

**Echocardiography / Noninvasive Cardiovascular Sonographer Training Program**  
**CIP Code: 51-0911**

**Program Description:**

Non-Invasive Cardiovascular Sonography (NICVS), also called Echocardiography (or Echo), is a diagnostic modality used for medical imaging of heart & blood vessels. It is a powerful tool that can offer a wealth of information about the human heart and peripheral blood vessels. Echocardiography (cardiac ultrasound) is performed by using a specialized scanner called transducer (or probe) which is connected with the echo machine. The transducer, after attaching to the skin of the chest, produces high frequency sound waves (ultrasound) which are transmitted into the human body. These ultrasound waves reflect from heart/blood vessels to the transducer. From transducer the sound waves are then transformed into images on the screen of echo machine. These cardiovascular images provide valuable information for diagnosing and treating variety of heart and blood vessels diseases. Therefore Cardiovascular Sonography has become the most widely used imaging modality in modern medicine and it will continue to expand. The Program offers an in-depth explanation of how Non-Invasive Cardiovascular Sonography works.

**Objectives:**

- Learn how to operate the machine
- Learn how to enter patient information
- Learn how to adjust depth measurement
- Learn how to adjust frequency
- Learn how to demonstrate indicator orientation
- Learn how to save images
- Learn how to establish objective criteria
- Learn how to position the patient for the specific test
- Learn the basic introduction to accreditation bodies
- Learn the standards for ultrasound QC (quality control)

**Program Duration:**

15 months

**Clock Hours:**

1400

**Program Curriculum:**

**BIO101 Basic Medical Terminology**  
**BIO 102 Human Anatomy and Physiology I**  
**BIO103 Fundamentals of Pharmacology**  
**BIO 104 Healthcare Laws and Ethics**  
**BIO 105 Patient Care in Imaging**  
**BIO 106 Human Anatomy and Physiology II**  
**BIO 107 Imaging Pathology**  
**ECO 110 Cardiology Technology**  
**ECO 111 Fundamentals of Echoardiogrphahy I**  
**ECO 112 Sonographic Imaging I**  
**ECO 113 Ultrasound Physics I**  
**ECO 114 Fundamentals of Echoardiogrphahy II**  
**ECO 115 Sonographic Imaging II**  
**ECO 116 Ultrasound Physics II**  
**ECO 121 Externship I**  
**ECO 122 Externship II**

**Program Format:**

**The College will offer this program in on-ground format as well as in hybrid format in which students can take didactic/ theory courses using online delivery method.**

**Program Completion:**

A Certificate of Completion will be awarded to those students who will successfully complete all required courses as per college's Satisfactory Academic Requirements and fulfill their financial obligation towards the college.

**Certification:**

Graduates who will meet additional requirements, including but not limited to ethics requirements, of the credentialing agency will be eligible to challenge national certification exam to become certified by passing the credentialing examination.