



# INSTRUCTIONAL PACKAGE

FOR-269

Forest Statistics & Data Processing

Effective Term  
Fall 2019

# 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 2019

COURSE PREFIX: FOR-269

COURSE TITLE: Forest 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)

### **REQUIRED MATERIALS:**

There is no required textbook for this course. Students need a simple statistical calculator for this course and a flash drive. Students will be provided handouts and other materials. Please visit the Bookstore online site for most current textbook information. Use the direct link below to find textbooks. [BOOKSTORE](#). Enter the semester, course prefix, number and section when prompted and you will be linked to the correct textbook.

### **TECHNICAL REQUIREMENTS:**

Access to Desire2Learn (D2L), HGTC's student portal for course materials. WaveNet and D2L 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.

**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 at a minimum. 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 and due dates.***

## **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	<u>20%</u>
	100%

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

## GRADING SYSTEM:

The College's and Departmental grading system is 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 ([ACADEMIC CALENDAR](#)). 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.**

## Part V: Student Resources



### The Student Success and Tutoring Center (SSTC)

The SSTC offers to all students the following **free** resources:

- 1. Academic coaches** for most subject areas, **Writing Center Support**, and **college success skills.**
- 2. On-line student success and academic support resources.**

Visit the SSTC website: [Student Success & Tutoring Center](#) and visit the student services tab in your WaveNet account to schedule appointments using TutorTrac. For more information, 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 any time.



## **TECH Central – Student Information Center**

TECH Central provides quality enrollment and collegiate guidance for students, faculty, and staff. Services include phone, walk-in, and online technical support for technology training and troubleshooting. Additionally, we offer support in Office 365, Outlook E-mail setup, and ID cards.

**Phone:** 843-349-5340

**Email:** [techcentral@hgtc.edu](mailto:techcentral@hgtc.edu)

**Text:** 843-357-8552

**TECH Talk (Live Chat):** Located on the “Home” tab in WaveNet.

**Website:** [www.hgtc.edu/techcentral](http://www.hgtc.edu/techcentral)

### **Locations:**

Conway Building 1100, Room 132D

Grand Strand Building 200, Room 136

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 Beth Havens, Director of Student Development on the Conway Campus Jaime Davis, Counselor/Advisor on the Georgetown Campus or Kristin Griffin, Counselor on the Grand Strand Campus. These individuals 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.

Inquiries regarding the non-discrimination policies: Students 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, Section 504, Title II, 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).

**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).

<p><b>Inquiries regarding the non-discrimination policies:</b></p>	
<p>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.</p>	<p>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.</p>
<p><b>Dr. Melissa Batten, VP Student Affairs</b> <i>Title IX Coordinator</i></p> <p>Building 1100, Room 107A, Conway Campus PO Box 261966, Conway, SC 29528-6066 843-349-5228 <a href="mailto:Melissa.Batten@hgtc.edu">Melissa.Batten@hgtc.edu</a></p>	<p><b>Jacquelyne Snyder, VP Human Resources</b> <i>Section 504, Title II, and Title IX Coordinator</i> Building 200, Room 212A, Conway Campus PO Box 261966, Conway, SC 29528-6066 843-349-5212 <a href="mailto:Jacquelyne.Snyder@hgtc.edu">Jacquelyne.Snyder@hgtc.edu</a></p>