conduct, 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/online forums, classroom meetings, 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 known as “iCare”. 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 related devices 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.

Listed below are two, common behavioral issues that can disrupt the learning environment. Be aware of the policy for each behavior listed below.

1. **Cell phones (including text messaging):** The use of a cell phone, including text messaging, will not be tolerated in the classroom or during a field 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 a cell phone or any unauthorized electronic device during an exam will be considered as cheating. See cheating policy below.

2. **Excessive tardiness/leaving early:** Lecture and laboratory will begin promptly at the appointed time. Repeated tardiness will not be tolerated. A student can be late to class twice without penalty. A ten (10) point reduction in the total point score will be applied for each additional occurrence. Tardiness to laboratory will usually result in the student missing the laboratory. See above for the laboratory attendance policy.

Students that have to leave during lecture/laboratory for a legitimate reason must make prior arrangements. If a student decides to leave during a lecture/laboratory for unexcused reasons, do not return during that particular period. A ten (10) point reduction in a student's final point total will be applied for each occurrence.

**Course Grade:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
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<tbody>
<tr>
<td>Written Exams @ 100 points each</td>
<td>200</td>
</tr>
<tr>
<td>Laboratory Reports @ 25 points each</td>
<td>175</td>
</tr>
<tr>
<td>Total Course Points</td>
<td>375</td>
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Course Grade = (Total Points Earned/Total Points Available) X 100.

**Cheating and Plagiarism:** The severest penalty (an F for the course) will be assigned to any student caught cheating or plagiarizing on an assignment. Cheating and Plagiarism are defined in the SFASU Policy Manual (Student Academic Dishonesty Policy 4.1; http://www.sfasu.edu/policies/student_academic_dishonesty.pdf

Cheating includes:
1. Using unauthorized materials
2. Falsification or invention of any information
3. Helping someone else cheat or plagiarize
Plagiarism is presenting the words of ideas of another person as if they were your own. Plagiarism includes:
1. Submitting an assignment as your work, but, 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
3. Using the words or ideas of an author in your paper without giving proper credit

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.

Proposed Field Laboratory Schedule
Thursdays 2:00 to 4:50 pm

Students will be required to wear hard-hats, long-pants, and work boots for field laboratories. No exceptions!! If you are not dressed in proper field entire, you will not be allowed to attend the field laboratory. You may get wet and muddy, dress accordingly. We will meet in the Forestry Garage prior to departing for the field.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Aug 31</td>
<td>Lecture</td>
</tr>
<tr>
<td>Sep 7</td>
<td>Lecture (Convocation at 4:00 pm)</td>
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<tr>
<td>Sep 14</td>
<td>Wetland Identification (Estimating Plant Cover)</td>
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<tr>
<td>Sep 21</td>
<td>Wetland Identification (Hydric Soil/Hydrology Indicators)</td>
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<td>Sep 28</td>
<td>Wetland Identification and Delineation – Report Assigned</td>
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<td>Oct 5</td>
<td>Wetland Identification and Delineation - Report Assigned</td>
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<tr>
<td>Oct 12</td>
<td>Wetland Identification and Delineation – Report Assigned</td>
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<tr>
<td>Oct 19</td>
<td>Test 1</td>
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<tr>
<td>Oct 26</td>
<td>HGM – WAA and Plot Locations, WAA and Plot Variables</td>
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<tr>
<td>Nov 2</td>
<td>HGM Functional Assessment of Wetlands – Report Assigned</td>
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<tr>
<td>Nov 9</td>
<td>HGM Functional Assessment of Wetlands - Report Assigned</td>
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<tr>
<td>Nov 16</td>
<td>HGM Functional Assessment of Wetlands - Report Assigned</td>
</tr>
<tr>
<td>Nov 23</td>
<td>No Laboratory - Thanksgiving</td>
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<tr>
<td>Nov 30</td>
<td>TXRAM Assessment of Wetlands - Report Assigned</td>
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<tr>
<td>Dec 7</td>
<td>Test 2</td>
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