



INSTRUCTIONAL PACKAGE

AHS 145

Electrocardiography

201920

Spring 2020

INSTRUCTIONAL PACKAGE

Part I: Course Information

Effective Term: 201920

COURSE PREFIX: AHS 145

COURSE TITLE: Electrocardiography

CONTACT HOURS: 2-0-2

CREDIT HOURS: 2

RATIONALE FOR THE COURSE:

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

COURSE DESCRIPTION:

This course provides the basic skills necessary to perform ECGs in a hospital, physician's office or other health care setting. The student will be able to perform and interpret basic ECGs.

PREREQUISITES/CO-REQUISITES:

None

REQUIRED MATERIALS:

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 assignments and/or one (1) virtual events to support student identification verifications. 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](#).

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 emergency situations.

COURSE LEARNING OUTCOMES**Module #1 – Chapters 1-2****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 important 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 condition.
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 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.

Module #2 – Chapters 3 & 4

Material Covered:

Hartman's EKG Technician

Assessments:

Chapter Quiz

Module #2 Test

Learning Outcomes:

1. Discuss key concepts of anatomy and physiology and define anatomical terms.
2. Identify and describe the parts of the cardiovascular system and their functions.
3. Identify and describe the parts of the respiratory system and their functions.
4. Describe the relationship between the nervous system and the cardiovascular system.
5. Identify the three layers of the heart.
6. Identify and describe the major vessels that enter and leave the heart, including the coronary arteries.
7. Identify and describe the chambers and valves of the heart and the movement of blood through the heart.
8. Trace and describe two circulatory paths: pulmonary and systemic.
9. Summarize the relationship between the cardiovascular system and the respiratory system.
10. Describe coronary artery disease.
11. Describe ischemia and myocardial infarction.
12. Describe cardiomyopathy.
13. Describe congestive heart failure.
14. Describe heart valve disease.
15. Describe blood clots and possible complications.
16. Describe hypertension.

Module #3 – Chapters 5 & 6

Material Covered:

Hartman's EKG Technician

Assessments:

Chapter Quiz

Module #3 Test

Learning Outcomes:

1. Describe the basic electrical activity of the heart and how it is recorded by EKG machines.
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, patient preparation, and response to emergency situations 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 #4 – Chapters 7 & 8

Material Covered:

Hartman's EKG Technician

Assessments:

Chapter Quiz

Module #4 Test

1. Define artifact and identify situations in which adjustments or adaptations may be required during EKG testing.
2. Demonstrate solutions to different types of EKG artifact and discuss basic EKG machine Troubleshooting.
3. Demonstrate adaptations to electrode placement and patient positioning in special 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 important intervals and segments on the EKG tracing and list normal 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 #5 – Chapters 9 & 10

Material Covered:

Hartman's EKG Technician

Assessments:

Chapter Quiz

Module #5 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 emergency situations 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 are listed below.

EVALUATION*

Tests	65%
Quizzes	10%
Class Participation	10%
Final Exam	<u>15%</u>
	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 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, 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.**

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 or go to the [Online Resource Center](#) to access on-demand resources any time.

TECH Central – Student Information Center



TECH Central provides quality enrollment and collegiate guidance for students, faculty, and staff. Services include phone, walk-in, and online technical support for technology training and troubleshooting. Additionally, we offer support in Office 365, Outlook E-mail setup, and ID cards.

Phone: 843-349-5340

Email: techcentral@hgtc.edu

Text: 843-357-8552

TECH Talk (Live Chat): Located on the "Home" tab in WaveNet.

Website: www.hgtc.edu/techcentral

Locations:

Conway Building 1100, Room 132D

Grand Strand Building 200, Room 136

Student Testing: (If course is offered in multiple format include this section, delete if only F2F sections are offered.)

Testing in an **online/hybrid** course may be accomplished in a variety of ways:

- Test administered within D2L
- Test administered in writing on paper
- Test administered through Publisher Platforms

Further more 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 RPNOW, 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 Beth Havens, 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, 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.

Inquiries regarding the non-discrimination policies: Students 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 Vice President for Student Affairs, Dr. Melissa Batten, VP Student Affairs, Title IX 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, Section 504, Title II, and Title IX Coordinator, Building 200, Room 212A, Conway Campus, PO Box 261966, Conway, SC 29528-6066, 843-349-5212, Jacquelyne.Snyder@hgtc.edu.

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 policies:	
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 Vice President for Student Affairs.	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.
Dr. Melissa Batten, VP Student Affairs <i>Title IX Coordinator</i> Building 1100, Room 107A, Conway Campus PO Box 261966, Conway, SC 29528-6066 843-349-5228 Melissa.Batten@hgtc.edu	Jacquelyne Snyder, VP Human Resources <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 Jacquelyne.Snyder@hgtc.edu