**ALTAMONT HEALTHCARE**

**SCHOOL CATALOG**

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**EKG Certification**

**Course Syllabus**

**Program Description:** This course teaches students to perform EKG tests for recording impulses transmitted by the heart. These tests include basic EKG, Holter monitoring, 12-lead placement, stress testing and pacemaker rhythm evaluation and monitoring. The course prepares students to be EKG technicians where they assist physicians and other medical professionals in diagnosing and treating cardiac and blood vessel irregularities.

The course involves 100 hours of classroom training composed of lectures and laboratory activities.

**Class Sessions:** There are two class schedules offered:

Weekend Class: Saturday (800AM-500PM) and Sunday (900AM to 200PM)

Night Class: Monday, Tuesday and Thursday (530PM to 1030PM)

**Course Objectives**: Upon successful completion of the course, students shall be eligible to take the EKG certification exam through National Center for Competency Testing ( NCCT).

At the completion of the course, students will be able to determine cardiac dysrhythmias, correlate electrophysiological, physiological and pathophysiological cardiac events using 12-lead electrocardiograms and other related procedures. Students will be able to determine appropriate interventions based on rhythm interpretation and localization of cardiac infarction.

**Materials:** Students shall be provided a book Electrocardiography For Healthcare Professionals, Fifth Edition, by Kathryn Booth and Thomas O’Brien. Students will have access to Basic Life Support video and manual from the American Heart Association, EKG videos and also mock certification exams through online access through [www.ncctinc.com](http://www.ncctinc.com). Appropriate surgical supplies, instruments and equipment shall also be used.

**Outline:**

1. Intro to EKG
2. Role of EKG and function of EKG department
3. Ethical Rules
4. Medical Terminology
5. Root words, prefixes and suffixes
6. Abbreviations
7. Cardiac and circulatory terms
8. Anatomy and Physiology
9. General anatomy
10. Cardiovascular system, including circulatory
11. Nervous system
12. Respiratory
13. Performing an EKG
14. The EKG Machine
15. How to perform an EKG
16. Dysrhythmias
17. Atrial Dysrhythmias
18. Junctional Dysrhythmias
19. Heartblock Dysrhythmias
20. Rhythms
21. Interpretation
22. Sinus Rhythms
23. Rhythms Originating from the Ventricles
24. Exercise Electrocardiography
25. Ambulatory Monitoring
26. Clinical Management
27. Basic 12-Lead EKG Interpretation

**Learning Skills:**

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| **Topic**  **As Numbered**  **Above** | **Learning Skills** |
| I | * Discuss the history of obtaining and using the EKG * Understand the importance of EKG in medicine * Identify the skills and knowledge needed to be an effective EKG technician * Understand ethical responsibilities of an EKG technician |
| II | * Be familiar with basic medical terms necessary to work in the healthcare industry. |
| III | * Be familiar with essential parts and functions of the human body. * Understand how anatomy and physiology relate to the work performed in the sterile processing department. * Know the anatomy of the heart. |
| IV | * Identify the three types of leads and explain how each is recorded * Explain how each EKG machine is used * Recognize common electrodes * Describe EKG graph paper * Use EKG tracing to calculate heart rate * Prepare the patient, room and equipment for EKG * Identify anatomical standards to be used in EKG process * Demonstrate EKG procedure * Describe procedure for recording 12-lead EKG * Describe EKG reporting * Explain various pediatric procedure * Know special patient circumstances when performing EKG * Identify steps to clean and care for the EKG machine |
| V | * Summarize similarities between atrial dysrhythmias * Identify premature atrial complexes, wandering atrial pacemaker, multifocal atrial tachycardia, atrial flutter and atrial fibrillation using varying criteria for classification * Discuss various junctional dysrhythmias * Identify junctional escape rhythm, accelerated junctional rhythm, junctional tachycardia rhythm and supraventicular tachycardia rhythm using varying criteria for classification * Describe the various heart block dysrhythmias * Identify first degree heart block, second degree AV block Mobitz I, second degree block Mobitz II and third degree AV block using varying criteria for classification |
| VI | * Understand the process of tracings and determine presence of dysrhythmias * Describe bases for classification of dysrhythmias including rhythm, rate, P wave, PR interval and QRS duration measurement * Identify normal sinus rhythm, sinus bradycardia, tachycardia, dysrhythmia and sinus arrest using varying classification and explain its effects to patients * Describe various ventricular dysrhythmias * Identify agonal rhythm, idioventricular rhythm, accelerated idioventricular rhythm * Identify ventricular tachycardia and ventricular fibrillation |
| VII | * Describe and know uses of exercise electrocardiography and identify other names * Prepare patient for exercise electrocardiography * Know common protocols followed in exercise electrocardiography * Explain responsibilities of technician after exercise electrocardiography |
| VIII | * Understand the types, use and functions of ambulatory monitoring * Know common uses and variations of ambulatory monitoring * Prepare patient for this procedure * Know the procedure for applying and removing ambulatory monitor and reporting results |
| IX | * Identify major heart disease * Discuss continued treatment for the cardiac patient * Know typical cardiac symptoms and unstable angina atypical patient types and presentation * Understand heart failure |
| X | * Understand the anatomic views seen on a 12-lead EKG and the coronary artery supplying that region of tissue * Indentify morphologic changes associated with ischemia, injury and infarction * Understand axis deviation, bundle branch block and know the steps for each * Define left ventricle hypertrophy (LVH) |

**Assessments:** Students shall expect the following:

* Written examinations shall be given to the students at the end of a chapter or series of chapters.
* Practical exercises shall be given when appropriate as determined by the instructor.
* Patient care laboratory activities such as EKG testing, Vital Signs monitoring, Rhythm strip reading and analysis of at least 20 hours as indicated in their Laboratory Time Log, which shall be signed by the instructor at the conclusion of the course.
* A comprehensive final exam shall also be given at the end of the course.
* Throughout the class session, students shall be required to do chapter outlines and assignments.

**Externship**: After passing of the national board certification examination, student will be eligible to apply for an optional externship program. Students will be assigned to a hospital where they obtain at least 240 hours of actual clinical training.