

## CVT - CARDIOVASCULAR TECHNOLOGY (CVT)

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### **CVT 101 Introduction to Cardiovascular Technology 2 SHC**

This course provides an overview of cardiovascular technology and the role of the cardiovascular technologist. The importance of professionalism, ethical behavior, communication, and legal aspects will be stressed.

Prerequisites: Admission to the program.

Corequisites: CVT 112 and CVT 115.

Lecture Hours: 2

Lab/Clinical Hours: 0

### **CVT 106 Introduction to Non-Invasive Physics 3 SHC**

This course provides the student with an introduction to basic physics concepts required for applied knowledge in the profession of non-invasive cardiology.

Prerequisites: CVT 101 and CVT 112.

Corequisites: CVT 140 and CVT 142.

Lecture Hours: 3

Lab/Clinical Hours: 0

### **CVT 107 Non-Invasive Cardiovascular Physics 3 SHC**

This course will offer an in-depth study of the applications and utilization of physics concepts as they apply to the profession of the non-invasive cardiovascular technologist. This course is the continuation of CVT 106.

Prerequisites: CVT 106, CVT 140, CVT 142, and SPC 205.

Corequisites: CVT 141 and CVT 145.

Lecture Hours: 3

Lab/Clinical Hours: 0

### **CVT 108 Physics for the Invasive Cardiovascular Technologist 2 SHC**

This course is a study of basic physics concepts, radiation safety, and radiation production as they relate to the profession of invasive cardiovascular technology. Fifteen hours or more of this course is dedicated to the instruction of Radiation Science, Biology, and Radiation Safety.

Prerequisites: CVT 101, CVT 112 and CVT 115.

Corequisites: CVT 120 and CVT 122.

Lecture Hours: 2

Lab/Clinical Hours: 0

### **CVT 110 Hemodynamics and Cardiac Care Physiology 3 SHC**

This course is designed to provide the invasive cardiovascular technology student with the hemodynamic and cardiac care concepts needed to function in the clinical environment. Topics include interpretation and recognition of disease processes as inferred from hemodynamic monitoring.

Prerequisites: CVT 108 and CVT 120 and CVT 122.

Corequisites: CVT 121 and CVT 125.

Lecture Hours: 3

Lab/Clinical Hours: 0

### **CVT 112 Cardiovascular Principles 3 SHC**

This course provides the cardiovascular technologist with an in-depth study of normal cardiovascular anatomy and physiology as well as basic cardiac embryology, hemodynamics, and evaluation methods.

Prerequisites: Admission to the program.

Corequisites: CVT 101 and CVT 115.

Lecture Hours: 3

Lab/Clinical Hours: 0

### **CVT 115 Echocardiography Fundamentals 3 SHC**

This course is designed to provide the cardiovascular technology student with entry level techniques and principles in echocardiography modalities. Students will practice hands on skills when utilizing 2D, M-Mode, color and spectral Doppler to image the heart.

Prerequisites: Admission to program.

Corequisites: CVT 101 and CVT 112.

Lecture Hours: 2

Lab/Clinical Hours: 6

### **CVT 117 Invasive Fundamentals 3 SHC**

This course is designed to provide the cardiovascular technology student with an entry level techniques and principles in the invasive cardiology setting. Students will practice hands on skills in the roles of sterile scrub, circulator, and monitor positions in the cardiac catheterization lab.

Prerequisites: Admission to the program.

Corequisites: CVT 101 and CVT 112.

Lecture Hours: 2

Lab/Clinical Hours: 6

### **CVT 120 Invasive Cardiology I 3 SHC**

This course introduces the student to the specific procedures performed in the cardiac catheterization laboratory and use of resulting data for patient diagnoses.

Prerequisites: CVT 101, CVT 112, and BIO 211.

Corequisites: CVT 108 and CVT 122.

Lecture Hours: 3

Lab/Clinical Hours: 0

### **CVT 121 Invasive Cardiology II 3 SHC**

This course will focus on an in-depth presentation of various cardiac diseases and the use of equipment and techniques used in invasive cardiology. Various calculations performed in the catheterization lab will be introduced.

Prerequisites: CVT 108 and CVT 120 and CVT 122 and SPC 205.

Corequisites: CVT 110 and CVT 125.

Lecture Hours: 3

Lab/Clinical Hours: 0

### **CVT 122 Invasive Cardiology Clinical I 5 SHC**

This course is an introduction to the cardiac catheterization lab in a clinical setting. Emphasis is placed on instrumentation, sterile technique, and entry-level scrub/circulation responsibilities.

Prerequisites: CVT 101 and CVT 112.

Corequisites: CVT 108 and CVT 120.

Lecture Hours: 0

Lab/Clinical Hours: 15

**CVT 125 Invasive Cardiology Applications II 5 SHC**

This course provides for supervised hands-on experience in performing clinical catheterizations. Focus will be on catheterization lab procedures, scrub and circulatory responsibilities, equipment hemodynamics monitoring, and the coronary angiography procedure.

Prerequisites: CVT 108, CVT 120, and CVT 122.

Corequisites: CVT 110 and CVT 121.

Lecture Hours: 0

Lab/Clinical Hours: 15

**CVT 130 Vascular Sonography I 3 SHC**

This course encompasses the anatomy, physiology, pathophysiology, and treatment of cerebrovascular, peripheral venous and arterial systems.

Prerequisites: Admission to the program.

Corequisites: CVT 131.

Lecture Hours: 3

Lab/Clinical Hours: 0

**CVT 131 Vascular Sonography Clinical I 6 SHC**

This course provides hands-on experiences performing peripheral vascular studies. Emphasis will be on following protocol, extending protocol when pathology is present, optimizing instrumentation, and providing an summary of findings.

Prerequisites: Admission to program.

Corequisites: CVT 130.

Lecture Hours: 0

Lab/Clinical Hours: 18

**CVT 132 Vascular Sonography II 3 SHC**

This course encompasses the anatomy, physiology, pathophysiology, and treatment of visceral arterial and venous diseases. It also covers miscellaneous vascular testing and diseases that are not as common.

Prerequisites: CVT 130 & CVT 131.

Corequisites: CVT 133.

Lecture Hours: 3

Lab/Clinical Hours: 0

**CVT 133 Vascular Sonography Clinical II 4 SHC**

This course provides hands-on experiences performing peripheral, visceral, and miscellaneous studies. Emphasis will be on following protocol, extending protocol when pathology is present, optimizing instrumentation, and providing a summary of findings.

Prerequisites: CVT 130 & CVT 131.

Corequisites: CVT 132.

Lecture Hours: 0

Lab/Clinical Hours: 12

**CVT 140 Non-Invasive Cardiology I 3 SHC**

This course presents an introduction to non-invasive cardiology and diagnostic tests used.

Prerequisites: CVT 101, CVT 112, and BIO 211.

Corequisites: CVT 106 and CVT 142.

Lecture Hours: 3

Lab/Clinical Hours: 0

**CVT 141 Non-Invasive Cardiology II 3 SHC**

This course incorporates all forms of non-invasive cardiovascular evaluation with emphasis on performance and interpretation of M-mode, 2-dimensional, and Doppler echocardiography.

Prerequisites: CVT 106 and CVT 140, and CVT 142.

Corequisites: CVT 107 and CVT 145.

Lecture Hours: 3

Lab/Clinical Hours: 0

**CVT 142 Non-Invasive Cardiology Clinical I 5 SHC**

This course introduces the student to the clinical environment. Emphasis will be on patient preparation, recording medical information and performing specific non-invasive tests.

Prerequisites: CVT 101 and CVT 112.

Corequisites: CVT 106 and CVT 140.

Lecture Hours: 0

Lab/Clinical Hours: 15

**CVT 145 Non-Invasive Cardiology Clinical II - Applications 5 SHC**

This course provides for supervised hands-on experience in performing adult echocardiograms with emphasis on documenting pathologic disease states with further development of clinical techniques.

Prerequisites: CVT 106, CVT 140, CVT 142;

Corequisites: CVT 107 and CVT 141.

Lecture Hours: 0

Lab/Clinical Hours: 15

**CVT 223 Invasive Cardiology III 3 SHC**

This course will offer an intensive study of the role of the cardiac catheterization technologists in advanced cardiovascular procedures related to catheterization.

Prerequisites: CVT 110, CVT 121, and CVT 125.

Corequisites: CVT 225 and CVT 226.

Lecture Hours: 3

Lab/Clinical Hours: 0

**CVT 225 Invasive Cardiology Clinical III 8 SHC**

This clinical course is designed to give students the opportunity to gain additional supervised clinical experience in the catheterization laboratory performing all duties involved in diagnostic and interventional cases.

Prerequisites: CVT 110, CVT 121, and CVT 125.

Corequisites: CVT 223 and CVT 226.

Lecture Hours: 0

Lab/Clinical Hours: 24

**CVT 226 Invasive Cardiology Special Topics 2 SHC**

This course is an in-depth review of invasive cardiac topics.

Prerequisites: CVT 110, CVT 121, and CVT 125.

Corequisites: CVT 223 and CVT 225.

Lecture Hours: 2

Lab/Clinical Hours: 0

**CVT 243 Non-Invasive Cardiology III 3 SHC**

This course will emphasize the latest modalities and specialties on non-invasive diagnostic study. Research methods, statistics, and quality improvement will be included.

Prerequisites: CVT 107, CVT 141, and CVT 145.

Corequisites: CVT 245 and CVT 246.

Lecture Hours: 3

Lab/Clinical Hours: 0



**CVT 245 Non-Invasive Cardiology Clinic III 8 SHC**

This course is a continuation of hands-on experiences in the clinical environment with an emphasis placed on the development of clinical techniques used to obtain meaningful data.

Prerequisites: CVT 107, CVT 141, and CVT 145.

Corequisites: CVT 243 and CVT 246.

Lecture Hours: 0

Lab/Clinical Hours: 24

**CVT 246 Non-Invasive Cardiology Special Topics 2 SHC**

This course is an in-depth review of non-invasive cardiac topics.

Prerequisites: CVT 107, CVT 141, and CVT 145.

Corequisites: CVT 243 and CVT 245.

Lecture Hours: 2

Lab/Clinical Hours: 0