



INSTRUCTIONAL PACKAGE

BIO 211
Anatomy and Physiology II

Effective Term
Fall 2024/Spring 2025/Summer 2025

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Part I: Course Information

Effective Term: Fall 2024/Spring 2025/Summer 2025

COURSE PREFIX: BIO 211

COURSE TITLE: Anatomy and Physiology II

CONTACT HOURS: 3-3

CREDIT HOURS: 4

RATIONALE FOR THE COURSE:

BIO 211 is the second of a two-course series that provides students with a detailed study in anatomy and physiology and prepares students for Allied Health programs, such as Nursing, Radiology and Dental Hygiene. After completion of this course, students will possess an increased awareness of the various structures and functions of the human body and will have a better understanding of how this relates to future allied health careers. Through guided classroom and laboratory experiences, students will identify body parts and relate organ systems for a comprehensive understanding of body function.

COURSE DESCRIPTION:

This is a continuation of a sequence of courses, including intensive coverage of the body as an integrated whole. All body systems are studied. This course is transferable to public senior institutions as part of the South Carolina Commission on Higher Education Statewide Articulation Agreement.

PREREQUISITES/CO-REQUISITES:

Credit level [BIO 210](#) Minimum Grade of C or Credit level [BIO 210](#) Minimum Grade of TC

***Online/Hybrid** courses require students to complete the [Distance Learning Orientation Video](#) prior to enrolling in an online course.

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:

A Connect access code from McGraw Hill is a required component of this course.

For Hybrid/Online Students Only: Each student will be required to view an orientation PowerPoint presentation during the first week of class. This presentation can be found on the course homepage in D2L under News. After viewing the presentation, all online students must complete the orientation quiz, which can be found under the dropdown assignment menu. A student will not be considered officially

enrolled in the course until the presentation has been viewed and the quiz completed with a 100% score. Any submitted work from the student including discussion posts, assignments, etc. will not be given a grade until the presentation has been viewed and the quiz has been submitted. Failure to view the presentation and take the quiz before midnight on the last day to add/drop classes will result in the student being automatically dropped from the course.

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.

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.

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](#).

ACADEMIC DISHONESTY:

All forms of academic dishonesty, as outlined in the Student Code in the HGTC catalog, will NOT be tolerated and will result in disciplinary action. Anyone caught cheating (Defined in the code as: "a. Copying from another student's test or answer sheet. b. Using materials or equipment during a test not authorized by the person giving the test. c. Collaborating with any other person during a test without permission. d. Knowingly obtaining, using, buying, selling, transporting, or soliciting in whole or in part the contents of a test prior to its administration. e. Bribing or coercing any other person to obtain tests or information about tests. f. Substituting for another student or permitting any other person to substitute for oneself. g. Cooperating or aiding in any of the above.") or committing plagiarism (Defined in the code as: "(1) the appropriation of any other person's work and the unacknowledged incorporation of that work in one's own work or (2) submitting content for academic purposes that are created by artificial intelligence, technology platforms, or writing services and representing that such content is the person's own work product.") will be given a grade of a zero for that assignment and reported to the Senior VP of Academic Affairs, in accordance with the student handbook. A second offense will result in the student being withdrawn from the course with a W or WF at the professor's discretion and charges being filed with the Chief Student Services Officer.

Part II: Student Learning Outcomes

COURSE LEARNING OUTCOMES and ASSESSMENTS*:

CHAPTER 13: ENDOCRINE SYSTEM

Distinguishing between endocrine and exocrine glands.

Listing important functions of hormones and classifying hormones based on chemical composition.

Explaining how steroid and nonsteroid hormones affect their target cells

Discussing how negative feedback mechanisms regulate hormone secretion.

Explaining how the nervous system controls hormone secretion.

Naming the locations of the major endocrine glands, listing the hormones that they secrete and identifying functions of these hormones.

Discussing the general stress response.

CHAPTER 14: BLOOD

Distinguishing among the formed elements of blood and the liquid portion of blood.

Discussing the origin of blood cells.

Explaining the significance of red blood cell counts and how they are used to diagnose disease.

Discussing the life cycle of a red blood cell and control of its production.

Discussing the effects of Erythropoietin, Thrombopoietin and Cytokines in blood cell production.

Distinguishing among the five types of white blood cells, and listing the function(s) of each type.

Discussing blood platelets and their functions.

Discussing the functions of each of the major components of plasma.

Defining hemostasis and explaining the mechanisms that help to achieve it.

Explaining blood typing and how it is used to avoid adverse reactions following blood transfusions.

Discussing how blood reactions may occur between fetal and maternal tissues.

CHAPTER 15: CARDIOVASCULAR SYSTEM

Explaining the roles of the heart and blood vessels in circulating the blood.

Identifying the location of the heart within the body.

Identifying the various coverings of the heart and the layers that compose the wall of the heart.

Identifying the major parts of the heart and discussing the function of each part.

Outlining the pathway of the blood through the heart and the vessels of coronary circulation.

Discussing the cardiac cycle and explaining how heart sounds are produced.

Labeling the parts of a normal ECG pattern and discussing the significance of this pattern.

Discussing the auto-rhythmic nature of the cardiac conduction system and its major components.

Comparing the structures and functions of the major types of blood vessels.

Discussing how substances are exchanged between blood in capillaries and the tissue fluid surrounding body cells.

Explaining how blood pressure is produced and controlled.

Explaining the mechanisms that aid in returning venous blood to the heart.

Comparing the pulmonary and systemic circuits of the cardiovascular system.

Identifying the major arteries and veins.

CHAPTER 16: LYMPHATIC SYSTEM AND IMMUNITY

Listing the functions of the lymphatic system.

Identifying the parts of the major lymphatic pathways.
Discussing how tissue fluid and lymph form, and explaining the function of lymph.
Discussing major functions of a lymph node and identifying the locations of the major chains of lymph nodes.
Discussing the locations and functions of the thymus and spleen.
Distinguishing between innate (nonspecific) and adaptive (specific) defenses.
Listing innate body defense mechanisms, and discussing the action of each mechanism.
Explaining how two major types of lymphocytes are formed and activated and how they function in immune mechanisms.
Discussing the antigen presenting cell and its role in activating the immune response.
Discussing the structure and actions of the five types of antibodies.
Distinguishing between primary and secondary immune responses.
Distinguishing between active and passive immunity.
Explaining how allergic reactions, tissue rejection reactions, and autoimmunity arise from immune mechanisms.

CHAPTER 17: DIGESTIVE SYSTEM

Explaining which processes are carried out by the digestive system.
Identifying the structures of the digestive system and explaining their functions.
Outlining the structure of the wall of the alimentary canal.
Explaining how the contents of the alimentary canal are mixed and moved.
Discussing the general effects of innervation of the alimentary canal by the sympathetic and parasympathetic divisions of the autonomic nervous system.
Identifying the function of each enzyme secreted by digestive organs and glands.
Discussing how digestive secretions are regulated.
Explaining the mechanisms of swallowing, vomiting, and defecating.
Explaining how the products of digestion are absorbed.

CHAPTER 19: RESPIRATORY SYSTEM

Identifying the general functions of the respiratory system.
Identifying the locations and functions of the organs of the respiratory system.
Explaining how inspiration and expiration are accomplished.
Explaining the differences of Internal vs. External respiration
Identifying each of the respiratory air volumes and capacities.
Demonstrating how to calculate alveolar ventilation rate.
Discussing nonrespiratory air movements.
Discussing the control of breathing.
Discussing the structure and function of the respiratory membrane.
Explaining the importance of partial pressure in diffusion of gases.
Explaining how the blood transports oxygen and carbon dioxide.
Discussing gas exchange in the pulmonary and systemic circuits.

CHAPTER 20: URINARY SYSTEM

Identifying the organs of the urinary system and listing their general functions.
Identifying the structures and functions of the kidneys.

Outlining the pathway of blood flow through the major vessels within a kidney.

Identifying the parts and functions of a nephron.

Explaining how glomerular filtrate is produced and summarizing its composition.

Explaining how various factors affect the rate of glomerular filtration and identifying ways that this rate is regulated.

Explaining tubular reabsorption and secretion, and their roles in urine formation.

Identifying the changes in the osmotic concentration of the glomerular filtrate as it passes through the renal tubule.

Summarizing the characteristics of a countercurrent mechanism, and explaining its role in concentrating the urine.

Explaining how the final composition of urine contributes to homeostasis.

Discussing the structures of the ureters, urinary bladder, and urethra.

Explaining how micturition occurs, and how it is controlled.

CHAPTER 22: REPRODUCTIVE SYSTEMS

Outlining the process of meiosis.

Identifying the structures and functions of the male reproductive system.

Outlining the process of spermatogenesis.

Discussing semen production and exit from the body.

Explaining how the tissues of the penis produce an erection.

Explaining how hormones control the activities of the male reproductive organs and the development of male secondary sex characteristics.

Identifying the structures and functions of the female reproductive system.

Outlining the process of oogenesis.

Explaining how hormones control the activities of the female reproductive organs and the development of female secondary sex characteristics.

Summarizing the major events during a female reproductive cycle.

Discussing the structure and function of the mammary glands.

Lab Specific Outcomes

Learning outcomes for the lab portion of this course are included in the Lab Student Handouts, a document that will be provided to you by your lab Instructor. They are detailed for each lab topic covered in the course and include items like identification of structures on lab models, diagrams, devices, and dissected materials. Learning outcomes include utilization of microscopes to view and identify cells and tissues. Accurate spelling is a learning outcome and graded component of this course.

*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:

Program Learning Outcomes

This course fulfills the following General Education Outcomes through the Cardiovascular Project. Upon completion of this course, students will be able to:

- Communicate effectively;
- Think critically;
- Self and professional development.

****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*

Lecture	75%
Lab	25%
	100%

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

GRADING SYSTEM:

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.

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.

Science Department Attendance Policies:

For a 15-week course (fall and spring) or a 10-week course (summer), the allowed number of absences for a MW or TR class is as follows: 4 absences are allowed for lecture and 2 are allowed for lab, regardless of reason. For a lecture class that meets once a week, the allowed number of absences is 2.

For a 7-week fast-paced course (fall and spring) or a 5-week fast-paced course (summer), the allowed number of absences is as follows: 1 absence is allowed for lecture and 1 for lab, regardless of reason.

Online/Hybrid Attendance:

Students enrolled in distance learning courses (hybrid and online) are required to maintain contact with the instructor on a regular basis to be counted as "in attendance" for the course. All distance learning students must participate weekly in an Attendance activity in order to demonstrate course participation. Students showing no activity in the course for two weeks (these weeks do not need to be consecutive) will be withdrawn due to lack of attendance.

Lab Attendance for Hybrid Courses:

Students in hybrid classes in which labs only meet 5 or 6 times during the semester, must attend all lab sessions for its entirety. Failure to attend one lab will result in immediate withdrawal. Students in hybrid classes where labs meet every week, you are allowed two lab absences. When a student surpasses the allowed number of absences, the student will be dropped automatically from the course with a W or a WF.

Lab Attendance for Hybrid Courses:

Students in hybrid classes in which labs meet weekly, are allowed two (2) lab absences. Students in hybrid labs that only meet 5 or 6 times during the semester, must attend all lab sessions for its entirety. When a student surpasses the allowed number of absences, the student will be dropped automatically from the course with a W or a WF.

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 ssc@hgtc.edu or self-schedule in the Penji iOS/Android app or at www.penjiapp.com. Email 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.



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!
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.



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 Services staff will review documentation of the student's disability and, in a confidential setting with the student, engage in an interactive process to 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. Students will need to reach out to the Accessibility and Disability Services staff each semester to renew their accommodations.

COUNSELING SERVICES:

HGTC Counseling Services strives to optimize student success through managing personal and academic concerns that may interfere with achieving educational goals. Staff are available to every student for assistance and guidance on personal matters, academic concerns and other areas of concern. HGTC offers free in-person and telehealth counseling services to students. For more information about counseling services, please reach out to counseling@hgtc.edu or visit the website the [Counseling Services webpage](#).

STATEMENT OF EQUAL OPPORTUNITY/NON-DISCRIMINATION STATEMENT:

Horry-Georgetown Technical College shall not discriminate in employment or personnel decisions or in student admissions or in student decisions, or in all other segments of the College community 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 the educational programs and activities which it operates, and the college is prohibited from discrimination in such manner by applicable laws. Practices and requirements for nondiscrimination extend to the enrollment of students in programs and activities of the College and employment by the College.

All inquiries regarding the federal laws as they relate to discrimination on the basis of sex may be directed to Tamatha Sells, Title IX Coordinator, Horry-Georgetown Technical College, Building 1100C, Room 107B, 2050 Hwy 501 E, PO Box 261966, Conway, SC 29528-6066, 843-349-5218, tamatha.sells@hgtc.edu or to the US Department of Education Office of Civil Rights. (Telephone: 800-421-3481/Email: OCR@ed.gov).

Other employee and applicant inquiries concerning the federal laws and their application to the College may be directed to Jacquelyne Snyder, Vice President, Human Resources and Employee Relations & the College's Affirmative Action/Equal Opportunity Officer, Horry-Georgetown Technical College, Building 200C, Room 205B, 2050 Hwy 501 E, PO Box 261966, Conway, SC 29528-6066, 843-349-5212, jacquelyne.snyder@hgtc.edu.

Other student and prospective student inquiries concerning the federal laws and their application to the College or any student decision may be directed to Dr. Melissa Batten, Vice President, Student Affairs, Section 504 & Title II Coordinator Horry-Georgetown Technical College, Building 1100C, Room 107A, 2050 Hwy 501 E, PO Box 261966, Conway, SC 29528-6066, 843-349-5228, melissa.batten@hgtc.edu.

TITLE IX REQUIREMENTS:

Title IX of the Education Amendments of 1972 protects students, employees, applicants for admission and employment, and other persons from all forms of sex discrimination.

HGTC prohibits the offenses of domestic violence, dating violence, sexual assault, and stalking and will provide students, faculty, and staff with necessary information regarding prevention, policies, procedures, and resources.

Any student, or other member of the college community, who believes that they have been a victim of sexual harassment, domestic violence, dating violence, sexual assault, or stalking may file a report with the college's Title IX Coordinator or campus law enforcement*.

*Faculty and Staff are required to report these incidents to the Title IX Coordinator 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).

For more information, contact Tamatha Sells, Title IX Coordinator, Conway Campus, Building 1100C, Room 107B, 843-349-5218, tamatha.sells@hgtc.edu.

PREGNANCY ACCOMMODATIONS

Under Title IX, colleges must not exclude a pregnant student from participating in any part of an educational program. Horry-Georgetown Technical College is committed to ensuring that pregnant students receive reasonable accommodations to ensure access to our educational programs.

Students should advise the Title IX Coordinator of a potential need for accommodations as soon as they know they are pregnant. It is extremely important that communication between student,

instructors, and the Title IX Coordinator begin as soon as possible. Each situation is unique and will be addressed individually.

Title IX accommodations DO NOT apply to Financial Aid. Financial Aid regulations do not give the College any discretion in terms of Financial Aid eligibility.

Certain educational programs may have strict certification requirements or requirements mandated by outside regulatory agencies. Therefore, in some programs, the application of Title IX accommodations may be limited.

To request pregnancy accommodations, please complete the [**Pregnancy Intake Form**](#).