INSTRUCTIONAL PACKAGE

FOR 154
Mensuration

Effective Term
Fall 2022/Spring 2023/Summer 2023

INSTRUCTIONAL PACKAGE

Departmental Mission Statement:
Forestry Management Technology Department & Program Mission Statement

The mission of the Department, the Programs and its faculty is to support the broader College's goals as detailed above, but also provide a comprehensive silviculturally based environmental education that recognizes the broad multiple uses demanded from the forest environments of South Carolina, the Southeastern United States, and the nation.

- We want our graduates to recognize how their daily decisions will have a lasting impact on the social, cultural, economic, and environment fabric of our state, region and country.
- Their natural resource decision making process must be based on the highest professional and ethical standards for the long term protection and promotion of a high demand resource.
- We strive to prepare well trained forest, wildlife and natural resource technicians for both public and private sector employers and promote career opportunities for our graduates.

Part I: Course Information

Effective Term: <u>Fall 2022</u>

COURSE PREFIX: FOR 154   COURSE TITLE: Mensuration

CONTACT HOURS: 2 Lecture, 3 Lab   CREDIT HOURS: 3

RATIONALE FOR THE COURSE:

The purpose of this course is to give the student a working knowledge of the techniques and instrumentation that are commonly utilized to measure the important parameters of a standing forest (basal area, height, diameter, site quality, stand density, and volume). The ability to measure these parameters is essential to develop information required in the decision-making processes involved in silviculture and forest management.

COURSE DESCRIPTION:

This course is a study of the techniques and instruments used in the measurement of standing or harvested trees. The use of log rules, volume tables, yield tables, and elementary statistics are included.

PREREQUISITES/CO-REQUISITES:

Must be enrolled in one of the following Fields of Study (Major, Minor, or Concentration):
    Forestry Management Tech
    Wildlife Management

Prerequisites:
((New ACCUPLACER Reading Comp 200) or (Multiple Measures English 1) or (SAT Critical Reading

380) or (ACT English 14) or (Credit level [ENG 101](#) Minimum Grade of C or Credit level [ENG 101](#) Minimum Grade of TC or Credit level [ENG 155](#) Minimum Grade of C or Credit level [ENG 155](#) Minimum Grade of TC))

***Online/Hybrid** courses require students to complete the [DLi Orientation Video](#) prior to enrolling in an online course.

REQUIRED MATERIALS:

Please visit the [BOOKSTORE](#) online site for most current textbook information.

Enter the semester, course prefix, number and section when prompted and you will be linked to the correct textbook.

ADDITIONAL REQUIREMENTS:

- Hand-held Scientific Calculator w/Trig Functions (Sine, Cosine, Tangent)
- 50-ft Diameter Tape
- Cruising Vest

SAFETY AWARENESS

All laboratories are conducted outdoors in whole or in part, regardless of weather conditions. Appropriate clothing is required, including pants and boots. Please do not wear sandals, tennis-shoes, sneakers, crocs, flip-flops, slippers, etc. Appropriate protective clothing should be worn when inclement weather is anticipated. Students should consider raingear, jackets, and gloves. Because of the obvious health risks associated with exposure to inclement weather, the instructors reserve the right to dismiss any student who is not properly dressed from any lab period.

Being outdoors carries some additional risk. Always be aware of your surroundings. Pay special attention while crossing roads or examining trees near roads. Bees, wasps and yellow jackets, although not common, may be encountered during a lab. You may wish to inform your instructor of any allergies or other medical conditions that you may have. Poison-ivy will be present, so know what the species looks like. It is everyone's responsibility for keeping the class safe.

TECHNICAL REQUIREMENTS:

Access to Desire2Learn (D2L), HGTC's student portal for course materials.
myHGTC and college email access.

CLASSROOM ETIQUETTE:

As a matter of courtesy to other students and your professor, please turn off cell phones and other communication/entertainment devices before class begins. If you are monitoring for an emergency, please notify your professor prior to class and switch cell phone ringers to vibrate.

NETIQUETTE: is the term commonly used to refer to conventions adopted by Internet users on the web, mailing lists, public forums, and in live chat focused on online communications etiquette. For more information regarding Netiquette expectations for distance learning courses, please visit [Online Netiquette.](#)

Part II: Student Learning Outcomes

COURSE LEARNING OUTCOMES and ASSESSMENTS*:

Module #1
Materials Covered: Forest Measurements, Scales of Measurement and Rounding, Guide to Written Assignments, Introduction to Statistics and Concepts, Woodland Safety & CPR/First Aid

Assessment(s): In Class Assignments, Quiz, Labs, Exam

Learning Outcomes:
1. Identify the uses and purposes of measuring the forest.
2. Effectively apply rules of rounding for the forest industry.
3. Differentiate between business letters, memos, and professional emails.
4. Create and explain graphs of different forest measurement variables.
5. Recognize how personal choices can bias samples.
6. Calculate mean, mode and median of datasets.
7. Explain the standard deviation and coefficient of variation as they apply to forestry decisions.
8. Discuss the basic concepts of Woodland Safety, including PPEs, hazard identification, poisonous plant identification, venomous snake/spider identification and emergency procedures
9. Demonstrate proper understanding and techniques in First Aid, CPR and AED operation.

Module #2
Materials Covered: Forest Sampling, Land Measurements, Area Determination, GPS, Log Rules and Volume estimates

Assessment(s): In Class Assignments, Quiz, Labs, Exam

Learning Outcomes:
1. Differentiate between random, systematic, and stratified sampling.
2. Define and calculate cubic volume; cord; MBF; weight scale.
3. Identify basic log scaling rules.
4. Discuss concept of land area, chains, pacing, and compass operation.
5. Define bearing; azimuth; agonic line; declination.
6. Calculate acreage using a dot grid and GPS.
7. Explain differences in map scales and their use in area determination.
8. Demonstrate the ability to obtain bearings and distances from remotely sensed imagery

9. Determine area, scale, and topography using remotely sensed data

Module #3

Materials Covered: Measuring Standing Trees, Forest Inventory, Site Index, Stand Density and Stocking, Line Plot and Strip Cruise Calculations

* Assessments: In Class Assignments, Quiz, Labs, Exam

Learning Outcomes:

1. Knowledge of log scaling, grading, and tree defects.
2. Demonstrate the safe and proper use of field equipment.
3. Define DBH and its appropriate measurement with specific instruments.
4. Define, establish, and measure total height, merchantable height with specific instruments.
5. Use increment borer to determine "tree age."
6. Define and calculate basal area.
7. Convert existing tree volume table into tree weight table.
8. Create cruise tally card, estimate volume/weight of tallied trees, complete a Stand and Stock Table, and provide an estimate of the forest stand's value based on current timber pricing.

Module #4

Materials Covered: Forest Inventories with Point Samples, 3P Sampling, GIS data use, Forest Assessment of Rangeland, Wildlife, Water, and Recreation

*Assessment(s):   In Class Assignments, Quiz, Labs, Exam

**Program Learning Outcome Assessment (Forestry Standard 1) – student's ability to correctly measure trees, compass/pace, and navigate using GPS)

Learning Outcomes:

1. Demonstrate methods and types of timber cruising (100% tally, strip, line-plot, point sampling).
2. Estimate number of trees and the basal area per acre for plot and point sampling.
3. Define and explain 3P sampling and when it is used.
4. Identify the different types of aerial photographs and their uses.
5. Explain the uses of Geographic Information Systems in forestry.
6. Calculate Animal Unit Months (AMU) for rangeland/silvipasture.
7. Estimate animal populations using Lincoln-Petersen Index.
8. Delineate watershed boundaries and classify streams by stream order.
9. Evaluate recreational use indicators to determine the best predictor.

*Students – please refer to the Instructor's Course Information sheet for specific information on assessments and due dates.

2022-2023

Part III: Grading and Assessment

EVALUATION OF REQUIRED COURSE MEASURES/ARTIFACTS*:

Students' performance will be assessed, and the weight associated with the various measures/artifacts are listed below.

EVALUATION*

Class Assignments	**20%**
Labs	**20%**
Exams (4)	**20%**
Lab Practical	**20%**
Final Exam	**20%**
	100%

***Students, for the specific number and type of evaluations, please refer to the Instructor's Course Information Sheet.**

GRADING SYSTEM:

Please note the College adheres to a 10-point grading scale A = 100 – 90, B = 89- 80, C = 79 – 70, D = 69 – 60, F = 59 and below.

Grades earned in courses impact academic progression and financial aid status. Before withdrawing from a course, be sure to talk with your instructor and financial aid counselor about the implications of that course of action. Ds, Fs, Ws, WFs and Is also negatively impact academic progression and financial aid status.

The Add/Drop Period is the first 5 days of the semester for **full term** classes. Add/Drop periods are shorter for accelerated format courses. Please refer to the academic calendar for deadlines for add/drop. You must attend at least one meeting of all of your classes during that period. If you do not, you will be dropped from the course(s) and your Financial Aid will be reduced accordingly.

Part IV: Attendance

Horry-Georgetown Technical College maintains a general attendance policy requiring students to be present for a minimum of 80 percent (80%) of their classes in order to receive credit for any course. Due to the varied nature of courses taught at the college, some faculty may require up to 90 percent (90%) attendance. Pursuant to 34 Code of Federal Regulations 228.22 - Return to Title IV Funds, once a student has missed over 20% of the course or has missed two (2) consecutive weeks, the faculty is obligated to withdraw the student and a student may not be permitted to reenroll. **Instructors define absentee limits for their class at the beginning of each term; please refer to the Instructor Course Information Sheet.**

For online and hybrid courses, check your Instructor's Course Information Sheet for any required

2022-2023

on-site meeting times. Please note, instructors may require tests to be taken at approved testing sites, and if you use a testing center other than those provided by HGTC, the center may charge a fee for its services.

Part V: Student Resources

THE STUDENT SUCCESS AND TUTORING CENTER (SSTC):

The SSTC offers to all students the following **free** resources:
1. **Academic tutors** for most subject areas, **Writing Center support**, and **college success skills**.
2. Online **tutoring** and academic support resources.
3. Professional and interpersonal communication **coaching** in the EPIC Labs.

Visit the Student Success & Tutoring Center website for more information. To schedule tutoring, contact the SSTC at sstc@hgtc.edu or self-schedule in the Penji iOS/Android app or at www.penjiapp.com. Email sstc@hgtc.edu or call SSTC Conway, 349-7872; SSTC Grand Strand, 477-2113; and SSTC Georgetown, 520-1455, or go to the Online Resource Center to access on-demand resources.

STUDENT INFORMATION CENTER: TECH Central

TECH Central offers to all students the following free resources:
1. **Getting around HGTC**: General information and guidance for enrollment, financial aid, registration, and payment plan support!
2. Use the Online Resource Center (ORC) including Office 365 support, password resets, and username information.
3. **In-person workshops, online tutorials and more services** are available in Desire2Learn, Student Portal, Degree Works, and Office 365.
4. **Chat with our staff on TECH Talk**, our live chat service. TECH Talk can be accessed on the student portal and on TECH Central's website, or by texting questions to (843) 375-8552.

Visit the Tech Central website for more information. Live Chat and Center locations are posted on the website. Or please call (843) 349 – TECH (8324), Option #1.

STUDENT TESTING:

Testing in an **online/hybrid** course may be accomplished in a variety of ways:
- Test administered within D2L
- Test administered in writing on paper

2022-2023

- Test administered through Publisher Platforms

Further more tests may have time limits and/or require a proctor.

Proctoring can be accomplished either face-to-face at an approved site or online through our online proctoring service. To find out more about proctoring services, please visit the Online Testing section of the HGTC's Testing Center webpage.

The **Instructor Information Sheet** will have more details on test requirements for your course.

DISABILITY SERVICES:

HGTC is committed to providing an accessible environment for students with disabilities. Inquiries may be directed to HGTC's Accessibility and Disability Service webpage. The Accessibility and Disability staff will review documentation of the student's disability and, in a confidential setting with the student, develop an educational accommodation plan.

Note: It is the student's responsibility to self-identify as needing accommodations and to provide acceptable documentation. After a student has self-identified and submitted documentation of a disability, accommodations may be determined, accepted, and provided.

STATEMENT OF EQUAL OPPORTUNITY/NON-DISCRIMINATION STATEMENT:

Horry-Georgetown Technical College prohibits discrimination and harassment, including sexual harassment and abuse, on the basis of race, color, sex, national or ethnic origin, age, religion, disability, marital or family status, veteran status, political ideas, sexual orientation, gender identity, or pregnancy, childbirth, or related medical conditions, including, but not limited to, lactation in educational programs and/or activities.

TITLE IX REQUIREMENTS:

All students (as well as other persons) at Horry-Georgetown Technical College are protected by Title IX—regardless of their sex, sexual orientation, gender identity, part- or full-time status, disability, race, or national origin—in all aspects of educational programs and activities. Any student, or other member of the college community, who believes that he/she is or has been a victim of sexual harassment or sexual violence may file a report with the college's Chief Student Services Officer, campus law enforcement, or with the college's Title IX Coordinator, or designee.

*Faculty and Staff are required to report incidents to the Title IX Coordinators when involving students. The only HGTC employees exempt from mandatory reporting are licensed mental health professionals (only as part of their job description such as counseling services).

INQUIRIES REGARDING THE NON-DISCRIMINATION/TITLE IX POLICIES:

Student and prospective student inquiries concerning Section 504, Title II, and Title IX and their application to the College or any student decision may be directed to the Vice President for Student Affairs.

Dr. Melissa Batten, VP Student Affairs

2022-2023

Title IX Coordinator
Building 1100, Room 107A, Conway Campus
PO Box 261966, Conway, SC 29528-6066
843-349-5228
Melissa.Batten@hgtc.edu

Employee and applicant inquiries concerning Section 504, Title II, and Title IX and their application to the College may be directed to the Vice President for Human Resources.

Jacquelyne Snyder, VP Human Resources
EEO and Title IX Coordinator
Building 200, Room 212A, Conway Campus
PO Box 261966, Conway, SC 29528-6066
843-349-5212
Jacquelyne.Snyder@hgtc.edu