



# **INSTRUCTIONAL PACKAGE**

FOR-269

Forestry, Statistics & Data Processing

Effective Term

Fall 2020

# 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: Fall 2020

COURSE PREFIX: FOR-269

COURSE TITLE: Forestry, Statistics & Data Processing

CONTACT HOURS: 2 Lecture, 3 Lab

CREDIT HOURS: 3

**RATIONALE FOR THE COURSE:** This course is designed to help the student gain a sound understanding of the importance of the following four subject areas:

1. The organization of large volumes of data for technical written or oral presentation.
2. Financial computations that affect forestry investment decisions.
3. Microcomputer applications in forestry, including field data recorders.
4. Basic statistical analyses of forestry data.

**COURSE DESCRIPTION:** This course covers measuring, recording, and summarizing various forestry field data and its presentation in technical form. Basic statistical and finance computations, interest, and discount computations are included.

**PREREQUISITES/CO-REQUISITES:** (Credit level [FOR 154](#) Minimum Grade of D or Credit level [FOR 154](#) Minimum Grade of TC) and (Credit level [FOR 156](#) Minimum Grade of C or Credit level [FOR 156](#) Minimum Grade of TC) and (Credit level [FOR 106](#) Minimum Grade of C or Credit level [FOR 106](#) Minimum Grade of TC)

\***Online/Hybrid** courses require students to complete the DLI Online Student Orientation prior to completing an online course. The DLI Online Student Orientation can be found in WaveNet, under the

April 2020

My Student tab.

**REQUIRED MATERIALS:** There is no textbook for this course. Please visit the [BOOKSTORE](#) online site for most current textbook information. Use the direct link below to find textbooks. Enter the semester, course prefix, number and section when prompted and you will be linked to the correct textbook.

**ADDITIONAL REQUIREMENTS:** Scientific calculator, Flash Drive. Students will be provided handouts and other materials.

**TECHNICAL REQUIREMENTS:** Access to Desire2Learn (D2L), HGTC's student portal for course materials. WaveNet and D2L email access.

**STUDENT IDENTIFICATION VERIFICATION:** Student Identification Verification for enrollment purposes will take place in the lab segment of this course. Please refer to your Instructor Information Sheet for information regarding this requirement.

**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](#).

**SAFETY:** Prior to going to the woods for a field lab, the instructor will hold a safety briefing identifying the boundaries of the study area, any known hazards and the proper use of Personal Protective Equipment assigned to that exercise.

**LAB EXERCISES:** This class has an outdoor lab associated with it. Please come appropriately dressed for lab with long pants and boots. Field data collected in each lab will be processed by hand or in Excel. Data analysis with graphs will be completed for each exercise and submitted to the Drop Box.

**LAB LISTING:**

1. Univariate Analysis of DBH (Field Measurements & Classroom Analysis in Excel)
2. Bivariate Analysis of DBH vs. Total Height (Field Measurements & Classroom Analysis)
3. Bivariate Analysis: Sapling Growth Response (Sapling Ground Diameter vs. Height)
4. Bivariate Analysis: Live Crown Ratio vs. Total Height for Loblolly pine
5. Bivariate Analysis: DBH vs. Total Height for Loblolly pine
6. Bivariate Analysis: Crown Diameter vs. DBH for Loblolly pine
7. 3 Variate Analysis: DBH, Ground Diameter & Total Height utilizing a Stump Cruise Format
8. Analysis of Tree Cores for Current Annual Radial Growth, Lifetime Average and Periodic Radial Growth
9. Calculating Age and Site Index for various pine and hardwood species. (Proper coring techniques, reading a core, etc.)

10. Calculation of Total Tree Growth Rates using Tree Core information, Total Tree Heights, Age, and Site Index Calculations
11. Calculation of Total Tree Growth Rates using Tree Core information, Total Tree Heights, Age, and Site Index Calculations (Physical Growth Calculations, Financial Rate of Return and Discount Rates)
12. Calculation of Total Tree Growth Rates using Tree Core information, Total Tree Heights, Age, and Site Index Calculations (Physical Growth Calculations, Financial Rate of Return and Discount Rates)

## Part II: Student Learning Outcomes

### COURSE LEARNING OUTCOMES and ASSESSMENTS\*:

#### Module #1

**Materials Covered:** Statistical Graphing, Basis Statistical Sampling

**\*Assessment(s):** Complete class review activity / Unit Test

#### Learning Outcomes:

1. Design the various types of statistical sampling layouts for an in-woods survey to help solve various data sets or problems.
2. Explain the advantages of different graphic presentations for various forms of data.
3. Construct a frequency table, bar graph, pie chart, etc. from lab data.

#### Module #2

**Materials Covered:** Basis Statistics Terminology & Calculations, Simple Random Sampling, Stratified Random Sampling and Systematic Sampling

**\*Assessment(s):** Complete class review activity / Unit Test

#### Learning Outcomes:

1. Explain the following terms: statistic, parameter, continuous variable, discrete variable, population, sample, and bias.
2. Explain the difference between Accuracy and Precision.
3. Perform various statistical tests to determine: Mean, Mode, Median, Standard Deviation, Standard Error, Confidence Intervals, Co-variance and Simple Linear Regression.

### Module #3

**Materials Covered:** Financial Analysis – Interest Rates, Return on Investment (ROI), Rate of Return (ROR), and Discount Rate.

**\*Assessment(s):** Complete class review activity / Unit Test

**Learning Outcomes:**

1. Identify the principles of Simple and Compound Interest.
2. Identify the concepts of Return on Investment, Rate of Return and Discount Rate in evaluating an investment opportunity or management alternatives.

### Module #4

**Materials Covered:** Growth and Yield Analysis of Trees and Forest Products.

**\*Assessment(s):** Complete class review activity / Unit Test

**Learning Outcomes:**

1. Take a coring of a tree to compute the tree's age; its periodic growth rate; its annual growth rate and its lifetime rate of return.
2. Using the trees height, diameter, age and growth projection tables, compute its periodic growth rate, its annual growth rate and its lifetime rate of return on both a physical and financial basis.
3. Identify the limitations associated with each of these techniques.

***\*Students – please refer to the Instructor’s Course Information sheet for specific information on assessments. Due dates will be posted with specific assignments and in D2L’s calendar.***

## 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\***

Tests (3)	45%
Homework / Assignments (3-4)	5%
Lab Reports & Field Work (13)	30%
Final Exam	20%
	100%

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

## **GRADING SYSTEM:**

The College's or departmental grading system is as delineated in the Catalog. 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. You must have your Dean's approval if changes in the scale are made.

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 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 appointments using TutorTrac, visit the Student Services tab in WaveNet. Email [ssc@hgtc.edu](mailto:ssc@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.



## **CENTRAL 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!
2. Use the [Online Resource Center \(ORC\)](#) including scheduled technology training, Office 365 support, password resets, and username information.
3. **Drop-in technology support or scheduled training** in the Center or in class.
4. **In-person workshops, online tutorials and more services** are available.
5. **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).

## **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
- 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 RPNOW, 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**

*Title IX Coordinator*

Building 1100, Room 107A, Conway Campus

PO Box 261966, Conway, SC 29528-6066

843-349-5228

[Melissa.Batten@hgtc.edu](mailto: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](mailto:Jacquelyne.Snyder@hgtc.edu)