

SECTION III:

**Cardiovascular Technology Program
Student Handbook**

Message from the CVT Program Director

Section III Cardiovascular Technology Program Student Handbook is in addition to the first two sections of the Health Care Division Handbook. It is provided to current and tracking Invasive and Adult Echo students at Piedmont Technical College. It is to be used in conjunction with the Piedmont Technical College Health Care Division Student Handbook. It is designed to answer any purpose, policy and procedural questions that might arise during the course of enrollment in the CVT program.

The Faculty

Program Director Cardiovascular
Technology

Adult Echocardiography Instructor

Laura T. Boone B.S.DMS, RDCS, RVT, RDMS,
RT(R), FASE

Office (864)941-8717

boone.l@ptc.edu

Invasive Program Instructor and Clinical
Coordinator

Lena Y. Scott M.B.A HCA, B.S. RS, RCIS

Office (864)941-8618

scott_l1@ptc.edu

Message from the CVT Faculty

The CVT faculty is committed to the philosophy of Piedmont Technical College with special emphasis on student-centered learning, and to the premise that Cardiovascular Technology is a “profession” and those who enter clinical practice are accountable for their actions and continued professional growth. Teaching strategies are designed to promote critical thinking, an attitude of inquiry, personal responsibility, a commitment to keep pace with the evolution of the scope of practice, and sharing professional knowledge.

Program History

In the Fall of 2005, Lena Warren, Dean of Health Science and Jerry A. Alewine, Director of Clinical Education for the Respiratory Program at Piedmont Technical College began a community survey for a cardiovascular program. The initial advice was sought from Kendra Kenney who serves as the Director of Cardiovascular Services at Self Regional Healthcare in Greenwood, South Carolina. A pro-forma assessment was conducted throughout the seven counties that Piedmont Technical College serves and the state of South Carolina as a whole. Contact was made to most all hospitals in the state that offered cardiovascular services to the level of catheterization labs.

During this preliminary phase it was determined that there was a significant need for trained cardiovascular technologist (CVT) both in the invasive and Adult Echocardiography discipline. An assessment of the offerings for CVT training was viewed as minimal, whereas most CVT's were trained on-the-job. The vast majority of CVT's were being recruited from the disciplines of respiratory care practitioners and radiological technologist. At the time the University of South Carolina in cooperation with the Sisters of Charity – Providence Heart Center offered an 18-month certificate training program for Adult Echocardiography and vascular track students. This program had a limit of six students per admitting class thus leaving a tremendous gap of professionals seeking additional training at a disadvantage without the traditional on-the-job training. Recognizing this need, Eric J. Walker, Director of the School of Cardiovascular Diagnostics at USC offered his full support for the creation of an additional CVT program. In a letter dated January 16, 2006, Walker confirmed this support in a letter to the Honorable John E. Courson, South Carolina State Senator for District 20. With a completion of needs assessment for the program and support from the USC School of Cardiovascular Diagnostics approval was sought and secured for progression from the Area Commissioners of Piedmont Technical College.

The basic design of the program was based upon a similar program at Central Piedmont Technical College in Charlotte, North Carolina. With the submission of a model for the program, Piedmont Technical College was given approval by the Commission on Higher Education and the State Technical College to proceed in the Spring of 2007. Funding for the program was secured through a grant from a Duke Endowment grant provided through the offerings of Self Regional Healthcare. Additional funds were provided through the South Carolina Technical System and incorporated into the budget for Piedmont Technical College. As well, Piedmont Technical College received additional funding from the community and in particular from Piedmont Cardiology Associates located in Greenwood, South Carolina.

Through the grant from the Duke Endowment, Self Regional Healthcare bought the building at 345 North Emerald Road, Greenwood, that would eventually house the Cardiovascular Program. The building was leased to Piedmont Technical College for a period of 3 years. At the completion of the three-year period the space reverted to Piedmont Technical College free and clear.

Construction to renovate the building began in July of 2008. The facility is a 4500 square foot space that was subdivided into offices, a simulated catheterization lab, classrooms and an echocardiology lab. The facility was ready for occupancy in December of 2008.

In December of 2008, Cindy B. Evans BS,RRT,RCP,RCS,RPsgT was hired as the principle program director. In addition to Ms. Evans, Dr. Sue George, PhD was hired as a consult to the program to assist with program development to include syllabuses, book adoptions, and clinical competencies.

Neither of these founders are still with the college. Bruce Rodney Rutherford and Laura Rawlings also had short stints with the college on the Adult Echocardiography side.

Dr. Mihai Croitoru accepted the role of Adult Echocardiography Medical Director, and Dr. Paul Kim accepted the role of Invasive Medical Director in the summer of 2009, respectfully. Dr. Paul Kim has continued the role of Medical Director for both cardiovascular tracks.

The first class for the CVT program was seated and began class on January 20th 2009. Initial program accreditation was issued to PTC's Cardiovascular Technology Program on July 18, 2013. Re-accreditation is pending in 2018.

Additional significant changes to the program occurred with the hiring of Christy C. Nichols BHS,RT,(R),(CT) in January of 2010. Ms. Nichols had extensive experience with the invasive cardiology and 4 years of teaching experience on community college level. Mrs. Nichols was the invasive instructor through October, 2019.

In 2015, Laura T. Boone B.S.DMS, RDCS, RVT, RDMS, RT(R) was hired as the instructor for the Adult Echocardiography cardiovascular instructor. At the time she had eight years of ultrasound experience, clinical preceptorship experience, and part-time clinical instructor experience at the college level. In January 2020 Mrs. Boone was made Program Director of the CVT program and continues to instruct for the Adult Echo program.

In 2019, a Vascular Sonography Certificate was proposed and approved by the Curriculum Committee, Dean's Council, and Area Commission. The program will begin in January 2021.

In January 2020, Lena Y. Scott M.B.A HCA, B.S. RS, RCIS was hired as the Program Instructor & Clinical Coordinator for the Invasive Cardiology program.

The first class for the CVT program was seated and began class on January 20th 2009. Initial program accreditation was issued to PTC's Cardiovascular Technology Program on July 18, 2013. Continuing Accreditation was granted by CAAHEP upon recommendation of the JRC-CVT.

Program Mission

The Cardiovascular Technology Department will provide competency-based education that links theoretical, professional, and ethical concepts in order to prepare graduates for clinical practice and life-long learning.

Program Goals

- Prepare competent entry-level cardiovascular technologists in the cognitive, psychomotor, and affective learning domains.
- Promote a collaborative learning environment for students that stimulate personal and professional growth.
- Provide meaningful clinical experiences for skill refinement.
- Assist the student in the development of academic and technical competencies necessary for employment in the field.
- Graduate students who will provide quality patient care.
- Graduate students who demonstrate critical thinking and problem solving skills.
- Through didactic instruction and clinical experience, students will be properly prepared for licensure exams and the workforce.

The Definition of the Cardiovascular Profession

A Cardiovascular Technologist is a health care professional who, at the direction of a licensed physician, performs diagnostic tests that are used in the diagnosis, treatment, and serial follow-up of patients with cardiovascular disease. Cardiovascular Technology is a title used to describe basic areas of expertise: Invasive Cardiology and Adult Echocardiography. The role of the Cardiovascular Technologist includes, but is not limited to one of the following:

Invasive Cardiovascular Technology

- Assisting the physician in the performance of diagnostic and interventional cardiac catheterization and angiography procedures, and measuring cardiovascular parameters such as cardiac output, blood flow velocity, cardiovascular dynamics, cardiac electrophysiology parameters, intracardiac shunt detection, and valve flow/valve area determinations.
- Preparing, calibrating and operating medical instrumentation utilized in the cardiac catheterization laboratory, open-heart surgical suite and cardiac research facilities.

Adult Echocardiography

- Patient information assessment, evaluation, education, and communication
- Record, analyze, determine, and interpret the protocol for the diagnostic examination using ultrasonographic tools and instrumentation
- Evaluation and documentation of the diagnostic examination results
- Participation of quality improvement programs
- Maintains a safe environment of care

Cardiovascular Technology Program Student Learning Outcomes

Invasive Cardiovascular Technology

- Demonstrate the work ethic skills needed for employment in the field of Invasive Cardiovascular Technology.
- Apply knowledge of cardiac anatomy, physiology, and pathophysiology with emphasis to the cardiac catheterization procedure and assessment.
- Interpret other cardiac catheterization methods.
- Apply knowledge of hemodynamics through mathematical calculations and electronics and medical instrumentation.
- Apply a working knowledge of radiation imaging production, radiation science, radiation biology, and radiation safety as it relates to patient and occupational exposure. ALARA-As Low As Reasonably Achievable.
- Demonstrate hands on skill proficiency in cardiac catheterization procedure preparation and facilitation.

Adult Echocardiography

- Apply knowledge of cardiac anatomy, physiology, and pathophysiology to assess and analyze the heart through cardiac sonography.
- Recognize the physical sonographic principles and apply knowledge of the physical sonographic principles and instrumentation during cardiac ultrasound.
- Demonstrate hands-on skill proficiency and good clinical decision making to obtain quality echocardiograms that document cardiac pathology adequately.
- Interpret other cardiac diagnostic methods at a basic level.
- Demonstrate the work ethic skills needed for employment in the field of Cardiovascular Technology.

Scope of Practice and Clinic Standards

Invasive Cardiovascular Technologist Professional

The Society of Invasive Cardiovascular Professionals (SICP) drafted the following scope of practice and clinical standards for invasive cardiovascular technologist. All of which can be assessed through the following links:

<http://lms.medsimulation.com/images/pc/PDF/SICPScopeOfPractice.pdf>

Diagnostic Cardiac Sonographers

A number of professional organizations in the field of diagnostic medical sonography collaborated and drafted the scope of practice and clinical standards for diagnostic medical sonographers which includes diagnostic cardiac sonographers. All of which can be assessed through the following link: <https://www.sdms.org/docs/default-source/Resources/scope-of-practice-and-clinical-standards.pdf?sfvrsn=8>

Professional Code of Ethics

Invasive Cardiovascular Technologist

The Society of Invasive Cardiovascular Professionals (SICP) Code of Ethics for Registered Cardiovascular Invasive Specialists can be found using the following link:

<https://www.cathlabdigest.com/articles/SICP-Board-Directors-Approves-RCIS-Code-Ethics>

Diagnostic Cardiac Sonographers

The Society of Diagnostic Medical Sonography's Code of Ethics for the Profession of Diagnostic Medical Sonography which includes Diagnostic Cardiac Sonographers can be found using the following link: <http://www.sdms.org/about/who-we-are/code-of-ethics>

Registry Credentialing Agencies

Following the completion of the Cardiovascular Technology program graduates seek credentialing from either of the following:

Cardiovascular Credentialing International www.cci-online.org

Credentialing examinations offered:

- Registered Cardiac Sonographer (RCS)
- Registered Cardiac Invasive Specialists (RCIS)

American Registry in Diagnostic Medical Sonography (ARDMS) www.ardms.org/

Credentialing examinations offered:

- Registered Diagnostic Cardiac Sonographer (RDCS)

Invasive Cardiology Professional Society

Alliance of Cardiovascular Professionals: www.acp-online.org

Echocardiography Professional Societies

American Society of Echocardiography (ASE) website: www.asecho.org

South Carolina Society of Echocardiographers (SCSE) website: www.scsecho.org

Society of Diagnostic Medical Sonography (SDMS) website: www.sdms.org

PTC Clubs and Organizations

Clubs and Organizations at PTC are listed in the College Academic Catalog and can be assessed at the following link <https://www.ptc.edu/college-resources/clubs-organizations> . CVT Club Membership is required and students are expected to be active participants within the club. Additionally other memberships are encouraged. Students are also encouraged to become involved in community events and participate in fund raising where monies are designated for CVT related community projects.

Advisory Board Committee

The Cardiovascular Technology Program Advisory Committee is defined as a formalized group of individuals not associated with the college but who are representatives and knowledgeable of the present and anticipated performance conditions and requirements of cardiovascular technology within the college's service area. The Advisory Committee members represent the communities of interest that are served by the program and must include, but are not limited to, students, graduates, faculty, sponsor administration, employers, physicians, and the public. This group is to be constituted and operated so that the combined judgments and experience of the members will influence the curriculum structure and instructional methods, formulate and periodically revise appropriate goals and learning domains, monitor needs and expectations, and ensure program responsiveness to change. The advisory committee will meet at annually at a minimum.

**Associate in Applied Science
Cardiovascular Technology - Invasive (CVTI)**

**Total
Credit 67
Hours:
Effective: Fall 2019**

Graduation Plan

| First Semester Program-Ready Courses | | | | |
|---|---------------------------|-----------------------------------|--------------------|---------------------|
| <i>Course</i> | <i>Course Description</i> | <i>Prerequisites/Corequisites</i> | <i>Semester(s)</i> | <i>Credit Hours</i> |
| AHS 102 | Medical Terminology | RDG 100 | FA SP SU | 3 |
| BIO 210 | Anatomy and Physiology I | ENG 100, RDG 100, MAT 032/012 | FA SP SU | 4 |
| ENG 101 | English Composition I | ENG 100, RDG 100 | FA SP SU | 3 |
| MAT 102 | Intermediate Algebra | MAT 152 (min grade C) | FA SP SU | 3 |
| PSY 201 | General Psychology | ENG 100, RDG 100 | FA SP SU | 3 |
| TOTAL | | | | 16 |

| Second Semester Program-Ready Courses | | | | |
|--|---------------------------|-----------------------------------|--------------------|---------------------|
| <i>Course</i> | <i>Course Description</i> | <i>Prerequisites/Corequisites</i> | <i>Semester(s)</i> | <i>Credit Hours</i> |
| BIO 211 | Anatomy and Physiology II | BIO 210 (min grade C) | FA SP SU | 4 |
| SPC 205 | Public Speaking | ENG 101 or 165 | FA SP SU | 3 |
| | Humanities/Fine Arts | May vary by course. | FA SP SU | 3 |
| TOTAL | | | | 10 |

**Enrollment in Cardiovascular Technology coursework requires admission to the program.
Program-Ready Applications are accepted in September.
For more information, see program fact sheet at <http://www.ptc.edu/factsheets>.**

| Fall Semester | | | | |
|----------------------|------------------------------------|---|--------------------|---------------------|
| <i>Course</i> | <i>Course Description</i> | <i>Prerequisites/Corequisites</i> | <i>Semester(s)</i> | <i>Credit Hours</i> |
| CVT 101 | Intro to Cardiovascular Technology | Prereq: Adm. to Prog. And BIO 211 Coreq: CVT 102 and 112 | FA | 2 |
| CVT 102 | Cardiovascular Pathophysiology | Prereq: Adm. to Prog. And BIO 211 Coreq: CVT 101 and 112 | FA | 3 |
| CVT 112 | Cardiovascular Principles | Prereq: Adm. to Prog. Coreq: CVT 101 and 102 | FA | 3 |
| TOTAL | | | | 8 |

| Spring Semester | | | | |
|------------------------|---------------------------|-----------------------------------|--------------------|---------------------|
| <i>Course</i> | <i>Course Description</i> | <i>Prerequisites/Corequisites</i> | <i>Semester(s)</i> | <i>Credit Hours</i> |

| | | | | |
|--------------|--|---|----|-----------|
| CVT 108 | Physics for Invasive Cardiovascular Tech | Prereq: CVT 101, 102, and 112 Coreq: CVT 120 and 122 | SP | 2 |
| CVT 120 | Invasive Cardiology I | Prereq: CVT 101, 102, and 112 Coreq: CVT 108 and 122 | SP | 3 |
| CVT 122 | Invasive Cardiology Clinical I | Prereq: CVT 101, 102, and 112 Coreq: 108 and 120 | SP | 5 |
| TOTAL | | | | 10 |

Continued on next page...

| Summer Semester | | | | |
|------------------------|--|---|--------------------|---------------------|
| <i>Course</i> | <i>Course Description</i> | <i>Prerequisites/Corequisites</i> | <i>Semester(s)</i> | <i>Credit Hours</i> |
| CVT 110 | Hemodynamics and Cardiac Physiology | Prereq: CVT 108, 120, 122 Coreq: CVT 121 and 125 | SU | 2 |
| CVT 121 | Invasive Cardiology II | Prereq: CVT 108, 120, 122 & SPC 205 Coreq: CVT 110 and 125 | SU | 3 |
| CVT 125 | Invasive Cardiology Clinical II-Applications | Prereq: CVT 108, 120, 122 Coreq: CVT 110 and 121 | SU | 5 |
| TOTAL | | | | 10 |

| Fall Semester | | | | |
|----------------------|------------------------------------|---|--------------------|---------------------|
| <i>Course</i> | <i>Course Description</i> | <i>Prerequisites/Corequisites</i> | <i>Semester(s)</i> | <i>Credit Hours</i> |
| CVT 223 | Invasive Cardiology III | Prereq: CVT 110, 121, and 125 Coreq: CVT 225 and 226 | FA | 3 |
| CVT 225 | Invasive Cardiology Special Topics | Prereq: CVT 110, 121, and 125 Coreq: CVT 223 and 225 | FA | 2 |
| CVT 226 | Invasive Cardiology Clinical III | Prereq: CVT 110, 121, and 125 Coreq: CVT 223 and 226 | FA | 8 |
| TOTAL | | | | 13 |

NOTE: Course offerings may vary by semester and year. Please consult DegreeWorks and the course search feature when determining if the desired course is being offered in the current semester.

**Associate in Applied Science
Cardiovascular Technology - Adult Echocardiography (CVTN)**

**Total
Credit 69
Hours:
Effective: Fall 2019**

Graduation Plan

| First Semester Program-Ready Courses | | | | |
|---|---------------------------|-----------------------------------|--------------------|---------------------|
| <i>Course</i> | <i>Course Description</i> | <i>Prerequisites/Corequisites</i> | <i>Semester(s)</i> | <i>Credit Hours</i> |
| AHS 102 | Medical Terminology | RDG 100 | FA SP SU | 3 |
| BIO 210 | Anatomy and Physiology I | ENG 100, RDG 100, MAT 032/012 | FA SP SU | 4 |
| ENG 101 | English Composition I | ENG 100, RDG 100 | FA SP SU | 3 |
| MAT 102 | Intermediate Algebra | MAT 152 (min grade C) | FA SP SU | 3 |
| PSY 201 | General Psychology | ENG 100, RDG 100 | FA SP SU | 3 |
| TOTAL | | | | 16 |

| Second Semester Program-Ready Courses | | | | |
|--|---------------------------|-----------------------------------|--------------------|---------------------|
| <i>Course</i> | <i>Course Description</i> | <i>Prerequisites/Corequisites</i> | <i>Semester(s)</i> | <i>Credit Hours</i> |
| BIO 211 | Anatomy and Physiology II | BIO 210 (min grade C) | FA SP SU | 4 |
| SPC 205 | Public Speaking | ENG 101 or 165 | FA SP SU | 3 |
| | Humanities/Fine Arts | May vary by course. | FA SP SU | 3 |
| TOTAL | | | | 10 |

***Enrollment in Cardiovascular Technology coursework requires admission to the program.
Program-Ready Applications are accepted in September.
For more information, see program fact sheet at <http://www.ptc.edu/factsheets>.***

| Fall Semester | | | | |
|----------------------|------------------------------------|---|--------------------|---------------------|
| <i>Course</i> | <i>Course Description</i> | <i>Prerequisites/Corequisites</i> | <i>Semester(s)</i> | <i>Credit Hours</i> |
| CVT 101 | Intro to Cardiovascular Technology | Prereq: Adm. to Prog. And BIO 211 Coreq: CVT 102 and 112 | FA | 2 |
| CVT 102 | Cardiovascular Pathophysiology | Prereq: Adm. to Prog. And BIO 211 Coreq: CVT 101 and 112 | FA | 3 |
| CVT 112 | Cardiovascular Principles | Prereq: Adm. to Prog. Coreq: CVT 101 and 102 | FA | 3 |
| TOTAL | | | | 8 |

| Spring Semester | | | | |
|------------------------|--------------------------------------|---|--------------------|---------------------|
| <i>Course</i> | <i>Course Description</i> | <i>Prerequisites/Corequisites</i> | <i>Semester(s)</i> | <i>Credit Hours</i> |
| CVT 106 | Introduction to Non-Invasive Physics | Prereq: CVT 101, 102, and 112 Coreq: CVT 140 and 142 | SP | 3 |

| | | | | |
|--------------|------------------------------------|---|----|-----------|
| CVT 140 | Non-Invasive Cardiology I | Prereq: CVT 101, 102, and 112 Coreq: CVT 106 and 142 | SP | 3 |
| CVT 142 | Non-Invasive Cardiology Clinical I | Prereq: CVT 101, 102, and 112 Coreq: CVT 106 and 140 | SP | 5 |
| TOTAL | | | | 11 |

| Summer Semester | | | | |
|------------------------|--|--|--------------------|---------------------|
| <i>Course</i> | <i>Course Description</i> | <i>Prerequisites/Corequisites</i> | <i>Semester(s)</i> | <i>Credit Hours</i> |
| CVT 107 | Non-Invasive Cardiovascular Physics | Prereq: CVT 106, 140, and 142 Coreq: CVT 141 and 144 | SU | 3 |
| CVT 141 | Non-Invasive Cardiology II | Prereq: CVT 106, 140, 142, & SPC 205 Coreq: CVT 107 and 141 | SU | 3 |
| CVT 145 | Non-Invasive Cardiology Clinical II- Applications | Prereq: CVT 106, 140, and 142 Coreq: CVT 107 and 141 | SU | 5 |
| TOTAL | | | | 11 |

| Fall Semester | | | | |
|----------------------|--|---|--------------------|---------------------|
| <i>Course</i> | <i>Course Description</i> | <i>Prerequisites/Corequisites</i> | <i>Semester(s)</i> | <i>Credit Hours</i> |
| CVT 243 | Non-Invasive Cardiology III | Prereq: CVT 107, 141, and 145 Coreq: CVT 245 and 246 | FA | 3 |
| CVT 246 | Non-Invasive Cardiology Special Topics | Prereq: CVT 107, 141, 145 Coreq: CVT 243 and 245 | FA | 2 |
| CVT 245 | Non-Invasive Cardiology Clinical III | Prereq: CVT 107, 141, and 145 Coreq: CVT 243 and 246 | FA | 8 |
| TOTAL | | | | 13 |

NOTE: Course offerings may vary by semester and year. Please consult DegreeWorks and the course search feature when determining if the desired course is being offered in the current semester.

Admission into the Cardiovascular Technology Program

Applicants who wish to qualify for admission into the Cardiovascular Technology (CVT) Program must meet PTC general college requirements and the specific admission requirements for the CVT program of choice as stated in the PTC Academic Catalog. At the time of application, the student will choose either the Invasive or Adult Echocardiography track. The Invasive track will accept up to eight students. The Adult Echocardiography track will accept up to twelve students. These limits have been set due to experiential site restrictions. At the end of the first semester students may request to change majors within cardiovascular technology. These requests can only be granted if there are empty seats available in the program of choice. Students requests will be prioritized by cumulative first semester CVT GPA if multiple students request to change majors.

Reporting Criminal Offenses

Students must notify the school Program Director/Instructor if they had an arrest and/or criminal charge or conviction filed subsequent to completion of the criminal background check. The school further agrees to notify the clinical facility as soon as possible, but not later than seven calendar days of such charges or convictions. Failure to do so may result in the participant's dismissal from the clinical rotation. Failure of the school to notify the clinical facility of any arrest(s), criminal charge(s), or conviction(s) within seven calendar days will result in the immediate termination of the clinical affiliation agreement.

GRADING OF STUDENTS

Grading Criteria

The lowest acceptable numerical grade for any CVT course is 75. In clinic if a student fails to demonstrate competency for clinical procedures on the first attempt, they may repeat that procedure one time for a total of two attempts. With the subsequent attempt, the grade begins with a 10 percentage point deduction from the prior attempt (ie. 2nd attempt begins with a 90%). Adult Echocardiography students who receive an unsatisfactory clinical competency after the second attempt, will not be allowed to progress in the program.

Incomplete Grades

Incomplete work for the semester will result in an incomplete which becomes a failure if not successfully made up prior to the "incomplete to convert to F date" as listed in the PTC Student Handbook/Calendar, which is 30 school days. The Clinical Instructor may choose to award students an Incomplete or an "F" depending on if 80% of the requirements for clinical performance are met. For example: if you try to get all of your grades at the end of the semester and do not complete, you may be awarded an "I" instead of an "F".

Students may not receive more than two incompletes in one program. This means that students are allowed one incomplete during the freshman year and one incomplete during the senior year. For example: a second incomplete during the freshman year may result in clinical failure or a second incomplete during the senior year may result in clinical failure.

Invasive CVT

Approximate Fee Schedule (Subject to Change)

| | | | | |
|-----|-----|------|----------|-----------------|
| CVT | 101 | HSME | \$20.00 | CVT Club |
| CVT | 122 | HSIN | \$25.00 | Insurance |
| | | LABF | \$20.00 | Lab Supplies |
| | | HBAD | \$35.00 | Radiation Badge |
| | | HSAF | \$100 | Trajecsys |
| CVT | 125 | HSIN | \$25.00 | Insurance |
| CVT | 225 | HSIN | \$25.00 | Insurance |
| CVT | 226 | HSPI | \$25.00 | Pinning |
| | | HSTF | \$365.00 | CCI RCIS Exam |

Adult Echocardiography

Approximate Fee Schedule (Subject to Change)

| | | | | |
|-----|-----|------|----------|-----------------|
| CVT | 101 | HSME | \$20.00 | CVT Club |
| CVT | 107 | HSTF | \$225.00 | ARDMS SPI Exam |
| CVT | 142 | HSIN | \$25.00 | Insurance |
| | | HSAF | \$100.00 | Trajecsys |
| | | LABF | \$20.00 | Lab Supplies |
| | | HBAD | \$35.00 | Radiation Badge |
| CVT | 145 | HSIN | \$25.00 | Insurance |
| CVT | 243 | HSPI | \$25.00 | Pinning |
| | | HSAF | \$100.00 | Registry Review |
| CVT | 245 | HSIN | \$25.00 | Insurance |
| CVT | 246 | HSTF | \$250.00 | ARDMS RDCS Exam |

Other Fees Estimated

| | |
|--|---|
| Tuition | See the college Academic Catalog (changes by residency) |
| Books | Book prices vary and are subject to count |
| Graduation cap & gown | \$50.00 |
| CPR mask/supplies/book | \$99.00 through Continuing Education |
| Background check/drug screen/medical document manager (CastleBranch) | Approximately \$115.00 |
| Uniforms/shoes | Approximately \$250.00 |
| Physical exam/Immunizations | Dependent on provider |
| Gas for vehicle | Dependent on amount of travel |

CLINICAL PLAN OF EDUCATION

An emphasis of the cardiovascular technologist's time is spent on performance of diagnostic cardiology examinations. In order that this is accomplished in an efficient and effective manner, the student must be thoroughly competent in cardiovascular procedures.

Students will rotate through clinical facilities to gain experience and competence in cardiovascular procedures. Currently the Cardiovascular Technology Program has clinical affiliation agreements with the following facilities which are subject to change at any time.

Invasive

Aiken Regional Hospital
Bon Secours St. Francis Health Care System
Lexington Medical
The Regional Medical Center of Orangeburg & Calhoun Counties
Medical University of South Carolina
Palmetto Richland
Providence Hospital
Self Regional Healthcare
Spartanburg Regional

Adult Echocardiography

Aiken Regional Hospital
AnMed Health Care
Augusta University
Augusta University Pediatrics
Bon Secours St. Francis Health Care
Cardiovascular Imaging of Aiken
Doctor's Hospital
Lexington Medical Center
Prisma – Lauren's Memorial Medical Campus
Self Regional Healthcare
Spartanburg Regional/Pelham Med
St. Mary's Health Care-Athens and Lavonia, GA

Clinical Travel

Due to the fact that experiential sites are limited and are scattered all over the state of South Carolina and some in Georgia, there is no guarantee that placement will be at a facility close to each student's home. Students must have reliable transportation to clinical sites located all over the state. Prior arrangements should be made by the student to ensure travel to and from experiential sites throughout the course of this program. Despite the location and distance to and from a clinical site, students are expected to arrive to the clinical site at the designated time and not leave the site until the designated time.

A Patient's Bill of Rights

1. The patient has the right to considerate and respectful care.
2. The patient has the right to and is encouraged to obtain from physicians and other direct caregivers relevant, current, and understandable information concerning diagnosis, treatment, and prognosis.
3. The patient has the right to make decisions about the plan of care prior to and during the course of treatment and to refuse a recommended treatment or plan of care to the extent permitted by law and hospital policy and to be informed of the medical consequences of this action.
4. The patient has the right to have an advance directive (such as living will, health care proxy, or durable power of attorney for health care) concerning treatment or designating a surrogate decision maker with the expectation that the hospital will honor the intent of that directive to the extent permitted by law and hospital policy.
5. The patient has the right to every consideration of privacy.
6. The patient has the right to expect that all communications and records pertaining to his/her care will be treated as confidential by the hospital, except in cases which as suspected abuse and public health hazards when reporting is permitted or required by law.
7. The patient has the right to review the records pertaining to his/her medical care and to have the information explained or interpreted as necessary, except when restricted by law.
8. The patient has the right to expect that, within its capacity, and policies, a hospital will make reasonable response to the request of a patient for appropriate and medically indicated care and services.
9. The patient has the right to ask and be informed to the existence of business relationships among the hospital, educational institutions, other health care providers, or payers that may influence the patient's treatment and care.
10. The patient has the right to consent to or decline to participate in proposed research studies or human experimentation affecting care and treatment or requiring direct patient involvement, and to have those studies fully explained prior to consent.
11. The patient has the right to expect reasonable continuity of care when appropriate and to be informed by physicians and other caregivers of available and realistic patient care options when hospital care is no longer appropriate.
12. The patient has the right to be informed of hospital policies and practices that relate to patient care, treatment, and responsibilities. American

Hospital Association. (1992). A patient's bill of rights.

Piedmont Technical College Cardiovascular Technology
Policy For Managing Pregnant Radiation Worker/Students

Revised: Dec. 2011/JAA

Female employees/students of childbearing age shall be informed of these policies pertaining to pregnant radiation workers. In briefing the employees/student, the following points shall be addressed by the supervisor or departmental director.

(1) An occupationally exposed radiation worker who is currently wearing a personnel monitor may choose to declare her pregnancy. If she declares, it must be in writing to the Radiation Safety Officer (shown below). The declaration must be signed and include an estimated date of conception. (A simple declaration statement is attached).

(2) A declared pregnant radiation worker/student will be issued a second personnel monitor, which will be positioned under the protective apron at the waist or pelvic level. The exposure on the second monitor shall be maintained on a separate record and identified as exposure to the embryo/fetus.

(3) During the gestation period, the maximum permissible dose to the embryo/fetus, due to the occupational exposure of declared pregnant worker/student, should not exceed 0.5 rem (500 mrem). (Required by the S.C. Department of Health and Environmental Control RHB 3.4 Exposure for special groups. **3.4.2- Exposure to pregnant workers.**, and recommended by the **National Council of Radiation Protection**, report No. 91)

(4) By practicing good radiation safety habits it is usually not necessary to make changes in work assignments for the declared pregnant radiation worker/student. However, should a pregnant employee's/student's monthly fetal dose report exceed a guideline of 50 mrem/ month; her work assignment may be changed at the sole discretion of the Piedmont Technical College. Such changes could result in a change of assigned working hours and/or pay status.

(5) If by the time the pregnant radiation worker/student declares her pregnancy, the dose to the embryo/fetus has exceeded 0.45 rem (450 mrem) (as determined from the whole body personnel monitor), a decision for work (rotation) reassignment will be up to the supervisor or department director. This will be done to keep any additional dose to the embryo/fetus from exceeding 0.05 rem.

(6) Should the declared pregnant radiation worker/student have any questions about the radiation exposure to the embryo/fetus or potential consequences please have the supervisor contact the Radiation Safety Officer.

Radiation Safety Officer: Lynn Cathey

Cardiovascular Technology

Acknowledgement of Radiation Risk During Pregnancy

I, _____ do acknowledge that I have received counseling from _____, regarding my student responsibilities during my pregnancy.

It is clear to me that there is a vanishingly small probability that my clinical rotation will in any way adversely affect my pregnancy. The reading material listed below has been made available to me to demonstrate that the additional risk during my pregnancy is less than that for most occupational groups. I further understand that, although I may be assigned to low exposure duties and provided with a second radiation monitor, these are simply added precautions and do not in any way convey that any rotational assignment in this curriculum is especially hazardous during pregnancy.

1. Stewart C. Bushong. X-Rays and Pregnancy. **Radiologic Science for Technologist.** St Louis, 1997.

Pg. 502-503.

2. NCRP Report No 105 **Dose Limits for the Embryo and Fetus.** National Council on Radiographic

Protection and Measurement, Washington, DC 1989.

3. Richard Carlton, Radiation Exposure and Pregnancy, **Principles of Radiographic Imaging.** New York,

2001. Pg 525

4. NCRP Report No 53: Review of NCRP Radiation Dose Limit for Embryo and Fetus in Occupationally- Exposed Women. **National Council on Radiation Protection and Measures.** Washington, DC 1977

Student Signature _____

Program Instructor Signature _____

Dean of Health Science and Nursing Signature _____

Date _____