

College of DuPage

Non-Invasive Electrocardiography Certificate Program



The Non-Invasive Electrocardiography program provides the student with didactic, laboratory practice and a clinical component in preparation for a health career as a Certified Non-Invasive Electrocardiographic Technician.

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updated 12/12/2022

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The electrocardiography (EKG) procedure records the electrical activity of the heart muscle via electrodes displaying heart activity as a visual tracing. This tracing provides valuable information as it relates to the electrical conduction system of the heart. EKG is a highly specialized and technical procedure used for assessing cardiac function and diagnosing cardiac disease. Non-invasive EKG procedures do not involve any incisions or entry into the thoracic (chest) cavity.

EKG Technicians perform non-invasive cardiology tests including; pulse, blood pressure, recording electrical activity of the heart, stress testing, and holter monitor testing. The EKG program includes a module in telemetry; defined as the transmission of cardiac signals to a receiving location where they are displayed for monitoring. Telemetry is used for inpatients who are at risk of abnormal heart activity, generally in a coronary care unit. Telemetry technicians are responsible for monitoring patients on these devices.

The cardiologist depends on the EKG technician to collect quality tracings that allow the physician to make accurate diagnoses while delivering exceptional cardiac care. To do this, the EKG technician must understand the importance of correct lead placement and monitoring of the patient while performing EKGs in a skillful, safe and reliable manner.

The ability of the EKG technician to recognize normal and abnormal tracings as well as identify artifacts on a tracing is critical to the accuracy of the test results. They must communicate effectively by relaying critical information to the cardiologist; they must also have the ability to handle emergency situations, if necessary.

Cardiographic Technicians can earn \$50,438 per year. As imaging technology evolves, it will replace the more invasive, costly cardiac procedures. Salary may vary depending upon education and years of employment.

Mission Statement

The Non-Invasive Electrocardiography program provides students with didactic, laboratory and clinical experiences in preparation for a profession as a Certified Non-Invasive Electrocardiographic Technician. Upon completion, the student will function as an integral member of the health care team with competence and confidence.

Standard Skills in EKG

To participate in the Non-Invasive Electrocardiography program, students must possess additional non-academic skills. These standards are consistent with the duties of the entry-level technician in a professional position. These skills, which protect the health and well-being of patients, may include but are not limited to the ability to:

- Move, adjust equipment and perform EKG procedures
- Position patients for procedures

- Respond appropriately to sounds such as the patient’s voice and movements at a normal conversational volume
- Demonstrate visual acuity to assess equipment
- Manipulate appropriate equipment
- Perform for a prolonged period without breaks in a typical shift of eight hours
- Communicate orally and in writing in the English language with patients, doctors and other personnel clearly and effectively
- Follow verbal and written directions in the English language
- Respond appropriately to emergency procedures

If you are uncertain of your ability to perform these essential functions or feel you need reasonable accommodations to perform them, please consult with Special Student Services

Policies and Procedures

All Nursing and Health Science Division policies and procedures are found on our [Division website](#). It is the students’ responsibility to ensure they have reviewed and understand the policies and procedures. The Nursing and Health Science Division reserves the right to change, at any time, without notice, these policies and procedures.

Estimate of Program Cost

Please visit the [Program Costs webpage](#) for estimated cost.

Academic Prerequisites

1. Completion of or concurrent enrollment in Health Science (HLTHS) 1110, Biomedical Terminology, with a grade of “C” or higher.

Course Requirements

The number of students registered in EKG courses is determined by the availability of clinical sites. Students will be assigned a clinical site that offers adequate supervision/mentoring in an appropriate learning environment.

The Non-Invasive Electrocardiography Certificate program is an intensive curriculum, with course work in Basic EKG (HLTHS 1126) and Advanced EKG (HLTHS 1128). EKG clinical (HLTHS 1129) is designed to meet the needs of the curriculum, the clinical affiliation, and certification standards while preparing the student for employment.

Clinical placement is the decision of the program coordinator.

Prerequisite or concurrent enrollment in HLTHS 1126

HLTHS 1110 Biomedical Terminology 3 credit hours

1st Semester

HLTHS 1126 Basic EKG 2 credit hours

2nd Semester

HLTHS 1128 Advanced EKG-(first 12 weeks) 3 credit hours

Students must receive a “C” or higher in above courses to continue with the clinical component.

2rd Semester

HLTHS 1129 EKG Clinical-(last 4 weeks) 1 credit hour

Total credits for certificate 9 credit hours

Upon completion of program requirements students are eligible to sit for the **Certified Cardiographic Exam** and/or the **Certified Rhythm Analysis Exam** through **Cardiovascular Credentialing International (CCI)**. Successful completion of this exam, the student becomes a **Certified Cardiographic Technician (CCT) or Certified Rhythm Analysis Technician (CRAT)**. For more information about CCI or the CCT exam go to the following website. <http://cci-online.org/> . Students can also petition to receive a certificate from the college upon completion of the required courses.

Clinical Requirements must be completed before registering for HLTHS 1129 EKG Clinicals

1. **Students must complete clinical requirements prior to starting a clinical assignment. Do not complete clinical requirements until instructed to do so.** The Health Requirements packet is available on the [Health Sciences Admissions](#) and the program webpages. Some clinical affiliates require further testing, which is the responsibility of the student. Students with chronic medical conditions and physical limitations are required to submit documentation of current health status relating to their specific condition. The statement should include the physician’s assessment as to the student’s ability to meet the program objectives and standard skills in electrocardiography and the current medications the student is required to take for health maintenance.
2. **CPR** for Health Providers Certification through the American Heart Association.
3. **Criminal Background Check;** felony convictions may disallow a clinical assignment
4. **Proof of Health Insurance.**

Note: Please see specific program registration or admission packets for detailed information on when to begin completing health requirements, drug tests, CPR, criminal background checks and proof of insurance submission. Timing varies depending upon either entrance to or participation in the clinical component of a given program. Funds paid to Edward Corporate Health or to a personal health care provider/ source, CastleBranch.com, insurance companies, and funds used towards CPR completion are not eligible for any sort of refund from College of DuPage if the required course(s) are not successfully completed.

Clinical sites available (subject to change)

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|---------------------------------|-------------------|
| Advocate Christ Hospital | Palos Heights |
| Alexian Brothers Medical Center | Elk Grove Village |
| Delnor Community Hospital | Geneva |
| Edward Hospital | Naperville |
| Glen Oaks Medical Center | Glendale Heights |
| Good Samaritan Hospital | Downers Grove |
| Hinsdale Hospital | Hinsdale |