**NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY**
**DMS 250 - ECHOCARDIOGRAPHY II (4 CR.)**

## Course Description

Presents advanced study of echocardiography with concentration on case study reviews of normal anatomy, physiology, and pathologic conditions of the adult heart. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

## General Course Purpose

The purpose of this course is for the advanced studies of echocardiography. Instruction and demonstration is provided for scanning the adult heart.

## Course Prerequisites/Co-requisites

The student must satisfactorily complete all previous sonography courses with a grade of "C" or better.

## Course Objectives

Upon completing the course, the student will be able to:

- Identify arrhythmias in the basic 12-lead EKG strips
- Understand the significance of the 12 EKG leads and what abnormalities can be detected
- Recognize the EKG changes that result from infarction, hypertrophy and axis deviations
- Describe the circumstances of a cardiac emergency
- Understand the various responsibilities of the personnel responding to a cardiac emergency
- Discuss the pharmacological agents used during a code
- Discuss the purpose of defibrillation and cardioversion and explain their differences
- List the classes and understand the basic function of cardiac drugs
- Discuss differences of preload and afterload and how they are treated
- Recognize the symptoms of coronary artery disease
- Understand the methods for diagnosing coronary artery disease
- Discuss the differences between exercise and pharmacologic stress echocardiography
- Describe the purpose of exercise/pharmacologic stress echocardiography
- Describe the patient's condition that lead to a pacer maker insertion
- Understand the pacemaker insertion procedure
- Recognize the different types of pacemakers and their different functions
- Discuss the transesophageal echo (TEE) procedure
- Identify the circumstances when a TEE would be performed
- Evaluate TEE images
- Discuss the purpose of using contrast during a TEE exam
- Identify cardiac anatomy from TEE imaging
- Identify pediatric echocardiographic windows
- Identify pediatric echocardiograpic views
- Discuss the various types of intra and extra-cardiac tumors
- Describe benign and malignant cardiac tumors
- Recognize location and physiologic effects of cardiac tumors
- Describe benign and malignant cardiac tumors
- Recognize the various forms of cardiac masses
- Discuss the diseases related to cardiac masses
- Identify patients at risk of developing endocarditis

- Understand hypertension and its effects on the heart
- Identify the echocardiographic features of longstanding hypertension

**Major Topics to be Included**

a. Cardiac Tumors
b. Arrhythmias and Conduction Disturbances
c. Congenital Heart Disease in the Adult
d. Diseases of the Aorta
e. Doppler-Formulas for Measurement
f. Color Flow Mapping
g. Stress Echo