



INSTRUCTIONAL PACKAGE

AHS 145

Effective Term

Fall 2025/Spring 2026/Summer 2026

INSTRUCTIONAL PACKAGE

Part I: Course Information

Effective Term: Fall 2025/Spring 2026/Summer 2026

COURSE PREFIX: AHS 145

COURSE TITLE: Electrocardiography

CONTACT HOURS: 2-0-2

CREDIT HOURS: 2

RATIONALE FOR THE COURSE:

Emphasis will be on the proper operation of equipment for accurate ECG interpretation.

COURSE DESCRIPTION:

This certificate program will equip students with the necessary skills to function as high-quality, entry-level patient-care medical assistants in various healthcare settings. Graduates will be prepared to practice safely within their identified scope and to promote, protect, and improve the health of the diverse community. Graduates of this program are eligible to apply to take the Competency Exams for state certification as Certified Nursing Assistant, EKG Technician, Clinical Medical Assistant, Phlebotomy, and Certified Patient Care Technician/Assistant.

PREREQUISITES/CO-REQUISITES:

None

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

REQUIRED MATERIALS:

Please visit the [BOOKSTORE](#) online site for the most current textbook information.

When prompted, enter the semester, course prefix, number, and section to be linked to the correct textbook.

ADDITIONAL REQUIREMENTS:

None

TECHNICAL REQUIREMENTS:

Access to Desire2Learn (D2L), HGTC's learning management system (LMS) for course materials.

Access to myHGTC portal for student self-services.

College email access is the college's primary official form of communication.

STUDENT IDENTIFICATION VERIFICATION:

Students enrolled in online courses must participate in at least one (1) proctored assignment and 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 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 before class and switch your 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 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*:**

1. Describe the Role of the EKG Technician.
2. Demonstrate basic patient care skills.
3. Understand the basic anatomy and physiology of the heart.
4. Summarize common cardiovascular diseases and disorders.
5. Explain basic EKG technology and application.
6. Perform basic EKG procedures.
7. Identify artifacts and be able to make adaptations in the EKG testing.
8. Describe the cardiac conduction system.
9. Understand EKG tracings.
10. Interpret cardiac rhythms.
11. Explain what EKG rhythms mean for the patient.
12. Recognize the emergencies.

Module #1 – Chapters 1, 2, 3 & 4**Material Covered:**

Hartman's EKG Technician

Assessments:

Chapter Quiz

Module #1 Test

Learning Outcomes:

1. Describe the role of the EKG technician and identify healthcare settings in which

EKG technicians work.

2. Identify soft skills and personal traits needed for success as an EKG technician.
3. Describe the certification process for the EKG technician.
4. Describe the importance of continuing education and recertification.
5. Demonstrate proper communication with other members of the healthcare team.
6. Discuss the chain of command and understand the importance of following a facility's policies and procedures.
7. Discuss outside organizations critical to the function of healthcare facilities.
8. Explain the importance of monitoring vital signs.
9. Discuss the role of the EKG technician in infection prevention and control.
10. List guidelines for measuring body temperature and observing skin conditions.
11. Define pulse and list guidelines for measuring pulse.
12. Define respirations and list guidelines for measuring respirations.
13. Define blood pressure and list guidelines for measuring blood pressure.
14. Describe normal vital sign ranges for pediatric patients.
15. Perform the procedure for obtaining pulse oximetry readings and identify normal ranges for pulse oximetry readings.
16. Describe the importance of assessing and reporting pain and level of consciousness.
17. Describe patient body positions commonly used during EKG testing.
18. Discuss critical concepts of anatomy and physiology and define anatomical terms.
19. Identify and describe the parts of the cardiovascular system and their functions.
20. Identify and describe the parts of the respiratory system and their functions.
21. Describe the relationship between the nervous system and the cardiovascular system.
22. Identify the three layers of the heart.
23. Identify and describe the significant vessels that enter and leave the heart, including the coronary arteries.
24. Identify and describe the chambers and valves of the heart and blood movement through the heart.
25. Trace and describe two circulatory paths: pulmonary and systemic.
26. Summarize the relationship between the cardiovascular system and the respiratory system.
27. Describe coronary artery disease.
28. Describe ischemia and myocardial infarction.
29. Describe cardiomyopathy.
30. Describe congestive heart failure.
31. Describe heart valve disease.
32. Describe blood clots and possible complications.
33. Describe hypertension.

Module #2 – Chapters 5 & 6

Material Covered:

Hartman's EKG Technician

Assessments:

Chapter Quiz

2023-2024

Module #2 Test

Learning Outcomes:

1. Describe the essential electrical activity of the heart and how EKG machines record it.
2. Discuss the portable EKG machine.
3. Describe the types of EKG-based tests and discuss the indications for each.
4. Identify the different EKG leads and lead groups.
5. Describe electrode placement and the use of different leads.
6. Demonstrate proper setup of the EKG machine.
7. Describe general guidelines for patient identification, preparation, and response to emergencies during EKG testing.
8. Demonstrate the performance of the 12-lead EKG test.
9. Explain patient preparation and monitoring for telemetry.
10. Demonstrate the performance of a stress test.
11. Discuss Holter and other ambulatory monitoring.
12. Discuss the importance of accurate record-keeping and patient confidentiality.

Module #3 – Chapters 7 & 8

Material Covered:

Hartman's EKG Technician

Assessments:

Chapter Quiz

Module #3 Test

Learning Outcomes:

1. Define artifacts and identify situations where adjustments or adaptations may be required during EKG testing.
2. Demonstrate solutions to different types of EKG artifacts and discuss primary EKG machine Troubleshooting.
3. Demonstrate adaptations to electrode placement and patient positioning in particular situations and for pediatric patients.
4. Identify sources of information for EKG machine troubleshooting and maintenance.
5. Explain the difference between the mechanical and electrical activity of the heart.
6. Explain the electrical conduction system of the heart.
7. Understand the features of an EKG tracing.
8. Identify significant intervals and segments on the EKG tracing and list average measurements.
9. Demonstrate the measurement of time on the EKG tracing using small and large blocks
10. List the six steps used to analyze an EKG tracing.

11. Discuss the first step in analyzing heart rhythms: three methods to determine heart rate from the EKG tracing.
12. Discuss the second step in analyzing heart rhythms: how to examine an EKG tracing for regularity.
13. Discuss the third step in analyzing heart rhythms: examining the P wave on an EKG tracing.
14. Discuss the fourth step in analyzing heart rhythms: measuring the PR interval on an EKG tracing.
15. Discuss the fifth step in analyzing heart rhythms: measuring the QRS complex on an EKG tracing.
16. Discuss the importance of following each step when analyzing an EKG tracing.

Module #4 – Chapters 9 & 10

Material Covered:

Hartman's EKG Technician

Assessments:

Chapter Quiz

Module #4 Test

1. Explain how EKG rhythms are named and discuss the importance of recognizing cardiac rhythms.
2. Identify sinus rhythms.
3. Discuss what sinus rhythms mean for the patient.
4. Identify atrial rhythms.
5. Discuss what atrial rhythms mean for the patient.
6. Identify junctional rhythms.
7. Discuss what junctional rhythms mean for the patient.
8. Identify ventricular rhythms.
9. Discuss what ventricular rhythms mean for the patient.
10. Identify heart block rhythms.
11. Discuss what heart block rhythms mean for the patient.
12. Recognize artificially paced rhythms on EKG tracings.
13. Discuss possible complications with artificial pacemakers.
14. Discuss ST segment changes and other indications of injury on the EKG tracing.
15. Recognize emergencies during cardiac testing.
16. Discuss proper notification of supervisor and 911 in a medical emergency.
17. Explain the care of a conscious patient experiencing a cardiac emergency.
18. Demonstrate the care of an unconscious patient experiencing a cardiac emergency.
19. Describe cardiopulmonary resuscitation (CPR) and defibrillation using an automated external defibrillator (AED).
20. Describe the care of a patient experiencing a stroke.
21. Discuss drugs that may be used in a cardiac emergency.
22. Describe response to nonmedical emergencies.

****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 is listed below.

EVALUATION*

Module Tests	65%
Online Quizzes	10%
Class & Online Participation	10%
Final Exam	<u>15%</u>
	100%

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

GRADING SYSTEM:

HGTC has a standardized grading scale for academic courses. The grading scale is:

- A: 90%-100%
- B: 80%-89%
- C: 70%-79%
- D: 60%-69%
- F: below 60%

Grades earned in courses impact academic progression and financial aid status. Before withdrawing from a course, 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 assistance 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 adding/dropping. 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.

Students' performance will be assessed, and the weight associated with the various measures/artifacts is listed below.

Part IV: Attendance

Horry-Georgetown Technical College maintains a general attendance policy requiring students to attend at least 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. According

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 re-enroll. **Instructors define absentee limits for their class at the beginning of each term; please refer to the Instructor Course Information Sheet.**

Check your Instructor's Course Information Sheet for any required on-site meeting times for online and hybrid courses. Please note that instructors may need 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 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 using 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 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 \(ORC\)](#), which includes Office 365 support, password resets, and username information.
3. **In-person workshops, online tutorials, and more services are available on** 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 TECH Central's website or by texting questions to (843) 375-8552.

Visit the [Tech Central](#) website for more information. The website also posts Live Chat and Center locations. 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 have computers to support academic research and related school work; printing is also available. Visit the [Library](#) website for more information or call (843) 349-5268.

STUDENT TESTING:

Testing in an **online/hybrid** course and **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 require a proctor.

Proctoring can be accomplished face-to-face at an approved site or through our 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: The students are responsible for self-identifying as needing accommodations and providing acceptable documentation. After a student has self-identified and submitted disability documentation, 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, based on 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 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 they are or have 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 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 of 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