INSTRUCTIONAL PACKAGE

TUF 262

Pesticides

Effective Term
Fall 2023/Spring 2024/Summer 2024

INSTRUCTIONAL PACKAGE

Part I: Course Information

Effective Term: <u>Fall 2023/Spring 2024/Summer 2024</u>

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 nematicides. 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:

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:

None

TECHNICAL REQUIREMENTS:

Access to Desire2Learn (D2L), HGTC's learning management system (LMS) used for course materials.
Access to myHGTC portal for student self-services.
College email access – this is the college's primary official form of communication.

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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. No Vaping in class.

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*:

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.

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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.

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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 IPM Strategy.

REQUIRED COURSE MEASURES/ARTIFACTS
- Tests and Quizzes
- Assignments
- Projects
- Group projects
- Presentations

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

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GENERAL EDUCATION OUTCOMES:

This course fulfills the following General Education Outcomes through the (Clemson Department of Pesticide Regulation Licensure Exam). Upon completion of this course, students will be able to:

(Check all that apply.)

☐ Communicate effectively;

X☐ Think critically;

X☐ Self and professional development.

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/Quizzes	30%
Assignments/Projects	10%
Class Participation	10%
Final Exam	50%
	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. 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, 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!

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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.

HORRY
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TECHNICAL COLLEGE
LIBRARY

HGTC LIBRARY:

Each campus location has a library where HGTC students, faculty, and staff may check out materials with their HGTC ID. All three HGTC campus libraries are equipped with computers to support academic research and related school work; printing is available as well. Visit the [Library](#) website for more information or call (843) 349-5268.

STUDENT TESTING:

Testing in an **online/hybrid** course and in **make-up exam** situations may be accomplished in a variety of ways:
- Test administered within D2L
- Test administered in writing on paper
- Test administered through Publisher Platforms (which may have a fee associated with the usage)

Furthermore, 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

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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, Title VII, 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, Section 504, and Title II 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
Affirmative Action/Equal Opportunity Officer and Title IX Coordinator
Building 200, Room 205B, Conway Campus
PO Box 261966, Conway, SC 29528-6066
843-349-5212
Jacquelyne.Snyder@hgtc.edu

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