Water Resources Management
FORS 6377.001
FALL, 2021

COURSE SYLLABUS

Professor: Matthew McBroom, Ph.D, C.F.
Office: 104 Forest Laboratory Building
Phone: 468-3301
Email: mcbroommattth@sfasu.edu
Office Hours: MW 8:00-9:00, 10:30-12:00, Others by Appointment
Class Schedule: MW 9:00-9:50 – Lecture, Forest Hydrology
                MW 1:00-3:50 – Lab, Forest Hydrology
                M  6:00-8:50 – Water Resources Management
Class Meeting Place: FORL 103

COURSE DESCRIPTION

FORS 6377 – Water Resources Management. 3 semester hours, This survey course will examine basic principles of hydrology and how society is involved in managing the hydrologic cycle and water resources.

Required Textbooks:

Program Learning Outcomes
1. The student will demonstrate proficiency in research design, relative to their field of study.
2. The student will demonstrate proficiency in the process of reviewing scientific literature pertinent to their field of study.
3. The student will demonstrate proficiency in basic statistical analysis; relative to their field of study.
4. The student will demonstrate sufficient preparation in their field of study to pursue a professional career.
5. The student will demonstrate competency in oral and written communication skills.
Ph.D. Forestry Program Learning Outcomes

<table>
<thead>
<tr>
<th>Course</th>
<th>PLO 1 Proficiency in Research Design</th>
<th>PLO2 Scientific Literature Review</th>
<th>PLO3 Proficiency in Basic Statistical Analysis</th>
<th>PLO4 Preparation for Pursuit in a Professional Career</th>
<th>PLO5 Competency in Oral and Written Communication Skills</th>
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</thead>
<tbody>
<tr>
<td>FORS 6377</td>
<td>I</td>
<td>M</td>
<td>B</td>
<td>I</td>
<td>M</td>
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</tbody>
</table>

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: Upon successful completion of this course, the student will:
Understand fundamental principles of the generation and movement of water, and subsequent soil, and nutrients movement in a watershed system (PLO #1 and 2);
Understand basic watershed instrumentation, measurements, and research techniques (PLO #1 & 2);
Develop an understanding of how water resource issues effect environmental management decisions, economics, and policies. (PLO #2, 3, & 4);
Demonstrate an understanding of basic concepts in watershed protection, enhancement, and rehabilitation and the ethical implementation thereof. (PLO #3 and 5)
Have demonstrated competency in oral and written communication skills (PLO #5).

Tentative Forestry 6377 Lecture Schedule.

<table>
<thead>
<tr>
<th>Class Meeting</th>
<th>Lecture Topic</th>
<th>Book Chapter</th>
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<tbody>
<tr>
<td>8/23</td>
<td>Water Development History</td>
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<tr>
<td>8/30</td>
<td>Water Basics/Water Cycle</td>
<td>1-2</td>
</tr>
<tr>
<td>9/6</td>
<td>Surface Water Hydrology</td>
<td>3</td>
</tr>
<tr>
<td>9/13</td>
<td>Surface Water Quality</td>
<td>4</td>
</tr>
<tr>
<td>9/20</td>
<td>Ground Water</td>
<td>5</td>
</tr>
<tr>
<td>9/27</td>
<td>Aquatic Ecosystems</td>
<td>6</td>
</tr>
<tr>
<td>10/4</td>
<td>Water and Health – <strong>Field Trip Sam Rayburn (10/15?)</strong></td>
<td>7</td>
</tr>
<tr>
<td>10/11</td>
<td>Potable Water and Wastewater Treatment - <strong>Midterm</strong></td>
<td>8</td>
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<tr>
<td>10/18</td>
<td>Water Demand Planning and Management</td>
<td>9</td>
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<tr>
<td>10/25</td>
<td>Water Economics</td>
<td>10</td>
</tr>
<tr>
<td>11/1</td>
<td>Water Conflict, Law, and Governance</td>
<td>11</td>
</tr>
<tr>
<td>11/8</td>
<td>Virtual Water / Oral Presentations</td>
<td>12</td>
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<tr>
<td>11/15</td>
<td>Future of Water / Oral Presentations</td>
<td>13</td>
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<tr>
<td>11/22</td>
<td><strong>Thanksgiving Holiday</strong></td>
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<tr>
<td>11/29</td>
<td>Oral Presentations/Papers Due</td>
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<tr>
<td>12/6</td>
<td><strong>Final Exam</strong></td>
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Lecture schedule is subject to revision.
Field Trips – We have a scheduled field trip on Friday, October 15 (8-3 p.m.) to Sam Rayburn Dam to see water resources management in action at the largest reservoir in Texas.

COURSE EVALUATION

Grading Philosophy: I graduate natural resource professionals to be committed, self-motivated and enthusiastic about their chosen profession and the proper and ethical practice thereof. You are to the point in your educational career where you should be self-learners, with the instructor acting more as facilitator. The grading system for this course is designed to provide each student with the opportunity to demonstrate his or her mastery of the subject matter.

Course Grades: Final course grades will be assigned as follows:
1 Midterm Exam, 100 points.
1 Comprehensive Final Exam, 100 points.
1 Doctoral Level Term Paper, 100 points.
Presentation of Doctoral Paper Topic, 100 points.
Analysis of Presentations, 50 points
Doctoral Level Case Study Analysis, 150 points.

Mail: Please check your SFA email account regularly. Email will be the official tool for communicating the important reminders, announcements, and further assignment directions. Grades will be posted on Brightspace.

Reports:
Each student must work faithfully on his/her problem exercises, lab reports, or other assignments. Copying results from someone else (even from an earlier semester) will result in a zero grade. All assignments should be handed in on or before the deadline, no excuses. All reports must be typed, in double space, with an attached cover sheet. Reports must be written in a professional manner, free from typographical, spelling, and grammatical errors. For problem exercises, attach calculations as an appendix. Lab reports will typically be due 1 week after they are assigned, at the beginning of the next lab meeting time.

Attendance: Course attendance is required. More than 4 unexcused absences from lecture will result in the deduction of 10 points from the final average (1 letter grade). Lectures and lab exercises will start promptly at their assigned times. Tardiness is unprofessional and will not be tolerated. Tardiness may result in your being left behind on lab field trips, receiving a zero grade for that assignment. Unexcused absences from lab result in a 0 grade for that lab report. The student will be expected to accumulate a great deal of information during this course. New material builds on material from previous lectures so that absences will result in a student falling behind. Excused absences include participation in University-sponsored events, health problems, or family emergencies. Documentation for excused absences must be provided. Notification of planned excused absences should be provided. Make-up work will be accepted for a maximum of 2 weeks following an excused absence. http://www.sfasu.edu/policies/class-attendance-6.7.pdf

Student Academic Dishonesty Policy (4.1)
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
Course Grades Policy (5.5)
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. Please read the complete policy at http://www.sfasu.edu/policies/course-grades-5.5.pdf

Academic Accommodation for Students with Disabilities Policy (6.1)
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/

Responsible Use of Technology
It is expected that all students will only use cell phones, laptop computers, 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

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 936.468.2401
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