

**CARDIOVASCULAR INVASIVE SPECIALIST (CVIS)
Associate in Applied Science Degree Program
An Affiliated Program with the
Mayo School of Health Sciences**

I. General Education Requirements 25 Credits

Goal 1: Written and Oral Communication (CM) 4 cr

ENGL 1117*, Reading & Writing Critically I, 4 cr

Goal 2: Critical Thinking (CT) MAY BE MET BY ANY COURSE IN MNTC 1-10 GOALS

Goal 3: Natural Sciences (NS) 15 cr

CHEM 1117, General Chemistry, 4 cr

BIOL 1217, 1218, Anatomy and Physiology I & II, 8 cr

PHYS 1103, Principles of Physics, 3 cr

Goal 5: History and the Social and Behavioral Sciences (SS) 3 cr

ELECTIVE, 3 cr

(Recommended: Psychology, Sociology*, Economics*)

Goal 6: Humanities – the Arts, Literature, and Philosophy (HA) 3 cr

PHIL 1125, Ethics, 3 cr

***Honors equivalent available**

II. Mayo CVIS Core Requirements 42 Credits

YEAR 1: August – May (All courses are Mayo courses).

CVIS 1010	Introduction to Cardiology	2 cr
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CVIS 1020	Introduction to Electrocardiography	2 cr
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YEAR 2: June - May

CVIS 2010	Cardiovascular Physiology & Pathophysiology	4 cr
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CVIS 2020	Invasive Cardiology I	5 cr
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CVIS 2030	Cardiovascular Pharmacology	2 cr
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CVIS 2021	Invasive Cardiology II	6 cr
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CVIS 2040	Clinical	6 cr
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CVIS 2060	Diagnostic Imaging and Fluoroscopy	3 cr
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CVIS 2070	Internship	12 cr
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TOTAL	42 cr
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TOTAL 67 Credits

For Additional Information, Contact:

Lee D. Meyer, RN, Mayo, Program Director at (507) 255-5891/e-mail: meyer.lee@mayo.edu

OR

Nirmala Kotagal, Ph.D., RCTC, Program Advisor at (507) 280-2816/e-mail: nirmala.kotagal@roch.edu

REGISTERED CARDIOVASCULAR INVASIVE SPECIALIST COURSE SEQUENCE

LENGTH: 21 months

Fall Semester (RCTC & Mayo)

BIOL 1217 4 cr
CHEM 1117 4 cr
PHYS 1103 3 cr
CVIS 1010 2 cr

TOTAL 13 cr

Spring Semester (RCTC & Mayo)

BIOL 1218 4 cr
ENGL 1117 4 cr
PHIL 1125 3 cr
CVIS 1020 2 cr
Social Science 3 cr

TOTAL 16 cr

TOTAL (YEAR 1)

29 cr

YEAR 2 June-August (Summer Session)

CVIS 2010 4 cr
CVIS 2020 5 cr
CVIS 2060 3 cr

Year 2 August-December (Fall)

CVIS 2030 2 cr
CVIS 2021 6 cr
CVIS 2040** 6 cr

Year 2 January-May (Spring)

CVIS 2070** 12 cr

TOTAL (YEAR 2)

38 cr

** Clinical Hours = 50 hours = 1 semester credit

ADDITIONAL NOTES:

Purpose: This program educates graduates to work in collaboration and under the supervision of physicians to assist with the preparation and to perform diagnostic and therapeutic invasive cardiology procedures. The technologist must have the technical skills and competence to assist with these invasive procedures. Invasive cardiovascular procedures are performed in a clinical cardiovascular laboratory environment.

The areas of study are cardiovascular anatomy and physiology, cardiovascular pathophysiology, electrocardiography, cardiovascular pharmacology, diagnostic angiography, interventional angiography, electrophysiology, cardiac pacing, cardiovascular hemodynamics, valvular assessment, pediatric / congenital heart disease assessment, cardiac / coronary physiology assessment, x-ray and radiation safety, and instrumentation and electronics associated with the cardiac laboratory environment.

Cardiovascular anatomy and physiology and pathophysiology concentrate on the structures, functions, and disease processes of the heart. Angiography and interventional cardiology concentrate on the specific entities of coronary anatomy and treatment(s) for various disease entities of the heart. The cardiac electrical system and its diagnosis and treatment(s) are the areas concentrated on in electrophysiology and cardiac pacing. Advanced cardiac assessment (i.e: hemodynamics, coronary physiology, cardiac valve study, congenital heart disease, etc.) concentrate on in-depth cardiovascular anatomical and physiological data. Instrumentation, electronics, and x-ray basics concentrate on the radiation and electrical processing and safety in the clinical cardiovascular laboratory setting.

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Admission: Students are admitted into this program through the Mayo School of Health Sciences Cardiovascular Invasive Specialist Program. The application for admission to the CVIS Program, Mayo School of Health Sciences must be obtained from the Mayo School of Health Sciences and submitted no later than March 1. Following appointment to the program by the Mayo School of Health Sciences, students must apply to RCTC. **Admission is competitive. It is based on previous education, work experience, goal statement, letters of reference, and interview. Science and math courses must be completed within the previous five years.**

Program Entrance Requirements: (1) High School diploma or the equivalent; (2) Basic computer competence or keyboarding; (3) High School biology and chemistry are required, High School physics is recommended, or completion of the RCTC or college transfer equivalents; (4) High School algebra II and placement at an algebra course beyond this class on a college placement test or completion of RCTC MATH 0099 or the equivalent; (5) graduation in the upper one-half of the high school graduating class with a 2.8 GPA or better. The science and math prerequisites must be taken within the past five years prior to application. (6) College level reading skills and writing readiness as tested by ASAP or prior college course work; (7) Proof of completion of a CPR course is required prior to beginning CVIS 1010 and must be current through either the American Heart Association Cardiopulmonary Resuscitation & Emergency Cardiac Care for Health Care Provider or the Red Cross Basic Life Support Course.

Registration and Sequence of Courses: This is a 21-month program consisting of 67 credits. During the first two semesters at RCTC, students will take general education courses as well as CVIS courses. After that time all the coursework is at the Mayo Medical Center – St. Mary’s Hospital campus. Course sequences are specified on the Degree Program Sheet.

Program Completion: Those who complete the program will be awarded a Certificate of Completion by Mayo and an Associate in Applied Science Degree by RCTC.

Implementation: Fall 2005
Revised: 04/2005
Reviewed: 02/2008

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