SYLLABUS AND POLICY STATEMENTS
FOR 205 -- FOREST BIOMETRICS I
FALL 2019

INSTRUCTOR
Dr. Yuhui Weng
Forestry Building 203D
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E-mail: wengy@sfasu.edu
Office Hours: Monday, Tuesday and Tuesday: 9:30 – 11:50 am or by appointment

TIME AND PLACE
Lecture: Mondays and Wednesdays, 8:00 – 8:50 am, Forestry Building 205
Lab: Wednesdays, 1:00 – 3:50 pm, Forestry Building 205

COURSE DESCRIPTION
3 semester hours, 2 hours lecture and 3 hours lab per week. Individual tree measurements, forest sampling methods, applied statistics, and computer applications for data analysis. Required field trips.

Prerequisite: MTH 138 or 143, MTH 133 (trigonometry) and MTH 220 are useful but not required. A good understanding of algebra, geometry, trigonometry, and statistics is desirable.

PROGRAM LEARNING OUTCOMES
Forestry 205 is one of the forestry core courses required of all forestry majors and thus competency is required. A minimum grade of a “C” must be earned or the course will have to be repeated. The course is designed to address the following Program Learning Outcomes (PLOs), as stated in the BSF Program Matrix:

1) Demonstrate understanding and competency of forest ecology and biology,
2) Demonstrate understanding and competency in the measurement of forest resources,
3) Demonstrate understanding and competency in managing forest resources,
4) Demonstrate understanding and competency of forest resource policy, economics, and administration, and
5) Demonstrate understanding and competency in oral and written communication skills.
The above PLOs are also recognized as vital components by the Society of American Foresters, the Page 2 of 8 program’s accrediting agency.

### B.S. Forestry Program Learning Outcomes

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**B** – Basic – FOR 205 supports Program Learning Outcome by providing students with fundamental information, definitions, concepts, and lab activities relative to the expected outcomes.

**I** – Intermediate – FOR 205 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.

### STUDENT LEARNING OUTCOMES

Upon successful completion of this course, the student will:

1) Understand the connection between basic forest measurements and basic ecological concepts & principles (PLO #1 and 2),

2) Be able to collect, analyze, and project forest inventory data to assess current & future forest conditions (PLO #1 & 2),

3) Be able to make forest inventory reports that support specific multiple land management objectives & constraints as well as understand the implications of forest management decisions based on quantitative information (PLO #1, 2, 3 and 5),

4) Understand professional ethics, including SAF Code of Ethics, & recognition of ethical responsibility to adhere to those ethical standards in forestry decision making on behalf of clients & public (PLO #4), and

5) Demonstrate competency in oral and written communication skills (PLO #5).

### COURSE GOALS AND OBJECTIVES

FOR 205 will cover the theory and application of calculating basic statistics, determining tree content, sampling forest stands, and predicting future yields of forest stands. Students will not only learn the proper field techniques to conduct a forest inventory, but also how the various methodologies work. They will also learn how to analyze inventory data using computer software and present their results in both written and oral formats. Students will also learn about
Professionalism & Ethics in Forest Resource Management and the SAF Code of Ethics. Specific objectives include:

1) Provide methodology to measure basic tree and stand attributes necessary to quantify stand structure, the timber resource, and other non-tree resources,

2) Provide experience in using computer-based software necessary to process cruises and generate reports,

3) Provide experience in communicating results of field exercises and working in group settings,

4) Provide formal discussions about Professionalism & Ethics in Forest Resource Management.

REQUIRED TEXT AND OTHER REFERENCE TEXTS


COURSE REQUIREMENTS, GRADING SYSTEM, & ATTENDANCE POLICY

Grades will be based on the number of points earned in exams and labs. A total of 100 points are possible. On a percentage basis, final grades will be computed as: 90+ = A, 80 – 89 = B, 70 – 79 = C, 60 – 69 = D.

Lectures: As forestry professionals, I expect every person to attend lecture because you need to know how to quantify forest resources.

Labs: Lab attendance is mandatory! Each person will turn in his/her own weekly lab assignments. However, you will work in groups to collect field data for labs requiring fieldwork. There will be 10 graded labs, 4 points each, for a total of 40 points. Lab assignments are due one week following the assignment date by 5pm (unless I assign another due date). Failure to turn in a lab assignment by the due date will result in a deduction (5% every 24 hours delay) for that lab assignment. If you must miss a lab session, see me BEFORE you miss lab; or, in the case of an
emergency, see me immediately when you return to class. If you have to miss lab for another class, field trip, or school sponsored activity, then you must complete the assignment BEFORE you leave (and I need to have a written letter from the professor stating that you will be missing my class). If you miss lab without a valid excuse, you will receive a “zero” for that lab assignment.

Lab equipment: You will need to provide your personal field gear (boots, hardhat, sturdy clothing, water bottle, insect repellant), a scientific calculator that provides basic statistics and trigonometry functions, an engineer’s scale, drafting triangle, and a protractor.

Exams: There will be two exams (each worth 30 points). Exams will be given on regular class time. You must take the exam at the scheduled time, unless you have an excused absence. Exams will be returned only to review grades, but you will not be able to keep the exams permanently.

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.

Student Academic Dishonesty Policy (4.1)

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. Please read the complete policy at http://www.sfasu.edu/policies/student_academic_dishonesty.pdf

Withheld Grades Semester Grades Policy (A-54)

Ordinarly, 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.

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, 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

**SOCIAL JUSTICE STATEMENT**

The Arthur Temple College of Forestry and Agriculture at SFASU is committed to social justice. I concur with that commitment and expect to maintain a positive learning environment based upon open communication, mutual respect, and non-discrimination. Our University does not discriminate on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color or national origin. Any suggestions as to how to further such a positive and open environment in this class will be appreciated and given serious consideration.

**COURSE CONTENT AND TENTATIVE SCHEDULE**

Week 1: Introduction

Week 2: Basic statistical concepts Lab 1: Statistics using Excel
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<tr>
<th>Week 3: Measurement of tree diameter</th>
<th>Lab 2: Diameter measurements</th>
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<tr>
<td>Week 4: Measurement of tree height</td>
<td>Lab 3: Height measurements</td>
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<td>Week 5: Determine tree volume and weight</td>
<td>Lab 4: Log cubic volume</td>
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<td>Week 6: Measurement of primary forest products</td>
<td>Lab 5: Log board-foot content</td>
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<td>Week 7: Measure other tree traits</td>
<td><strong>Exam 1</strong></td>
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<td>Week 8: Cruise design and layout</td>
<td>Lab 6: Cruise design and layout</td>
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<td>Week 9: Line-plot inventory</td>
<td>Lab 7: Build Stand and Stock tables (1)</td>
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<td>Week 10: Line-point inventory</td>
<td>Lab 8: Fixed-area point timber cruise</td>
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<td>Week 11: Other sampling designs</td>
<td>Lab 9: Build Stand and Stock tables (2)</td>
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<td>Week 12: Stand parameters</td>
<td>Lab 10: Line-point sampling timber cruise</td>
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<td>Week 13: Stand parameters</td>
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<td>Week 14: Thanksgiving holiday</td>
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<td>Week 15: Growth of the tree and stand</td>
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<td>Week 16:</td>
<td><strong>Exam 2</strong></td>
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