CLEMSON
U N I V E R S I T Y

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Education & Training Plan
EKG Technician Certificate Program Clemson University
(CLEM)

Student Full Name: _____

Start Date: _____ End Date: _____

Program includes National Certification
Mentor Supported

EKG Technician Certificate Program

Course Code: CLEM-EK 05
Program Duration: 4 Months
Contact Hours: 375
Student Tuition: $3,000

The EKG Technician Profession

EKG technicians are in demand! EKG technicians work in physician's offices, hospitals, clinics, and other healthcare facilities and organizations. EKG technicians also work for insurance companies to provide data for health and life insurance policies. Similar to other growing healthcare professions, the demand for EKG technicians is expected to continue to grow substantially. Approximately 25% more EKG technician jobs will be available by the year 2028.

The EKG Technician Program

This EKG Technician Program prepares students to perform EKG's. This course will include information on anatomy and physiology of the heart, medical disease processes, medical terminology, medical ethics, legal aspects of patient contact, electrocardiography and stress testing. A highly interactive course!

This EKG Technician program prepares students to function as EKG technicians. This course covers the following key areas and topics.

- ➢ Details the anatomy and physiology of the heart
- ➢ Medical disease processes and terminology
- ➢ Medical ethics and legal aspects of patient contact
- ➢ Electrocardiography and echocardiography
- ➢ An introduction to the components, function, and proper use of the EKG machine
- ➢ The normal anatomy of the chest wall for proper lead placement
- ➢ 12-lead placement and other practices

Education and National Certifications
- EKG Technicians should have or be pursuing a high school diploma or GED.
- There are several EKG technician National Certification exams that are available to students who successfully complete this program:
    - **ASPT – Electrocardiograph (EKG) Technician exam**
    - **NHA Certified EKG Technician exam**

EKG Technician Detailed Course Information:
- Role of the EKG technician
- Function of the EKG department in a variety of settings (hospital, clinic, office, etc.)
- Medical terminology related to electrocardiography
- Care and safety of patients including medical and legal aspects of patient care
- Anatomy and physiology of the cardiovascular system
- Electrophysiology, the conduction system of the heart, and the cardiac cycle
- Circulation of blood through the heart and vessels
- Lead placement for 12-lead electrocardiography
- Basic EKG interpretation of normal rhythms and arrhythmias
- EKG troubleshooting including recognizing artifacts
- Waves and measurements
- EKG strip analysis (P,Q,R,S,T wave-form interpretation)
- Identification of rhythms using the 12-lead EKG
- Pacemakers
- Holter monitoring and the echocardiogram

National Certification

Although there is no state approval, state registration or other state requirements for this program, students who complete this EKG Technician program at Clemson University will be prepared and are eligible to take at least 2 national certification exams. Students are eligible to sit for the American Society of Phlebotomy Technician (ASPT) Certified EKG Technician exam and the National Healthcareer Association (NHA) EKG Technician (CET) certification exam. Students who complete this program can and do sit for these national certification exams and are qualified, eligible and prepared to do so. Clemson University works with each student to complete the exam application and register the student to take their national certification exam.

Clemson University contact: If students have any questions regarding this program including national certification and externships, **they should call Juanita Durham of Clemson University at 864.656.3984 or via email at jdrhm@clemson.edu.**

Note: No refunds can be issued after the start date published in your Financial Award document.

About Clemson University!

Clemson Online, a unit reporting directly to the Provost, works closely with leadership teams across the University to develop, market, and deliver top-quality courses and programs in blended and online formats. The office provides vision, leadership, coordination, and expertise in support of faculty design, delivery, and evaluation of technology-enhanced, blended, and fully online courses and instructional materials. Dynamic, transformative, and unique eLearning opportunities characterize Clemson's approach to online teaching and learning.

Our Mission: Clemson Online provides strategic leadership for online education, emphasizing innovative teaching and superior learning outcomes to maximize student success in 21st-century academic and professional contexts.

Our Vision: Clemson Online will define the public web-grant university through measurable achievements in online education, research, and service.
The office is committed to pursuing strategic opportunities, providing supportive resources, promoting superior educational quality, and ensuring faculty involvement and responsibility in shaping Clemson's online future.

Clemson University and Pearson Education

Clemson University's eLearning programs were developed in partnership with Pearson Education to produce the highest quality, best-in-class content and delivery necessary to enhance the overall student learning experience, boost understanding and ensure retention. Pearson Education is the premier content and learning company in North America offering solutions to the higher education and career training divisions of colleges and universities across the country aimed at driving quality education programs to ensure student success. Please visit us at **www.pearson.com**.

About Pearson Education

Welcome to Pearson. We have a simple mission: to help people make more of their lives through learning. We are the world's leading learning company, with 40,000 employees in more than 80 countries helping people of all ages to make measurable progress in their lives. We provide a range of education products and services to institutions, governments and direct to individual learners, that help people everywhere aim higher and fulfil their true potential. Our commitment to them requires a holistic approach to education. It begins by using research to understand what sort of learning works best, it continues by bringing together people and organizations to develop ideas, and it comes back round by measuring the outcomes of our products.

Lesson Checklist
Each lesson has a prescribed, detailed checklist of activities for successful completion of the lesson. This includes lesson objectives, readings, and recommended assignments. Although assignments are optional, the instructor will grade and provide feedback on submitted assignments.

Course Materials
- EKG Technician Program Standard, Custom Edition Package - Book package includes EKG Technician Program PowerPoint Slides
- EKG Technician Program Standard Student Workbook
- EKG Technician Program Advanced, Custom Edition Package - Book package includes EKG Technician Program: Advanced PowerPoint Slides

Module/Lesson Structure
The EKG technician program is divided into four main content modules, and one advanced module. The textbook is *EKG Technician Program Standard, Custom Edition* for the four main content modules; for the advanced module, the textbook is *EKG Technician Program Advanced, Custom Edition Package*. Each module contains one or more lesson presentations to view. These lesson presentations are the "lecture" which, along with the textbook readings and resources, will help you learn the material. The lesson presentations aim to address a variety of learning styles and preferences using text, audio, video, etc. Each lesson contains at least one *Check Your Understanding* interactive self-assessment that will help you gauge your comprehension of that lesson's content.

Many lessons include supplemental resources such as games, animations, videos, and interactive activities. Using these additional materials will deepen your understanding of the content. Each module has a Module test and Module 4 concludes with a Final Exam for all students. Module 5 concludes with an Advanced Module Test.

Course Overview
Module 1
- Lesson 1 – Coronary Anatomy and Physiology
  - Reading Assignment: Chapter 1: pp. 1-12
- Lesson 2 – Electrophysiology
  - Reading Assignment: Chapter 2: pp. 13-34
- Lesson 3 – A Review of Lead Morphology and Placement
  - Reading Assignment: Chapter 3: pp. 35-46
- Lesson 4 – The Technical Aspects of the EKG
  - Reading Assignment: Chapter 4: pp. 47-60

Module 2
- Lesson 5 – Calculating the Heart Rate
  - Reading Assignment: Chapter 5: pp. 61-72
- Lesson 6 – How to Interpret a Rhythm Strip
  - Reading Assignment: Chapter 6: pp. 73-78
- Lesson 7 – A Review of Rhythms Originating from the Sinus Node
  - Reading Assignment: Chapter 7: pp. 79-98
- Lesson 8 – A Review of Rhythms Originating from the Atria
  - Reading Assignment: Chapter 8: pp. 99-119

Module 3
- Lesson 9 – A Review of Rhythms Originating in the Av Junction
  - Reading Assignment: Chapter 9: pp. 121-132

- Lesson 10 – Rhythms Originating on the Ventricles
  - Reading Assignment: Chapter 10: pp. 133-155
- Lesson 11 – AV Blocks
  - Reading Assignment: Chapter 11: pp. 157-176
- Lesson 12 – Performing Rhythms Practice Strips
  - Reading Assignment: Chapter 12: pp. 177-302

Module 4
- Lesson 13 – A Review of Artificial Pacemakers
  - Reading Assignment: Chapter 13: pp. 303-317
- Lesson 14 – Diagnostic Electrocardiography
  - Reading Assignment: Chapter 14: pp. 319-345

Module 5 – Advanced
- Lesson 15 – How to Interpret a 12-Lead EKG
  - Reading Assignment: Chapter 1: pp. 1-36
- Lesson 16 – Myocardial Infarction
  - Reading Assignment: Chapter 2: pp. 37-71
- Lesson 17 – Cardiac Medications and Electrical Therapy
  - Reading Assignment: Chapter 4: pp. 103-109

Note: This program can be completed in 4 months. However, students will have online access to this program for a 24-month period.

MICROSOFT OFFICE Module
- Use an integrated software package, specifically the applications included in the Microsoft Office suite
- Demonstrate marketable skills for enhanced employment opportunities
- Describe proper computer techniques for designing and producing various types of documents
- Demonstrate the common commands & techniques used in Windows desktop
- List the meaning of basic PC acronyms like MHz, MB, KB, HD and RAM
- Use WordPad and MSWord to create various types of documents
- Create headings and titles with Word Art
- Create and format spreadsheets, including the use of mathematical formulas
- Demonstrate a working knowledge of computer database functions, including putting, processing, querying and outputting data
- Define computer terminology in definition matching quizzes
- Use the Windows Paint program to alter graphics
- Use a presentation application to create a presentation with both text and graphics
- Copy data from one MS Office application to another application in the suite
- Use e-mail and the Internet to send Word and Excel file attachments
- Demonstrate how to use the Windows Taskbar and Windows Tooltips
- Explain how copyright laws pertain to data and graphics posted on the Internet
- Take the college computer competency test after course completion
- Follow oral and written directions and complete assignments when working under time limitations

Note: Although the Microsoft Office Module is not required to successfully complete this program, students interested in pursuing free Microsoft MOS certification may want to consider completing this Microsoft Office Module at no additional cost.

System Requirements:

Windows Users:
- Windows 8, 7, XP or Vista
- 56K modem or higher
- Soundcard & Speakers
- Firefox, Chrome or Microsoft Internet Explorer

Mac OS User:
- Mac OS X or higher (in classic mode)
- 56K modem or higher
- Soundcard & Speakers
- Apple Safari

iPad Users:
- Due to Flash limitations, eLearning programs are NOT compatible with iPads

Screen Resolution:
- We recommend setting your screen resolution to 1024 x 768 pixels.

Browser Requirements:
- System will support the two latest releases of each browser. When using older versions of a browser, users risk running into problems with the course software.
  - Windows Users: Mozilla Firefox, Google Chrome, Microsoft Internet Explorer
  - Mac OS Users: Apple Safari, Google Chrome Mozilla Firefox

Suggested Plug-ins:
- Flash Player
- Real Player
- Adobe Reader
- Java