**Oakton Community College**

**Continuing Education, Training, and Workforce Development**

**Fall 2017**

**Course Title:** EKG Technician Certification Prep

**Course Code:** MEDA19 001

**Instructor Name:** Justin Hagan, BA, CCMA, EMT

**Instructor Contact Information:** Email: [Justin.Hagan@uky.edu](mailto:Justin.Hagan@uky.edu) (please allow 24hours)

**Prerequisites/General Requirements**

Must be 18 years or older

Must hold a High School Diploma or GED

**Technology requirements**:

Feel free to bring laptops for supplemental work

**Overview of Course**

Become a Certified EKG Technician through this preparatory course. EKG rhythms provide important data for the diagnosis of heart conditions. As a Certified EKG Technician (CET), you’ll have the credentials nearly all healthcare employers require to perform the critical tasks of administering EKGs and stress tests, preparing patients for Holter or ambulatory monitoring, editing and delivering final test results to physicians and more. At the completion of this program, students will be prepared to sit for the Certified EKG Technician (CET) exam with the National Healthcareer Association. Cost of the CET exam is included with the tuition. By the end of this course, students will be prepared to site for the CET national certification exam

**Student Learning Outcomes**

1. Articulate the role of a EKG Technician
2. Examine Career Pathways
3. Calculate a patient’s heart rate from the EKG tracing (e.g., 6- second method, R to R, sequencing).
4. Identify artifacts from the tracing (e.g., wandering baseline, somatic, electrical).
5. Resolve artifacts from the tracing
6. Record an EKG lead on a patient
7. Verify the leads recorded on an EKG
8. Upload a completed EKG to a patient’s electronic medical record.
9. Mount a completed EKG for a patient’s chart.
10. Measure a patient’s heart rhythm from the EKG tracing.
11. Inspect the waveforms of a cardiac cycle for symmetry, direction, and amplitude
12. Measure a patient’s heart conduction from the EKG tracing
13. Identify the major classifications of arrhythmias from the EKG tracing
14. Identify the major variances to waveforms related to ischemia, injury, or infarction
15. Articulate how to respond to potentially life threatening arrhythmias
16. Verify EKG machine paper speed
17. Verify EKG machine sensitivity
18. Maintain EKG equipment and the work environment
19. Recognized pacemaker spikes on an EKG trace
20. Prepare the patient for EKG, Holter, Stress, and Telemetry Monitoring
21. Apply electrodes on patients
22. Respond to signs and symptoms of cardiopulmonary compromise
23. Adhere to HIPAA regulations regarding Protected Health Information (PHI)
24. Monitor patient condition during stress testing
25. Respond to complications during stress testing
26. Verify patient understanding of Holter monitor procedures
27. Obtain patient vital signs (e.g., heart rate, respirations, temperature, blood pressure, pulse oximetry)

**PROGRAM OUTLINE/MAP**

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| ***Week*** | ***Topical Outline/Labs*** | ***Learning Outcomes*** | ***Learning Activity/Assessment/Exams*** |
| ***1*** | *Introduction: Goals of the program (certification, preparation for JOBS, about NHA/CET)*  *Role of the EKG Technician*  Cardiac Anatomy and Physiology  EKG machine and equipment basics  Vital signs  EKG paper/Printing  EKG Leads and lead placement  EKG waveforms  Parameters in normal conduction | Articulate the role of a EKG Technician  Identify heart structures and functions  Identify EKG machine functions and use  Verify EKG machine paper speed  Verify EKG machine sensitivity  Maintain EKG equipment and work environment  Obtain patient vital signs  *Understand time and amplitude as it relates to EKG paper*  Verify the leads recorded on an EKG  Record and EKG lead on a patient  Apply electrodes on patient  Inspect the waveforms of a cardiac cycle for symmetry, direction, and amplitude | September 11th,13th & 12th, 14th  Cardiac Anatomy and Physiology Review Sheet  EKG Machine Walk -Through  Student V/S record sheet  Waveform Identification Review  Preparing the Chart  Preparing and Educating the Patient for the EKG  Review for Quiz 1  Lab (Wed/Thurs) |
| ***2*** | Measuring Heart Rates  Identifying rhythms  Abnormal Waveforms  Artifact  Ischemia, Injury and Infarct  EKG Monitoring | Calculate the patient’s heart rate from the EKG tracing  Measure a patient’s heart rhythm from the EKG tracing  Identify the major classifications of arrhythmias from the EKG tracing  Recognize pacemaker spikes on an EKG tracing  Measure a patient’s heart conduction from the EKG tracing  Identify artifacts from the tracing  Resolve artifacts from the tracing  Identify the major variances to waveforms related to ischemia, injury or infarction  *Understand the various uses of EKG monitoring (Holter, Stress Telemetry)* | September 18th, 20th & 19th 21st.  Quiz 1 (Monday/Tuesday)  Obtain and Record Student V/S  Sample EKG Identify/Measure  Left/Right side EKG  Placement Guide for Stress Testing, Telemetry, and Holter Monitoring.  Quiz review/Practice NHA Review  Lab |
| ***3*** | Patient Care  Patient Communication and Preparation  Patient Instructions for EKG procedures and testing  Electronic Medical Record/Data storage  HIPAA | Obtain pertinent medical history from patient prior to procedures  Develop professional communication and interaction with patients  Explain test instructions and procedures effectively  Prepare the patient for EKG, Holter, Stress, and Telemetry monitoring  Verify patient understanding of Holter monitor procedures  Upload completed EKG to patient’s electronic medical record  Mount an EKG for a patient’s chart  Adhere to HIPAA regulations regarding Protected Health Information | September 25th, 27th & 26th, 28th  Quiz 2 (Monday/Tuesday)  Patient Education Review  NHA Exam (Wed/Thurs)  Lab time  Successful completion of 4-5 EKG needed. |
| ***4*** | Emergency Scenarios  Stress Testing  Review Q and A | Articulate how to respond to potentially life threatening arrhythmias  Respond to signs and symptoms of cardiopulmonary compromise  Monitor patient condition during stress testing  Respond to complications during stress testing | *October 2nd, 4th & 3rd, 5th*  *Lab time*  *Codes/Emergency*  *Spot Check Abnormal rhythms*  *Quiz 3 (Wed/Thurs)*  *Student V/S* |
| ***5*** | Career Services and/or Health Careers  Review of topics and materials | Examine career and educational pathways  Exam preparation and skills mastery | October 9th, 11th & 10th, 12th  Lab  Review  Quiz 4 |
| ***6*** | Overall review of topics and materials  NHA CET Exam Scheduling | Examine career and educational pathways  NHA certification preparation | October 16th, 18th & 17th, 19th  Student V/S Records Due  Final NHA Practice Exam  10 Successful EKG Due. |

**Methods of Instruction:**

Materials for this course will be presented in a variety of methods including lecture, assigned at home reading, PowerPoints, videos, demonstration and in class and other hands on activities.

**Workload**

This course will include 4 weekly quizzes from material taught in class, and assigned readings, a practice certifying exam at mid-point to identify strengths and weakness, a practice NHA exam as a final exam. To be successful in the course and to be ready for NHA certifying examination students are suggested to review lectures, supplemental materials, and actively engage in classroom activities. Each student will be required to perform and document 10 successful EKG’s.

**Primary or required books/readings for the course**

1. The Only EKG Book You'll Ever Need (8th edition) by [Malcolm S Thaler, MD. ISBN:](https://www.alibris.com/search/books/author/Malcolm-S-Thaler%2C-MD) [9781451193947.](https://www.alibris.com/search/books/isbn/9781451193947)
2. NHA Study Guide

**Supplemental or optional books/readings**

NHA CET course materials and review. Additional sample materials will be provided as needed.

**REQUIREMENTS**

**Exam and Quizzes:**

4 weekly quizzes

2 NHA Practice Exams

Final NHA exam (date TBD)

**Assignments/problem sets projects/reports**

Active Participation in class/lab  
10 successful EKG  
Student Vital Sign Record

**STATEMENT ON ACCOMODATION**

Oakton Community College provides equal access to education for all students. Students with documented disabilities, as defined by the ADA and Section 504 of the Rehabilitation Act of 1973, are eligible for services. Accommodations are individual in nature and are decided on a case by case basis. If you are a student with a documented disability and have the ability to perform college-level work, Oakton can help you succeed.

The Access & Disability Resource Center provides a range of accommodations and services for students with documented disabilities, including:

Sign language interpreters

Extended testing time

Adaptive equipment

Alternative text

Note-taking services

Enlarged printed materials

Reader services

Scribes

Tutoring

Accommodations and services are offered in accordance with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act.

Questions? Contact the Access & Disability Resource center at 847.635.1759 or accessdisability@oakton.edu.