



## INSTRUCTIONAL PACKAGE

TUF 262

Pesticides

Effective Term

Spring/2019

# INSTRUCTIONAL PACKAGE

## PART I: COURSE INFORMATION

Effective Term: Spring 2019

COURSE PREFIX: TUF 262

COURSE TITLE: Pesticides

CONTACT HOURS: 5.0

CREDIT HOURS: 3.0

### **RATIONALE FOR THE COURSE:**

Accurate application of pesticides is an essential responsibility of golf course superintendents and other managers involved in the maintenance and production of turfgrasses and ornamental plants. This knowledge is critical for maximum product efficacy; safety to the applicator and those in the vicinity of the treated area; protection of the environment; and compliance with federal, state, and local regulations.

### **COURSE DESCRIPTION:**

This course covers modern methods of applying herbicides, fungicides, insecticides, and nematocides. Special emphasis is placed on calibration of equipment, dilution techniques, and accurate application of minute quantities of pesticides over large areas.

### **PREREQUISITES/CO-REQUISITES:**

TUF 174

### **REQUIRED MATERIALS:**

**Clemson University Faculty et al.: Category CORE- Applying Pesticides Correctly: A Guide for Private and Commercial Applicators**

**Clemson University Faculty et al.: Category 3 Ornamental and Turfgrass Pest Management**

Please visit the Bookstore online site for most current textbook information. Use the direct link below to find textbooks.

[BOOKSTORE.](#)

### **ADDITIONAL REQUIREMENTS:**

Calculator

Examination Fee \$38.00

### **TECHNICAL REQUIREMENTS:**

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

WaveNet and D2L email access.

## **STUDENT IDENTIFICATION VERIFICATION**

Students enrolled in online courses will be required to participate in a minimum of one (1) proctored assignment and/or one (1) virtual event to support student identification verification. 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.

## **Part II: Student Learning Outcomes**

### **COURSE LEARNING OUTCOMES and ASSESSMENTS\*:**

#### **Unit I:**

[Introduction to Pests and Pesticides](#)

Upon completion of Unit I, the students should be able to:

1. List the major events in the history of pesticide use and development.
2. Explain what is meant by prevention, suppression, and eradication of pests.
3. Describe “thresholds” and why they are an important consideration in developing a pest control strategy.
4. Define “integrated pest management” and list several possible control tactics that may be used in an IPM strategy.
5. Name ways to help avoid the development of pest resistance to pesticides.
6. Define basic terminology pertaining to pesticides.
7. Define “chemical family”, and name the modes of actions of chemical families commonly used on turf.

#### **Unit II:**

[Pesticide Label and Formulations](#)

Upon completion of Unit II, the student should be able to:

1. Interpret the terms “label” and “labeling”.
2. Identify the meaning of “Restricted Use” classification and explain where to look for it on pesticide labeling.
3. Distinguish among the terms “common name”, “chemical name”, and “brand name”, and identify which to use to most accurately identify a pesticide product.
4. Recognize and define signal words on pesticide labels.
5. Explain what a pesticide formulation is.
6. Distinguish between “active” and “inert” ingredients.
7. Name factors to consider when choosing a formulation.
8. Recognize the purpose of adjuvants and list several types.
9. Describe how water pH influences pesticide efficacy.

### **Unit III:**

#### Pesticide Calculations

1. Explain why it is important to apply the correct amount of pesticide.
2. Identify ways that application rate is expressed.
3. Identify and describe different types of spray tips (nozzles).
4. Calculate correct quantities of various pesticide formulations to apply to turf areas.
5. Calibrate spreaders and sprayers.

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### **Unit IV:**

#### Environmental Aspects of Pesticide Use

1. Distinguish between point-sources and non-point-sources of environmental contamination by pesticides.
2. Explain why sensitive areas are important considerations for pesticide handlers.
3. Name the routes by which pesticides can move offsite into the environment.
4. Define “drift”, and describe ways in which drift can be minimized when applying pesticides.
5. Explain how the solubility, adsorption, and persistence of a pesticide influence its movement into groundwater.
6. Define “endangered species”, and describe how they may be harmed by pesticides.

### **Unit V:**

#### Pesticide Safety

1. Define “LD-50” and “LC-50”.
2. List the four routes by which your body can be exposed to pesticides, and name the route that should be of most concern to you.
3. Explain the three main types of harmful effects that pesticides can cause in humans.
4. Describe some general signs and symptoms of pesticide poisoning and pesticide injury.
5. Describe appropriate first aid for pesticide exposures.
6. Use information on Material Safety Data Sheets (MSDS), and file MSDS in the workplace according to law.

### **Unit VI:**

#### Pesticide Application, Handling, Record-keeping, and Certification

1. Explain what to do with empty containers.
2. Describe ways to determine whether two pesticides can be safely mixed together for application.
3. List some benefits of record-keeping, and the type of information required for pesticide records in South Carolina.
4. Name actions needed to establish and maintain a safe storage site.
5. Name the reasons for using activated charcoal on the golf course.
6. Name the agency that regulates pesticide use in South Carolina.
7. Describe the licensing requirements for pesticide applicators in South Carolina.
8. Name the classes and categories of applicators in South Carolina.

## COURSE LEARNING OUTCOMES and ASSESSMENTS\*:

### EXAMPLE 1 - Module #2

**Materials Covered:** Pesticide Label

**\*Assessment(s):** Core Exam

#### **Learning Outcomes:**

1. Distinguish among the terms “common name”, “chemical name”, and “brand name”, and identify which to use to most accurately identify a pesticide product
2. Recognize and define signal words on pesticide labels
3. Identify the meaning of “Restricted Use” classification and explain where to look for it on pesticide labeling.

### EXAMPLE 1 - Module #1

**Materials Covered:** Introduction to pest and Pesticides

**\*Assessment(s):** Category Exam

#### **Learning Outcomes:**

1. Explain what is meant by prevention, suppression, and eradication of pests
2. Describe “thresholds” and why they are an important consideration in developing a pest control strategy.
3. Define “integrated pest management” and list several possible control tactics that may be used in an IPM Strategy.

**\*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	25%
Quiz	25%
Papers/Plans	25%
Lab	25%
	100%

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

## **GRADING SYSTEM:**

State the College's or departmental grading system 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 ([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 eighty percent (80%) of his or her classes in order to be eligible to receive credit for any course. However, due to the varied nature of courses taught at the College, a more rigid attendance policy may be required by individual instructors. At a minimum, a student may be withdrawn from a course(s) after he or she has been absent in excess of ten percent (10%) of the total contact hours for a course. **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, 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 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. Room locations and Live Chat is available on the SSTC website.



## Student Information Center: WaveNet Central (WNC)

WNC offers to all students the following **free** resources:

1. **Getting around HGTC:** General information and guidance for enrollment!
2. Use the [Online Resource Center \(ORC\)](#) for COMPASS support, technology education, and online tools.
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.

Visit the WNC website: [Wavenet Central](#). Live Chat and Center locations are posted on the website. Or please call one of the following locations: WNC Conway, 349-5182; WNC Grand Strand, 477-2076; and WNC Georgetown, 520-1473.

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

## Disability Services

### 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, gender, national or ethnic origin, age, religion, disability, marital status, veteran status, sexual orientation, gender identity, or pregnancy in educational programs and/or activities.

### *Title IX Requirements*

Horry Georgetown Technical College prohibits the offenses of domestic violence, dating violence, sexual assault, and stalking. Any student who believe he or she has experienced or witnessed discrimination including sexual harassment, domestic violence, dating violence, sexual assault or stalking is encouraged to report such incidents to one of the College's Title IX Coordinators.

\*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).

<b>Inquiries regarding the non-discrimination policies:</b>	
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 Associate Vice President for Student Affairs.	Employee and applicant inquiries concerning Section 504, Title II, and Title IX and their application to the College may be directed to the Associate Vice President for Human Resources.
<b>Dr. Melissa Batten, AVP Student Affairs</b> <i>Title IX Coordinator</i> 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>	<b>Jacquelyne Snyder, AVP 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>