



Horry-Georgetown
Technical College

COURSE INSTRUCTIONAL PACKAGE

BIO 210

Anatomy and Physiology I

Effective Term

Fall 2026/Spring 2027/Summer 2027

Part I: Course Information

Effective Term: Fall 2026/Spring 2027/Summer 2027

COURSE PREFIX: BIO 210

COURSE TITLE: Anatomy and Physiology I

CONTACT HOURS: 3-3

CREDIT HOURS: 4

RATIONALE FOR THE COURSE:

BIO 210 is the first 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 the first in a sequence of courses, including an 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 [ENG 101](#) Minimum Grade of C or Credit level [ENG 101](#) Minimum Grade of TC or Credit level [ENG 155](#) Minimum Grade of C or Credit level [ENG 155](#) Minimum Grade of TC or Credit level [ENG 102](#) Minimum Grade of C or Credit level [ENG 102](#) Minimum Grade of TC or Multiple Measures English 1 or (ACT English 19 and ACT Reading 19) or SAT Critical Reading 480 or Writing Sample ENG101 1)

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.

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.

ATTENDANCE VERIFICATION:

The Add/Drop Period is the first 7 days of the semester for **full term** classes. Add/Drop periods are shorter for accelerated format classes. Please refer to the [academic calendar](#) for deadlines for add/drop. You must attend at least one meeting of all 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

IDENTIFICATION VERIFICATION:

Students enrolled in online courses will be required to complete identity verification. Please refer to your Instructor's Course Information Sheet for information regarding this requirement.

STUDENT COURSE EVALUATIONS:

Each semester, students are provided with an opportunity to participate in course evaluation surveys. These evaluations offer crucial feedback to instructors and the

College, leading to enhancement of educational quality. By completing these surveys, you play a key role in the ongoing improvement of teaching methods and course content, ensuring future students enjoy a better learning experience. Students are encouraged to complete these surveys as your active participation in this process reflects your dedication to your education and drives positive change.

CLASSROOM ETIQUETTE AND STUDENT RIGHTS AND RESPONSIBILITIES:

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 an emergency, please notify your professor prior to class and switch cell phone ringers to vibrate.

To ensure a positive College experience, guidelines exist in numerous areas of campus life. The Student Code for The South Carolina Technical College System "The Student Code" (3-2-106.1) applies to all HGTC students. The Student Code sets forth rights and responsibilities of the individual student, identifies behaviors that are not consistent with the values of college communities, and describes the procedures that will be followed to adjudicate cases of alleged misconduct. Students are expected to conduct themselves in a civil manner, that is respectful of the rights of others, and that is compatible with the college's educational mission. Students are expected to comply with all of the college's duly established rules and regulations regarding student behavior while on campus; while participating in off-campus college sponsored activities; and while participating in off-campus clinical, field, internship, or in-service experiences. Students are expected to comply with all course requirements as specified by instructors in course syllabi and to meet the standards of acceptable classroom behavior set by instructors. For more information, login to your myHGTC account under "Student Rights and Responsibilities" card then select "Student Code of Conduct" or the "Student Catalog and Handbook."

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. If a zero is awarded due to academic misconduct and the lowest exam grade is dropped, that zero will NOT be eligible to be the dropped grade, it will count within the final average. A second offense will result in the student being withdrawn from the course with a W and charges being filed with the Chief Student Services Officer. Alternatively, at the professor’s discretion, a student can be assigned a failing grade for the course.

Part II: Student Learning Outcomes

COURSE LEARNING OUTCOMES and ASSESSMENTS*:

CHAPTER 1: INTRODUCTION TO HUMAN ANATOMY AND PHYSIOLOGY

Defining anatomy and physiology and explaining how they are related.

Listing the levels of organization in the human body and the characteristics of each.

Outlining the major characteristics of life.

Defining metabolism.

Outlining the major requirements of organisms.

Explaining the importance of homeostasis to survival and outlining the parts of a

homeostatic mechanism, including positive and negative feedback systems.
Identifying major body cavities, serous membranes, and associated organs.
Naming the major organ systems and listing the main functions of each.
Utilizing correct anatomical terminology for relative positions, body sections, and body regions.

CHAPTER 2: CHEMICAL BASIS OF LIFE

Defining chemistry and relating this to anatomy and physiology.
Relating matter, atoms, and compounds.
Explaining how atomic structure predicts how atoms interact.
Utilizing molecular and structural formulas to symbolize the composition of compounds.
Identifying four types of chemical reactions.
Explaining pH, including the role of buffers, and contrasting acids and bases.
Listing the major groups of inorganic chemicals and explaining the function(s) of each.
Explaining the general functions and structures of the main classes of organic molecules in cells.

CHAPTER 3: CELLS

Outlining the structures of a composite cell including the cell membrane, organelles, and nucleus.
Explaining how substances move into and out of cells.
Organizing the cell cycle and explaining how a cell divides.
Explaining how stem cells and progenitor cells make possible growth and repair of tissues.
Discussing apoptosis.

CHAPTER 4: CELLULAR METABOLISM

Comparing and contrasting anabolism and catabolism.
Explaining how metabolic pathways are regulated and the role of enzymes in metabolic reactions.
Discussing how ATP stores chemical energy and makes it available to a cell.
Outlining the reactions of cellular respiration.
Discussing the process of protein synthesis and the roles of DNA and RNA.

CHAPTER 5: TISSUES

Identifying the types of intercellular junctions in tissues.

Listing the four major tissue types in the body, including general characteristics and functions.

Identifying the types of epithelium, including location and function.

Explaining how glands are classified.

Identifying the types of connective tissue, including location and function.

Determining each of the four types of membranes.

Distinguishing among the three types of muscle tissue.

Discussing the general characteristics and functions of nervous tissue.

CHAPTER 6: INTEGUMENTARY SYSTEM

Discussing the layers of the skin, including location, tissue type, and functions.

Discussing various cells of the skin and their locations and functions.

Summarizing the factors that determine skin color.

Discussing the accessory structures associated with the skin and their functions.

Listing various skin functions and explaining how the skin helps regulate body temperature.

Discussing wound healing and types of burns.

CHAPTER 7: SKELETAL SYSTEM

Classifying bones according to their shapes, and naming examples from each group.

Identifying the macroscopic and microscopic structures of a long bone and listing the functions of these parts.

Distinguishing between intramembranous and endochondral bones, and explaining how such bones develop and grow.

Discussing the effects of sunlight, nutrition, hormonal secretions, and exercise on bone development and growth.

Describe the negative feedback mechanisms affecting bone deposition and reabsorption by

identifying the relevant glands, hormones, target tissues, and hormone functions.

Outlining the major functions of bones.

Distinguishing between the axial and appendicular skeletons.

Identifying bones and major anatomical markings in the skeleton.

CHAPTER 8: JOINTS OF THE SKELETAL SYSTEM

Explaining how joints can be classified structurally and functionally.

Classifying fibrous, cartilaginous and synovial joints and locating examples in the body.

Discussing the general structure of a synovial joint.

Explaining how skeletal muscles produce movements at joints, and identifying several types of joint movements.

Discussing the shoulder, elbow, hip and knee joints in detail, including major ligaments.

CHAPTER 9: MUSCULAR SYSTEM

Identifying the major parts of a skeletal muscle fiber and discussing the functions of each.

Summarizing the neuromuscular junction.

Explaining the major events of skeletal muscle fiber contraction and relaxation.

Listing the energy sources for skeletal muscle fiber contraction and discussing oxygen debt and fatigue.

Discussing how muscle contractions are recorded and explaining summation/recruitment.

Distinguishing between fast and slow twitch muscle fibers.

Comparing and contrasting skeletal, smooth and cardiac muscle.

Defining origin and insertion and explaining the interaction of skeletal muscles to allow movement.

Identifying skeletal muscles of each body region.

CHAPTER 10: NERVOUS SYSTEM I

Listing the general functions of the nervous system.

Identifying the two types of cells that comprise nervous tissue and dividing the nervous system organs into two groups.

Identifying the parts of a neuron and explaining their functions.

Classifying neurons based on structure and function.

Identifying the types of neuroglia and their functions.

Explaining how information passes from a presynaptic neuron to a postsynaptic cell.

Discussing cell membrane potential and the events leading to the generation of an action potential.

Explaining how action potentials move down an axon and the role of myelin.
Identifying the changes in membrane potential associated with excitatory and inhibitory neurotransmitters.

Explaining the basic ways in which the nervous system processes information.

CHAPTER 11: NERVOUS SYSTEM II

Summarizing the types of meninges and their functions.

Discussing the formation and function of cerebrospinal fluid.

Discussing the structure and functions of the major parts of the brain, brainstem, and spinal cord.

Explaining hemisphere dominance.

Explaining the stages in memory storage.

Outlining a reflex arc and reflex behavior.

Outlining ascending and descending spinal cord tracts.

Distinguishing between the major parts of the peripheral nervous system and discussing the structure of a peripheral nerve.

Identifying the cranial and spinal nerves and listing their major functions.

Comparing and contrasting the sympathetic and the parasympathetic divisions of the autonomic nervous system, including actions and neurotransmitters.

CHAPTER 12: NERVOUS SYSTEM III

Distinguishing between general senses and special senses.

Naming the five types of receptors and listing the function of each.

Explaining sensation, perception, and sensory adaptation.

Discussing the different types of general senses and how they function.

Explaining how the sensations of smell and taste are produced and interpreted.

Labeling the parts of the ear and explaining the function of each part.

Outlining the auditory pathway.

Distinguishing between static and dynamic equilibrium.

Labeling the parts of the eye and explaining the function of each part.

Outlining the visual pathway.

Comparing and contrasting rods and cones.

Lab 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.***

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, and Is also negatively impact academic progression and financial aid status.

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 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, refer to your Instructor's Course Information Sheet for any required on-site meeting times. In online courses, attendance is fulfilled through the submission of academic work. Please be aware that instructors may require exams to be proctored either online or at an approved testing site. If you choose to use a testing center other than those provided by HGTC, that center may charge a fee for its services.

Tardiness:

Students are expected to arrive on time and remain for the entire class session. Repetitive tardiness that results in a significant loss of instructional time may be counted as an absence at the instructor's discretion. Students are encouraged to communicate with their instructor in advance if they anticipate being late or need to leave early due to extenuating circumstances.

Part V: Student Resources

THE STUDENT SUCCESS AND TUTORING CENTER (SSTC):



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

1. Academic tutors for most subject areas, Writing Center support, and Academic Coaching for college success skills.
2. Online tutoring and academic support resources.
3. Professional and interpersonal communication coaching.

Visit the [Student Success & Tutoring Center](#) website for more information. To schedule tutoring or coaching, 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 SSTC [Online Resource Center](#) to access on-demand resources.

STUDENT INFORMATION CENTER – TECH Central:



TECH Central offers all students the following free resources:

1. Getting around HGTC: General information and guidance for enrollment, financial aid, registration, and payment plan support!
2. In-person and remote assistance are available for Desire2Learn, Student Portal, Degree Works, and Office 365.
3. 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. You may also call (843) 349-5199.



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 have librarians and staff who can aid with research, computers to support academic research and related school-work, and individual/group study rooms. Printing is available as well at each location. Visit the [Library](#) website for more information or call (843) 349-5268.

STUDENT TESTING:

Testing in HGTC courses may occur during regularly scheduled class time or online, with or without proctoring. Tests may be delivered in the following formats:

- Digitally through D2L
- In writing on paper
- Through a publisher platform (note: some publisher platforms carry an associated fee)

Tests may include time limits and may require proctoring depending on the

course.

When proctoring is required and is not provided by the course instructor in the classroom, students may complete their test face-to-face at an [HGTC Testing Center](#) or another approved testing site, or online using HGTC's online proctoring provider. For more information about available proctoring options, visit the [Online Testing](#) section of the HGTC Testing Center webpage.

Students testing at an HGTC Testing Center should note the following:

- **Appointments must be scheduled at least 24 hours in advance.**
- **A physical, government-issued photo ID is required to test.**

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. Students seeking accommodations are encouraged to visit HGTC's [Accessibility and Disability Service webpage](#) for detailed information.

It is the student's responsibility to self-identify as needing accommodations and to provide appropriate documentation. Once documentation is submitted, the student will participate in an interactive process with Accessibility and Disability Services staff to determine reasonable accommodations. Students may begin the accommodations process at any time; however, accommodations are **not retroactive** and will only be applied from the point at which they are approved. Students must contact the office **each semester** to renew their accommodations.

For assistance, please contact the Accessibility and Disability Services team at disabilityservices@hgtc.edu or 843-796-8818 (call or text).

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:

Our sincere commitment to both effective business management and equitable treatment of our employees requires that we present this Policy Statement as an embodiment of that commitment to the fullest.

Discrimination is conduct that includes unjust or prejudicial treatment based upon an individual's age, race, color, sex, religion, national origin, disability, and genetic information or any other protected classes deemed unlawful under State or Federal law that excludes an individual from participation in, denies the individual the benefits of, treats the individual differently, or otherwise adversely affects a term or condition of a person's working or learning environment. This includes failing to provide reasonable accommodation, consistent with state and federal law, to persons with disabilities.

All inquiries regarding the federal laws as they relate to discrimination on the basis of sex may be directed to Jen Riddei, Title IX Coordinator, Horry-Georgetown Technical College, Building 1100C, Room 107B, 2050 HWY 501 E, PO Box 261966, 843-349-5218, Jenifer.Riddei@hgtc.edu.

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, and Section 504 & Title II Coordinator, Horry-Georgetown Technical College, Building 1100C, Room 107A, 2050 HWY 501 E, PO Box 261966-6066, 843-349-5228, Melissa.Batten@hgtc.edu.

Employee and applicant inquiries concerning the federal laws and their application to the College may be directed to Jacquelyne Synder, Vice President, Human Resources and Employee Relations and 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.

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 sexual harassment, 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).

All inquiries regarding the federal laws as they relate to discrimination on the basis of sex may be directed to Jen Riddei, Title IX Coordinator, Horry-Georgetown Technical College, Building 1100C, Room 107B, 2050 HWY 501 E, PO Box 261966, 843-349-5218, Jenifer.Riddei@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* that can be found [here](#).