



# INSTRUCTIONAL PACKAGE

HRT 110

Plant Form and Function

Effective Term

Fall/2018

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## PART I: COURSE INFORMATION

Effective Term: Fall 2018

COURSE PREFIX: HRT 110

COURSE TITLE: Plant Form and Function

CONTACT HOURS: 6.0

CREDIT HOURS: 4.0

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

A basic understanding of plant biology (botany) is critical for persons in supervisory positions to maintain high-quality and healthy turfgrasses and landscape plants. This course is designed to provide this necessary information on how plants grow and function.

### **COURSE DESCRIPTION:**

This course study morphology, anatomy, and physiology of higher plants. Emphasis is on plant structure, functions of plant parts, plant processes, plant growth and development, and plant inheritance.

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

None

### **REQUIRED MATERIALS:.**

**Bidlack, James, *Sterns Introductory: Plant Biology, McGraw Hill, 2014***

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.

### **ADDITIONAL REQUIREMENTS:**

None

### **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 Plant Biology and Classification (Chapters 1 and 16)**

The student should be able to describe Botany as a Science and have an ability to understand the diversification of plants. Students will understand the importance of the development of the Binomial System of Nomenclature and be able to classify the major groups associated within the plant community.

#### **.UNIT II Chemistry of Plant Life (Chapter 2)**

The student will be able to develop and in depth knowledge of the following concepts as related to chemistry and plant life. The Elements, Molecules, Valence, Bonds and Ions, Acids, Bases, and Salts, The pH Scale, Energy and Monomers and Polymers

#### **Unit III Cells and Tissues (Chapters 3 and 4)**

Students will have a working knowledge of plant cells and tissues. Students be able to describe Cell History, Eukaryotic vs. Prokaryotic Cells, Cell Structure and Communication, Cellular Components, Cellular Reproduction (Mitosis), Higher Plant Cells vs. Animal Cells, Meristematic Tissues, and Tissues Produced by Meristems (Simple and Complex Tissues)

#### **Unit IV. Roots, Stems, and Leaves (Chapters 5, 6, and 7)**

Students will be able to identify the types of plant structures and their role in plant physiology. How roots develop, root structure, specialized roots, root nodules, external form of a woody twig, origin and development of stems, tissues patterns in stems, specialized stems, leaf arrangements and types, internal structure of leaves, stomata, mesophyll and veins, specialized leaves, autumnal changes in leaf color, and abscission

#### **Unit V. Reproduction in Plants (Chapters 8, 12, and 23)**

Students will describe the differences between dicots and monocots. Understand the role of structures in flowers. Additionally, students will demonstrate the importance of fruits and seed development and dispersal. Students will also explain the phases of meiosis, alternation of generations and the life cycle of flowering plants

#### **Unit VI. Water in Plants (Chapter 9)**

Students will be able to apply the following concepts molecular movement, water and its movement through the plant, regulation of transpiration, and the transport of food substances in solution.

#### **Unit VII. Plant Metabolism and Growth (Chapters 10 and 11)**

Students will have and understanding of photosynthesis and respiration, plant hormones, hormonal interactions and photoperiodism

## COURSE LEARNING OUTCOMES and ASSESSMENTS\*:

### Module #1

**Materials Covered:** Unit 2 Chemistry of Plant Life

**\*Assessment(s):** Research activity.

#### **Learning Outcomes:**

1. Describe how a part of an organism can be dead and the other alive.
2. Explain difference between inherited form and form resulting from response to environment.
3. Explain what might happen if all enzymes were to work at half their usual speed.

### Module #2

**Materials Covered:** Unit 6 Reproduction in Plants

**\*Assessment(s):** Lab activity

#### **Learning Outcomes:**

1. Understand what *Brownian movement* is and why it occur.
2. Know and understand diffusion, osmosis, dialysis, and plasmolysis.
3. Explain how auxin and gibberellin affect stem growth; what tropisms are and why they occur; etiolation ; and the effect of ethylene on leaf abscission.

**\*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**.
- 3.

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**

HGTC is committed to providing an accessible environment for students with disabilities. Inquiries may be directed to Jocelyn Williams, 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>	
<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 Associate 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 Associate Vice President for Human Resources.</p>
<p><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> _</p>	<p><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></p>