Department of Radiologic Sciences

Invasive Cardiovascular Technology

Academic Policies and Clinical Education Handbook

2015 - 2016
Notice of Equal Opportunity

Thomas Jefferson University is committed to providing equal educational and employment opportunities for all persons without regard to race, color, national or ethnic origin, marital status, religion, sex, sexual orientation, gender identity, age, disability, veteran’s status or any other protected characteristic. The consideration of factors unrelated to a person’s ability, qualifications and performance is inconsistent with this policy. Any person having inquiries or complaints concerning Thomas Jefferson University’s compliance with Title VI, Title IX, the Age Discrimination Act of 1975, the Americans with Disabilities Act, or Section 504 of the Rehabilitation Act is directed to contact their Student Affairs Dean or Human Resources – Employee Relations, who have been designated by Thomas Jefferson University to coordinate the institution’s efforts to comply with these laws. Any person may also contact the Assistant Secretary for Civil Rights, U.S. Department of Education, Washington, D.C. 20202, or the Director, U.S. Department of Education, Office for Civil Rights, Region Three, Philadelphia, Pennsylvania, regarding the University’s compliance with the equal opportunity laws.

Required Background Check

Students who are offered admission to Jefferson are required to pass a criminal background check and child abuse clearance. Some departments within the College, as well as some clinical sites may require students to be fingerprinted and/or drug tested. The Office of Admissions will provide you with the appropriate information to complete these requirements. Clinical rotation and fieldwork sites that require a criminal background check, child abuse clearance and/or fingerprinting may deny a student’s participation in the clinical experience, rotation or fieldwork because of a felony or misdemeanor conviction or a record of child abuse. Clinical sites may also deny participation in clinical experiences for other reasons, including but not limited to failure of a required drug test, or inability to produce an appropriate health clearance. As participation in clinical experiences, rotations or fieldwork is a required part of the curriculum and a requirement for graduation, denial of participation by a clinical site may result in delay of graduation or the inability to graduate from the program. Regardless of whether or not a student graduates from Jefferson, individuals who have been convicted of a felony or misdemeanor may be denied certification or licensure as a health professional. Information regarding individual eligibility may be obtained from the appropriate credentialing bodies.

Every effort has been made to verify the accuracy of information in this publication. Nevertheless, the Jefferson College of Health Professions reserves the right to amend or add to the academic policies and scholastic regulations at any time, provided that such changes or additions are intended to improve the quality of education and are introduced in a fair and deliberate manner with appropriate notice provided to all students affected by the changes.
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JEFFERSON COLLEGE OF HEALTH
PROFESSIONS MISSION STATEMENT

The Jefferson College of Health Professions is committed to educating health care professionals of the highest quality and ethical standards for contemporary practice in the global community. By promoting faculty excellence in teaching, research and service, we prepare caring professionals who are competent in the use of evidence based practice, critical in their thinking, committed to lifelong learning and prepared to be leaders in diverse health care settings. In keeping with the mission of the University and the future of health care delivery, the Jefferson College of Health Professions is committed to interdisciplinary education and technologies that draw upon the strengths of all disciplines.

MISSION OF THE DEPARTMENT
and ICVT PROGRAM

The Department of Radiologic Sciences provides excellence and leadership in all aspects of Radiologic Sciences, by teaching, undertaking research and providing exemplary clinical practice skills in the broad field covered by the discipline.

The Mission of the Department of Radiologic Sciences is to provide a comprehensive education preparing students for entry-level practice into the radiologic and imaging sciences as competent, caring members of the health care team, cultivating professionalism and life-long learning.

PROGRAM GOALS

The didactic, laboratory and clinical education experience for the Invasive Cardiovascular Technology Program in Radiologic Sciences will provide a learning environment for students to develop and master:
• clinical skills to work closely with the cardiovascular team
• effective communication techniques required to interact successfully with both patients and other members of the health care team
• self-assessment skills required to evaluate correctly the quality and quantity of their work
• critical thinking skills required to meet the challenges of the dynamic healthcare environment
• values for commitment to life-long learning, public education and involvement in their professional organizations.

PROGRAM OBJECTIVES

The objectives of the program are to develop an invasive cardiovascular technologist who will be able to:
• record and perform preliminary analysis of invasive cardiovascular data in procedures.
• prepare, calibrate and operate monitoring instrumentation utilized for determining the presence and extent of cardiovascular abnormalities in diagnostic laboratory or operating room settings.
• collect and prepare diagnostic test data for review by a physician
• work collaboratively as part of the healthcare team.
• apply appropriate protection practices toward the patient, self, the health care team and the public.
• contributes to the physical and psychological comfort of the patient under the guidelines of the Patient Bill of Rights.
• Adheres to the CVT code of Ethics in professional practice.
• Assume responsibility for professional development.
• Demonstrate communication ability by establishing rapport with patient and healthcare team.

THE HANDBOOK

This Academic Policies and Clinical Education Handbook serves as a guide for students enrolled in the Department of Radiologic Sciences, Jefferson College of Health Professions, Thomas Jefferson University.

A Thomas Jefferson University student is required to uphold a high standard of academic and nonacademic conduct. That standard is presented in this document and will be upheld by the Department of Radiologic Sciences. Academic and nonacademic misconduct at Thomas Jefferson University is subject to disciplinary action.

This handbook is given to matriculating students during orientation. The Department will obtain documentation of the receipt and review of the handbook.

Each student will be responsible for maintaining his/her knowledge of the information contained in the Academic Policies and Clinical Education Handbook, as well as the Jefferson College of Health Professions Catalog, and Jefferson College of Health Professions Student Handbook.
ACADEMIC POLICIES
POLICIES ON STUDENT PROGRESSION

COURSE REQUIREMENTS – Graduate students
1. Prerequisites for courses outlined in the curriculum must be met in order to follow the necessary educational sequence.
2. Students are responsible for accessing courses through Bb learn and downloading all course syllabi, handouts and assignments for each course every semester.
3. Students are responsible for completing course evaluations for each of their courses at the end of the semester. See Appendix A for instructions.
4. Students are responsible for checking their Jefferson e-mail accounts daily.
5. Students are responsible for completing the Health Insurance Portability and Accountability

POLICIES ON STUDENT PROGRESSION IN THE RADIOLOGIC SCIENCES MAJOR

1. A Graduate student must maintain a cumulative grade point average (CGPA) of 3.0 and earn a passing grade (≥ C- or a Pass grade in a Pass/Fail course) in all required didactic and clinical courses in the curriculum.

2. Any Graduate student who fails to earn a minimum grade of a C- in any course (or who earns a “Fail” in a Pass/Fail course) will be dismissed for the program.

3. A Graduate student who does not maintain a 3.0 CGPA will be dismissed from the program.

4. In addition to Department academic progression standards, students must also meet minimum required academic standards within the College of Health Professions. For academic Probation and Dismissal standards for the Jefferson College of Health (JCHP), please refer to the JCHP Student Handbook
COMPETENCY-BASED CLINICAL EDUCATION
CLINICAL EDUCATION ELIGIBILITY

To be assigned to a Clinical Education Affiliate site, the student must meet the following requirements or obligations:

• Be a full-time student in good academic standing in the Department of Radiologic Sciences.
• Maintain a cumulative grade point average of 2.00 (undergraduate) or higher and 3.0 (graduate).
• Provide and maintain proof of certification in adult, child and infant cardiopulmonary resuscitation (BLS/CPR/AED for Healthcare Provider).
• Provide a current health certificate from a licensed physician indicating that the student is in good health. The document should include a description of any physical disability that may require monitoring during the student's course of study. If a disability interrupts the student's course of study, it should be discussed with the Clinical Coordinator.
• Meet program specific technical standards Appendix B.
• Complete venipuncture course provided by the Department.
• Complete HIPAA training module. (See Appendix A for instructions)
• Complete safety training module. (See Appendix A for instructions)
• Use personal or public transportation to clinical sites. Commuting time and costs are not determining factors for clinical assignments. These time and cost factors are borne solely by the student.
• All immunization requirements must be completed prior to commencing or resuming clinical courses. Failure to meet these health requirements will result in the delay of clinical practical, removal from clinical or the failure of clinical courses.
• Flu shot is mandatory. Flu shot available early Fall at University Health. If a student receives flu shot elsewhere, they must provide documentation to the Program Director and University Health. Students not in compliance will not be allowed in clinical.
CLINICAL PRACTICES AND POLICIES

1. Attendance at clinical practical is mandatory.
2. A student who does not demonstrate safe clinical practice or demonstrate professional behavior and professional practice will:
   1. Receive a written warning and counseling by program director, clinical supervisor and clinical coordinator
   2. Possible suspension of dismissal
   3. Immediate dismissal
   (Actions above depend on the nature of the offense)
3. Safe clinical or professional practice is defined as:
   a. Adheres to the Patients’ Bill of Rights Appendix C.
   b. Performs clinical duties consistent with the Code of Ethics established by the ASRT Appendix D.
   c. Receives passing grades on performance ratings as evaluated professionally by the Clinical Coordinator and/or Clinical Affiliate Supervisor Appendix E.
   d. Adheres to the code of behavior/conduct outlined in the JCHP and Department of Radiologic Sciences.
   e. Adheres to radiation protection and monitoring practices, where appropriate Appendices F and G.
   f. Adheres to all clinical practices and policies of the clinical site and JCHP and Department of Radiologic Sciences.

POLICY GOVERNING CLINICAL EDUCATION SCHEDULING
The purpose of the clinical assignment is to correlate didactic knowledge with practical skills.

The student is subject to all rules and regulations of the clinical site. The clinical education center reserves the right to suspend or terminate from the clinical site a student who does not adhere to established policies of the program or the clinical site. A student who does not maintain appropriate behavior may be suspended or dismissed immediately. (Refer to the section entitled "Responsibilities of the Student" on page 11.)

If a student is suspended or dismissed from a clinical site, the Department Chair, Program Director and Clinical Coordinator will review the circumstances for this action. All parties are encouraged to address the issue promptly in writing (within five (5) class days whenever possible) so that resolution of grievance should require no more than three weeks. If the decision to dismiss is upheld, the clinical dismissal will result in a final grade of “F”. Students who have reason to believe that the grade has been inappropriately assigned may request a review of the grade in accordance with the provisions of the Grade Appeal Protocol, which is published in the JCHP Student Handbook. For dismissal due to Unsafe Clinical Performance, students will follow the Policy on Dismissal for Unsafe Clinical Performance which is published in the JCHP Student Handbook.
CLINICAL SITE ASSIGNMENT

The Clinical Coordinator determines student schedules and assignments at clinical education centers. Assignments at the clinical sites are intended to provide the student with a comprehensive clinical education as deemed appropriate by the faculty, and serves to correlate didactic knowledge with practical skills. Students are not guaranteed a specific clinical site. Should a student be dismissed from his/her clinical site, the department cannot guarantee replacement at an alternate site.

Student's clinical assignments will be based on:
Student's experience and competency level.
Clinical education needs, directed toward reaching the highest level of competency in diagnostic imaging.
Any student requesting changes in the clinical schedule must submit written justification for the change to the Program Director. A decision will be made based on the student's educational needs and site availability.

RESPONSIBILITIES OF THE CLINICAL AFFILIATE SUPERVISORS/INSTRUCTORS

The clinical affiliate supervisors/instructors are available to students whenever they are assigned to a clinical setting. They provide appropriate clinical supervision and are responsible for student clinical evaluation.

RESPONSIBILITIES OF THE DEPARTMENT/CLINICAL COORDINATOR (Frances Gilman)

The Department of Radiologic Sciences/Clinical Coordinator coordinates the daily operations of clinical education. Duties include, but are not limited to:
• Providing clinical education centers.
• Mentoring students.
• Supervising students.
• Advising students.
• Training clinical instructors.
• Evaluating clinical instructors.

RESPONSIBILITIES OF THE STUDENT

The student is responsible for:
• Displaying professional appearance in compliance with the dress code policy.
• Establishing harmonious working relationships and earning the respect of the radiologic sciences personnel through a professional and dignified posture and attitude.
• Using all equipment and materials responsibly and safely.
• Embodying the highest standards of civility, honesty, and integrity.
• Respecting and protecting the privacy, dignity, and individuality of others.
• Observing and assisting the clinical staff.
• Attending and participating in all scheduled clinical activities.
• Consulting with clinical site supervisors and/or departmental faculty for help with problems.
• Participating in the development of an individualized clinical education plan.
• Maintaining an accurate record of clinical examinations/competencies.
• Recording the number and types of evaluations required during each academic semester.
• Striving to broaden his/her knowledge and background on clinical subject matter by reading professional literature and attending conferences and seminars.
• Incurring all travel costs and expenses.
• Meeting with the Program Director at least twice per semester.
CLINICAL POLICIES
JCYP POLICY ON CONDUCT
All students enrolled at Thomas Jefferson University are expected to follow a code of behavior consistent with the high standards of the health professions and to uphold the reputation of the University. In addition, students must comply with the rules and regulations duly established within the College. Deviation constitutes misconduct. This includes, but is not limited to:

- Dishonesty, such as cheating, plagiarism or knowingly furnishing false information to the University.
- Cheating in any way, shape or form.
- Forgery, alteration, or misuse of University documents, such as records, time sheets, evaluation forms or identification.
- Violation of public law.
- Disruption of class or clinical session such as by use of abusive or obscene language or behavior.
- Insubordination (defined as "unwilling to submit to authority; disobedient; rebellious").
- Inappropriate behavior at the clinic affiliate or on University premises.
- Being intoxicated or under the influence of illegal drugs while on clinical assignment or on University premises.
- Vandalism or stealing.
- Unprofessional conduct - Disrespectful and negative postings on any social media (for example – Facebook, Twitter, etc.) concerning Jefferson’s Programs, faculty, associated clinical personnel and/or fellow students will be viewed as unprofessional conduct.

DEPARTMENT POLICY ON CONDUCT
Students must comply with the rules and regulations of the Department of Radiologic Sciences. Deviation constitutes misconduct. This includes, but is not limited to:

- Sleeping during a clinical assignment.
- Failure to actively participate in clinical education.
- Leaving a clinical assignment or room/area assignment without the supervisor's permission.
- Failure to notify Clinical Education Affiliate and the Clinical Coordinator of absence or lateness.
- Using a cell phone during clinical hours.
- Using the hospital computer for any reason EXCEPT hospital business.
- Violation of any duly established rules or regulations.

FAMILY MEMBERS/FRIENDS CLASSROOM, LAB & CLINICAL POLICY
At the Clinical Affiliate
"It may be deemed a conflict of interest for a student to be supervised or evaluated by family members or friends employed at his/her clinical site. If this situation arises, the student should inform his/her Program Director/Clinical Coordinator, so that alternative arrangements can be considered."
Family and friends should be discouraged from visiting the clinical site. In particular, unsupervised children are not permitted.

Family and friends must wait in a public area, and are not permitted in scanning or treatment rooms.

It is not acceptable for students to entertain their family and friends and neglect their professional duties.

Students may not ask clinical affiliate staff to baby-sit for them.

TJU’s liability insurance does not extend to students’ family and friends.

**In the RS Department**

Students should discourage their family and friends from visiting the RS department while they (the students) are in class.

Family and friends are not permitted to attend lectures or laboratory sessions.

Unaccompanied children are not permitted in the RS department.

Students may not ask faculty or administrative staff to baby-sit for them.

TJU’s liability insurance does not extend to students’ family and friends.

Failure to comply with the policy may result in disciplinary action and even dismissal from the program.

**DRESS CODE POLICY**

**Uniforms**

The required uniforms for Invasive Cardiovascular Technology clinical rotations should be ordered through the Thomas Jefferson University Bookstore.

- You will be required to purchase specific navy blue scrub tops and navy blue scrub pants at the TJU Bookstore.
- You may purchase a specific navy blue long sleeve jacket at the TJU Bookstore. The purchase of the specific navy blue long sleeve jacket is optional, but only this specific navy blue long sleeve jacket may be worn during the clinical rotation.
- A Thomas Jefferson University (TJU) patch must be sewn on the right shoulder of the jacket. If you do not wear your jacket, you must sew a TJU patch on the right sleeve/shoulder of your jacket or scrub. Patches are purchased at the TJU Bookstore.
- Name tags must be visible to patient and staff and worn at all times.
- White or black leather, closed-toe sneaker or shoes.
- Students are responsible for keeping shoes neat, clean, and polished. Shoestrings should also be kept clean and properly tied.

**Appearance**

- Students are required to practice good personal hygiene and present a professional appearance at all times.
• Keep hair, mustaches and beards neatly trimmed. Long hair must be tied back.
• Fingernails:
  - No artificial nails.
  - No nail polish.
  - Nail length must be less than ¼ inches.
  - Keep jewelry to a minimum. Earrings should be of the small post type (no hoops). No more than one earring in the lobe of each ear.
• Any body piercing besides the ears should not be evident at clinical site.
• Tongue rings are unacceptable and are not allowed to be worn.
• Wear makeup conservatively. No perfumes, colognes, lotions or powders are to be worn at clinical sites.
• Any visible tattoos must be appropriately covered.
• Chewing gum is not permitted.
• Students are required to wear identification and radiation badges supplied by Thomas Jefferson University, and Clinical Affiliate Sites if provided, at all times.

**Non-compliance**

Any student not complying with the dress code policy will be removed from the clinical site. Any clinical time missed due to dress code violation will be made up by the student at a later date. The Clinical Coordinator in cooperation with the Clinical Affiliate Supervisor will determine make-up time.

Appropriate and clean attire is required during **ALL** clinical and didactic sessions.

Unacceptable apparel includes: short skirts/pants, torn/ripped garments, low-cut tops, lewd and/or suggestive slogans on any clothing.

**CELL PHONE/BEEPER POLICY**

Cell phones and beepers must be on vibrate during lectures and laboratory sessions. Instructors will not tolerate interruptions by these devices and may ask students to leave the classroom.

Students may not carry cell phones or beepers with them during clinical hours. These devices must be kept in the lockers. Any student in violation of this policy will be asked to leave his/her clinical site and will be marked absent. If a student is waiting for an emergency call, or call from an MD, he/she must notify the clinical supervisor so that he/she may have their cell phone on their person during clinical and on vibrate.

**COMPUTER POLICY**

Students may not use computers for personal business during clinical hours. Personal business includes (but is not limited to) internet surfing, shopping, emailing and instant-messaging.

Any student in violation of this policy will be asked to leave his/her clinical site and will be marked absent.
VENIPUNCTURE POLICY

The ARRT clinical competency requirements include performance of venipuncture for injection of contrast agents and radiopharmaceuticals. In order to participate in the performance of venipuncture on patients, students must:

- Have completed all immunizations as required by JCHP.
- Have current CPR certification, as required by the Department of Radiologic Sciences.
- Have health insurance, as required by JCHP.
- Have a Certificate in Venipuncture by the Department of Radiologic Sciences.
- Attend and complete institutional venipuncture training, as required by clinical sites.

HEALTH INFORMATION CONFIDENTIALITY POLICY: HEALTH INSURANCE PORTABILITY AND ACCOUNTABILITY ACT (HIPAA)

Students must maintain strict confidentiality of all health information of patients at clinical affiliate sites during and after the course of their clinical rotations. Students may neither use nor disclose health information of patients to which they have access, other than as expressly authorized by the clinical affiliate. Students may not record any patient-identifiable information on their personal documents (e.g. clinical logs). Students may not receive, obtain or remove from the clinical site any images or patient data that has not been de-identified.

PREGNANCY POLICY

If a student becomes pregnant during a component of the program, she may voluntarily inform the Radiation Safety Officer and the Program Director, in writing, of her pregnancy. She will be counseled regarding the government regulations as they pertain to pregnant radiation workers/students. The guidelines for managing the pregnant student will adhere to NRC and state regulations. The student may “un-declare” her pregnancy at any time, resulting in exposure limits equaling that of a radiation worker.

Option 1: The student may continue in the program if she chooses, without modifications to any component of the program.

Option 2: The student may take a leave of absence from clinical education, but continue her didactic studies. Clinical assignments will be completed when the student returns.

Option 3: The student may withdraw from the program and reapply in accordance with College policies.

Due to the need for special radiation protection education, counseling by the Radiation Safety Officer is available.
INCIDENT REPORTS AT THE CLINICAL EDUCATION CENTER

If a student is injured or involved in an incident during a clinical rotation, he/she must:
1. Report immediately to his/her supervisor and follow departmental protocol.
2. Report ASAP to University Health
3. Present a note to the Clinical Coordinator from the Emergency Room Physician, Student, Health Physician, or family physician stating the date the student may resume normal duties.

If a patient is injured while in the student's care, the student must:
1. Make sure that the patient is safe.
2. Report the incident immediately to the supervisor and follow departmental protocol.

INFECTIOUS DISEASES

Should a student be diagnosed as having an infectious disease, he/she must report such diagnosis to the Clinical Coordinator and the Clinical Affiliate Supervisor. The student may be asked to leave clinical until cleared by his/her physician. The student must present a physician’s note to the Clinical Coordinator stating that the student may resume normal duties.
ATTENDANCE REGULATIONS
ATTENDANCE REGULATIONS

Didactic/Laboratory Instruction
Attendance at all scheduled didactic and laboratory sessions are required. Each course syllabus details the attendance policy.

Clinical Attendance Records
Students must have an attendance sheet signed by their clinical instructor daily.

Clinical Education Hours
Total clinical assignments will not exceed 40 hours per week. Assignments on any one day will not exceed 8 hours, unless otherwise requested by the student and approved by the Clinical Coordinator in conjunction with the Clinical Affiliate Supervisor, or if patient care responsibilities dictate otherwise. No student will be permitted to leave a patient during the course of an examination, even if such completion requires remaining on duty beyond the end of the shift.

Students will be assigned a lunch period each day, which they are required to take. The lunch break will be commensurate with the practice of the department and area/rotation assignment.

The lunch break may not be used to make-up or accrue time.
Clinical Affiliate Supervisors may re-schedule students (within an assigned eight hours) to provide complete exposure to the unique learning opportunities in radiologic sciences. The Clinical Affiliate Supervisor must notify the Clinical Coordinator of these changes.

Students will participate in designated procedures during their clinical assignments under the guidance of a supervising technologist in the areas to which they are assigned.

Personal Days
Each student is allocated one personal day each semester. It is not accruable nor is it transferable. A personal time request form must be submitted to the clinical coordinator.

Absences
Attendance is mandatory for all clinical practicum sessions. If a student will be absent from a clinical assignment, he or she must call both the Clinical Affiliate Supervisor and e-mail Dr. Gilman prior to the start of the shift. An excused absence requires a doctor's note with return date to educational activities. Death in the immediate family is also an excused absence. Extenuating circumstances will be dealt with on an individual basis.

If an emergency arises requiring an early departure from the clinical site, the student must notify both the Clinical Affiliate Supervisor and the Clinical Coordinator. It is the responsibility of the student to make these calls. Absences must be made up at the discretion of the faculty.

Failure to follow the above policies will result in the following disciplinary action at the discretion of the program director:
First offense: Written warning
Second offense: Suspension from clinical
Third offense: Dismissal

**Punctuality**
Any student who is not in his/her clinical area at the assigned time will be considered late. A student who is late three times in one semester will be counted as one day’s absence. Habitual lateness could lead to dismissal from the program.

It is the policy of the Department of Radiologic Sciences that any student who is going to be late must notify both the Clinical Affiliate Supervisor and the Clinical Coordinator prior to the start of his/her assigned time. All lost time due to lateness from the clinical area must be made up by the student. Failure to abide by these policies could lead to dismissal from the program.

A student will be advised in writing concerning his/her habitual lateness or violation of the Department of Radiologic Sciences lateness policies by the Clinical Coordinator and/or Program Director.

Disciplinary actions including suspensions from the clinical site or dismissal from the program may be taken against students who persist in habitual lateness or violations of the Departmental of Radiologic Sciences lateness policies, after previously having been counseled in writing by the Clinical Coordinator and/or Program Director at an Advisement Conference.

**Make-Up Time**
Arrangements must be made with the Clinical Affiliate Supervisor and approved by the Clinical Coordinator. The make-up time form is signed upon fulfillment of the time missed. The form will be submitted to the Clinical Coordinator. All clinical absences must be made up at the Clinical Affiliate where the time was missed, consistent with the room assignments in effect when the absence occurred. **The lunch break may not be used to make-up or accrue time.**

**Policy Concerning Death in the Family**
Upon notification to the Program Director, students will be allowed a maximum of three (3) days of leave of absence for death in the immediate family. Immediate family members include parents, grandparents, spouse, brother, sister or child. Leaves of absence requested because of the death of someone other than an immediate family member may be granted by special permission.

**Hospital Job Actions or Strikes**
Whenever a strike or job action occurs at an assigned clinical site, the student must leave the assignment immediately and report to the Clinical Coordinator for further directions.

At no time should a student attempt to cross a picket line to enter a Clinical Education Center.
**Jury Duty**

Being selected for jury duty is a civic responsibility in which the Department encourages students to participate.

Please be advised that the College cannot intervene on the student's behalf should a student be summoned for jury duty.
STUDENT ACTIVITIES
STUDENT ACTIVITIES

Students are encouraged to participate in campus activities, e.g., orientation programs, recruitment functions, social and cultural events, yearbook development and Class Night. They have the opportunity to represent the students’ viewpoints on Department, College and University committees. The University and Thomas Jefferson University Hospital sponsor many volunteer and mentoring programs. Professional organizations, Jefferson Alumni Association and the College sponsor many programs that focus on career and professional development.

Honors and Awards
Students are eligible for the Mallinckrodt Award for Excellence. This award focuses on exceptional academic and clinical achievement. Awards are presented during class night.

Professional Societies
Students are strongly encouraged to participate in professional activities and to seek memberships in national, state and local societies. These organizations sponsor competitions for students and several offer scholarships and educational grants.

Professional Organizations:
   Society of Invasive Cardiovascular Professionals

Honor Societies:
   Alpha Eta Society
      Honor society for health professionals

   Lambda Nu Society
      Honor society for radiologic and imaging science profession
APPENDIX A

Instructions for Accessing Course Evaluations

Students in the Department of Radiologic Sciences are required to complete a Course Evaluation for each didactic class for Fall, Spring and Summer sessions. Listed below are the instructions for completing the Course Evaluation:

- Log On to Pulse
- Click on Organizations
- Click on “Radiologic Sciences Course Evaluations”
- Select Courses
- Complete evaluation
- Submit when completed

Your answers will remain anonymous. Thank you for your cooperation.
Directions to Access Training Module for HIPAA

Federally Mandated HIPAA Presentation

Follow these instructions to complete the HIPAA requirement:


2. Enter your username (campus key) and password in the appropriate boxes.
   a. NOTE: If you do not know your campus key, you should select “Campus Key Lookup” from the links on the left.

3. Once you are logged in, select the “Organizations” tab at the top of the page.

4. Select the organization titled “JCHP Student Orientation.”

5. Select “HIPAA Presentation” and watch the presentation in its entirety. After you have finished viewing the presentation, you must then take the quiz.

6. Return to the JCHP Student Orientation organization home page and select “HIPAA Training Quiz.”

7. Follow the onscreen instructions to complete the quiz and then view your results.

8. You must obtain a score of at least 80 out of 100 points in order to satisfy this pre-matriculation requirement. If your score is less than 80 points, you should watch the presentation again and re-take the quiz.

9. Once completed, you may log out of Pulse. You do NOT need to notify the Office of Student Affairs that you have completed the requirement. Your scores will be automatically sent to our office.

10 The Office of Student Affairs will review your scores and record if you have satisfactorily completed this requirement.
Directions to Access Training Module for Safety

Federally Mandated Safety Training Presentation

Follow these instructions to complete the Safety Training requirement:


2. Enter your username (campus key) and password in the appropriate boxes.
   a. NOTE: If you do not know your campus key, you should select “Campus Key Lookup” from the links on the left.

3. Once you are logged in, select the “Organizations” tab at the top of the page.

4. Select the organization titled “JCHP Student Orientation.”

5. Select “Safety Training Presentation” and watch the presentation in its entirety. After you have finished viewing the presentation, you must then take the quiz.

6. Return to the JCHP Student Orientation organization home page and select “Safety Training Quiz.”

7. Follow the onscreen instructions to complete the quiz and then view your results.

8. You must obtain a score of at least 80 out of 100 points in order to satisfy this pre-matriculation requirement. If your score is less than 80 points, you should watch the presentation again and re-take the quiz.

9. Once completed, you may log out of Pulse. You do NOT need to notify the Office of Student Affairs that you have completed the requirement. Your scores will be automatically sent to our office.

10. The Office of Student Affairs will review your scores and record if you have satisfactorily completed this requirement.
APPENDIX B

TECHNICAL STANDARDS FOR INVASIVE CARDIOVASCULAR TECHNOLOGIST

Invasive Cardiovascular Technology

An Invasive Cardiovascular Technologist is typically employed in a hospital to assist physicians with cardiac catheterization procedures and provide direct patient care.

Clinical and laboratory assignments for the Invasive Cardiovascular program require certain physical demands that are the technical standards of admission. These standards are based upon the minimum tasks performed by graduates of the program. Listed below are the technical standards which all applicants are must meet in order to participate and complete the ICVT program.

1. Sufficient visual acuity to read catheterization procedure prescriptions and charts, observe conditions of the patient and evaluate hemodynamic monitoring equipment.
2. Sufficient auditory perception to receive verbal communication from patients and members of the healthcare team and to assess the health needs of people through the use of monitoring devices such as intercom systems, cardiac monitors, respiratory monitors and fire alarms.
3. Sufficient gross and fine motor coordination to respond promptly and to implement skills related to the performance of imaging exams, such as movement of patients and equipment.
4. Sufficient communication skills (verbal, reading, writing) to interact with individuals and to communicate their needs promptly and effectively, as may be necessary in the patient's/client's interest.
5. Sufficient intellectual and emotional function to plan and implement patient care.

Examples of specific technical standards the Invasive Cardiovascular Technology student must be able to meet are:

- Lift, transfer and/or move patients from wheelchair/stretcher to procedure table
- Lift, move, reach or push equipment
- Manual dexterity and ability to bend/stretch
- Physical agility: sitting (4-7 hours), standing (4-7 hours)
- Carry 12-30 pounds (lead aprons) while working
- Distinguish colors and shades of gray
- Demonstrate effective interpersonal relation skills, including patient instruction
- Physical and mental abilities to handle moderate and frequent exposure to infectious agents (blood, urine etc.) and moderate exposure to frequent ionizing radiation
- Read and extract information from the medical chart or patient requisitions
- Explain the clinical study verbally and/or in writing
APPENDIX C

Patients’ Bill of Rights

We consider you a partner in your hospital care. When you are well informed, participate in treatment decisions, and communicate openly with your doctor and other health professionals, you help make your care as effective as possible. This hospital encourages respect for the personal preferences and values of each individual.

While you are a patient in the hospital, your rights include the following:

- You have the right to considerate and respectful care.
- You have the right to be well informed about your illness, possible treatments, and likely outcome and to discuss this information with you doctor. You have the right to know the names and roles of people treating you.
- You have the right to consent to or refuse a treatment, as permitted by law, throughout your hospital. If you refuse a recommended treatment, you will receive other needed and available care.
- You have the right to have an advance directive, such as a living will or health care proxy. These documents express your choices about you future care or name someone to decide if you cannot speak for yourself. If you have a written advance directive, you should provide a copy to your family, and your doctor.
- You have the right to privacy. The hospital, you doctor, and others caring for you will protect your privacy as much as possible.
- You have the right to expect that treatment records are confidential unless you have given permission to release information or reporting is required or permitted by law. When the hospital releases records to others, such as insurers, it emphasizes that the records are confidential.
- You have the right to review you medical records and to have the information explained except when restricted by law.
- You have the right to expect that the hospital will give you necessary health hospital services to the best of its ability. Treatment, referral, or transfer may be recommended. If transfer is recommended or requested, you will be informed of risks, benefits, and alternatives. You will not be transferred until the other institution agrees to accept you.
- You have the right to know if this hospital has relationships with outside parties that may influence you treatment and care. These relationships may be with educational institutions, other health care providers, or insurers.
- You have the right to consent or decline to take part in research affecting your care. If you choose not to take part, you will receive the most effective care the hospital otherwise provides.
- You have the right to be told of realistic care alternatives when hospital care is no longer appropriate.
- You have the right to know about hospital rules that affect you and your treatment and about charges and payment methods. You have the right to know about hospital
resources, such as patient representatives or ethic committees that can help you resolve problems and questions about your hospital stay and care.

• You have responsibilities as a patient. You are responsible for providing information about your health, including past illnesses, hospital stays, and use of medicine. You are responsible for asking questions when you do not understand information or instructions. If you believe you can't follow through with your treatment, you are responsible for telling your doctor.

• This hospital works to provide care efficiently and fairly to all patients and the community. You and you visitors are responsible for being considerate of the needs of other patients, staff, and the hospital. You are responsible for providing information for insurance and for working with the hospital to arrange payment, when needed.

• Your health depends not just on your hospital care but, in the long term, on the decisions you make in your daily life. You are responsible for recognizing the effect of life-style on your personal health.

A hospital serves many purposes. Hospitals work to improve people's health; treat people with injury and disease; educate doctors, health professionals, patients, and community members; and improve understanding of health and disease. In carrying out these activities, this institution works to respect your values and dignity.
APPENDIX D

CODE OF ETHCS- ASRT Code of Ethics

1. The radiologic technologist conducts himself/herself in a professional manner, responds to patient needs and supports colleagues and associates in providing quality patient care.

2. The radiologic technologist acts to advance the principal objective of the profession to provide services to humanity with full respect for the dignity of mankind.

3. The radiologic technologist delivers patient care and service unrestricted by concerns of personal attributes or the nature of the disease or illness, and without discrimination, on the basis of sex, race, creed, religion or socioeconomic status.

4. The radiologic technologist practices technology founded upon theoretical knowledge and concepts, uses equipment and accessories consistent with the purpose for which they have been designed, and employs procedures and techniques appropriately.

5. The radiologic situations, exercises care, discretion and judgment, assumes responsibility for professional decisions; and acts in the best interest of the patient.

6. The radiologic technologist acts as an agent through observation and communication to obtain pertinent information for the physician to aid in the diagnosis and treatment of the patient, and recognizes the interpretation and diagnosis are outside the scope of practice for the profession.

7. The radiologic technologist uses equipment and accessories, employs techniques and procedures, performs services in accordance with an accepted standard of practice and demonstrates expertise in minimizing the radiation exposure to the patient, self and other members of the health care team.

8. The radiologic technologist practices ethical conduct appropriate to the profession and protects the patient’s right to quality radiologic technology care.

9. The radiologic technologist respects confidences entrusted in the course of professional practice, respects the patient’s right to privacy and reveals confidential information only as required by law or to protect the welfare of the individual or the community.

10. The radiologic technologist continually strives to improve knowledge and skills by participating in educational and professional activities, sharing knowledge with colleagues and investigating new and innovative aspects of professional practice.

CLINICAL SYLLABUS
A. Course Number & Title: Invasive Cardiovascular Technology Clinical Education
   RSI 531 Invasive Clinical I
   RSI 532 Invasive Clinical II
   RSI 533 Invasive Clinical III

   Credits:
   6 Semester credits  fall
   6 Semester credits  spring
   8 Semester credits  summer

B. Faculty Information
   Frances Gilman, DHSc, RT, (R)(CT)(MR)(CV)ARRT
   Associate Professor
   frances.gilman@jefferson.edu
   Office phone:215-503-1865
   Office Hours: by appointment

C. Course Description
   The three clinical semesters affords the student the opportunity to apply learned didactic theory and laboratory experience in the clinical setting. Clinical education is conducted at the clinical affiliate site assigned to the student by the Clinical Coordinator. Activities include observation and demonstration, after which the student assists in performing the activity unassisted, but under direct supervision of a nurse, registered technologist or physician. This course is presented with a progression in competency levels in the form of clinical performance objectives and competency exams.

D. Course objectives
   1. Demonstrate competency in the following roles of the cardiovascular technologist within the cardiac catheterization laboratory:
      • scrub technologist
      • circulating technologist
      • physiologic recording technologist

   2. Demonstrate the role of the ICVT in assisting the physician with the following procedures:
      • Right Heart Catheterization
      • Left Heart Catheterization
      • Coronary Artery

   3. Recognize and report to the physician normal and/or abnormal hemodynamic pressure recordings and electrocardiographic changes during diagnostic and interventional cardiac procedures.

   4. Apply a thorough knowledge foundation of acquired/congenital cardiac disease states and their
angiographic and hemodynamic findings.

5. Demonstrate competency in applying principles of environmental safety, radiation safety and sterile technique within the cardiac catheterization settings.

6. Identify/observe the indications, contraindications and protocols for the following cardiovascular procedures:

- thrombolytic therapy
- directional coronary atherectomy
- stent therapy
- open heart surgery
- valvuloplasty
- endomyocardial biopsy
- pericardiocentesis

7. Record daily activities within a clinical logbook.

8. Identify various pharmacologic agents according to their use, mode of administration, dosage and mode of action as used in the cardiac catheterization laboratory.

9. Maintain a professional demeanor with patients, families and hospital staff.

10. Demonstrate the ability to concentrate and respond appropriately during emergencies.

E. Prerequisites and/or co-requisites
Completion of year one of cardiac vascular sonography or Radiography Programs
Admission into ICVT AP Program

F. Course schedule

FALL SEMESTER
September 14 – December 12
Monday, Thursday & Friday
8:00 AM - 5:00 PM or as scheduled with clinical supervisor

SPRING SEMESTER
January 11 – April 29
TBD
SUMMER SEMESTER
May 16- August 26
TBD

G. Course policies
- Attendance requirements
  - Refer to ICVT Academic Policies & Clinical Education handbook
- Late-work policies
Refer to ICVT Academic Policies & Clinical Education handbook

Make-up work policies
Refer to ICVT Academic Policies & Clinical Education handbook

H. Evaluation
JSHP grading scale: numeric ranges on a scale of 100 and equivalent letter grades with plus/minus delineation. Clinical is a pass/fail course (See grading scale below).

Course Requirements:

FALL

• Clinical hours – students must complete the assigned number of clinical days
• Clinical packets – students must turn in (2) clinical packets at designated times during the semester.
  o 1st packet due October 30
  o 2nd packet due November 30
• Case study presentation
  DUE December 2

Presentation to include:

1. Type of procedure
2. Reason for procedure
3. Patient history
4. Assessment of vital signs, lab values, other
5. Identification of anatomy, normal & abnormal
6. Explanation of technique used to puncture artery
7. Description of guidewires, catheters, drugs used during procedure
8. Unusual occurrences during exam
9. Findings
10. Treatment

Please films if possible of pertinent image.
SUPPLEMENTAL INFORMATION

School/University Grading Policy:
The numerical grading criteria are as follows:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Numeric Value</th>
<th>Quality Points</th>
<th>Letter Grade</th>
<th>Numeric Value</th>
<th>Quality Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>98-100</td>
<td>4.0</td>
<td>C+</td>
<td>77-79</td>
<td>2.3</td>
</tr>
<tr>
<td>A</td>
<td>93-97</td>
<td>4.0</td>
<td>C</td>
<td>73-76</td>
<td>2.0</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
<td>3.7</td>
<td>C-</td>
<td>70-72</td>
<td>1.7</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
<td>3.3</td>
<td>D+</td>
<td>67-69</td>
<td>1.3</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
<td>3.0</td>
<td>D</td>
<td>63-66</td>
<td>1.0</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
<td>2.7</td>
<td>D-</td>
<td>60-62</td>
<td>0.7</td>
</tr>
<tr>
<td>F</td>
<td>Below 60</td>
<td>0.0</td>
<td>WF</td>
<td>0.0</td>
<td></td>
</tr>
</tbody>
</table>
This course adheres to University, College and Departmental policies. University-wide policies, including, but not limited to Code of Conduct/Student Rights, Freedoms, Responsibilities, Disability Accommodations, Religious Accommodations, etc., can be found on the Thomas Jefferson University (TJU) Student Handbook website at [www.jefferson.edu/handbook](http://www.jefferson.edu/handbook).

Jefferson College of Health Professions’ Policies and Procedures, including but not limited to Academic Integrity, College Academic Probation and Dismissal, Grade Appeal Protocol, etc. can be found in the JCHP Student Handbook located on the Jefferson College of Health Professions homepage at [http://www.jefferson.edu/university/health_professions.html](http://www.jefferson.edu/university/health_professions.html).

Departmental policies and procedures, including but not limited to departmental academic performance requirements can be found in your Departmental Student Handbook, located on your department specific webpage, or can be obtained through your faculty advisor.

Students who seek an accommodation for a disability should contact the Office of Student Affairs to schedule an intake appointment. For more information about the process involved with requesting an accommodation, please refer to [www.jefferson.edu/accommodations](http://www.jefferson.edu/accommodations). Students should initiate this request early in the semester to ensure appropriate accommodations are provided.

JEFFAlert Emergency Notification System and Weather Emergencies

Students, faculty and staff are notified of Jefferson time sensitive emergencies, including weather, through the JEFFAlert emergency notification system. To ensure that you are receiving the most up to date alerts, please ensure that you provide current personal contact information on Banner Web. Additional information on the JEFFAlert emergency notification system can be found in the TJU Student Handbook at [www.jefferson.edu/handbook](http://www.jefferson.edu/handbook).

Students may also access up to date weather-related information using the toll-free Jefferson hotline: 800.858.8806. The Weather Emergency Policy can also be found in the TJU Student Handbook at [www.jefferson.edu/handbook](http://www.jefferson.edu/handbook).

Students who wish to observe religious holidays that fall on scheduled class days must provide a written request to the course instructor within 3 business days of the first class session. Students are encouraged to review the Student Religious Observance Policy, found in the TJU Student Handbook at [www.jefferson.edu/handbook](http://www.jefferson.edu/handbook) to understand the process of requesting a religious exemption.
APPENDIX E

CLINICAL EDUCATION FORMS

ALL CLINICAL FORMS CAN BE DOWNLOADED FROM Bblearn RSI 531
### Pre-procedural Assessment

<table>
<thead>
<tr>
<th>Satisfactory</th>
<th>Dissatisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Student is able to demonstrate the following skill sets:

- Identifies correct patient and procedures.
- Verifies consent for procedures.
- Identifies normal and abnormal lab values.
- Assesses all pulses relevant to cardiac cath (Femoral, DP’s, PT’s, Brachial, Radial, and Ulnar. Conducts Allen’s test for upper extremity access. Familiar with Doppler pulse checks.
- Evaluates and correctly interprets vital signs.
- Identifies and understands patient’s venous and arterial access sites.
- Basic physical assessment: Understands how to assess respiratory status, level of consciousness, skin color and characters, major medical history; diabetes, renal failure etc.

**Comments:**

_________________________________________________________________

_________________________________________________________________
INVASIVE CARDIOVASCULAR TECHNOLOGY 2nd
Fall
Clinical Competency

Student ____________________________  Evaluator ____________________________

Date ___________

**Post-procedural Assessment**

<table>
<thead>
<tr>
<th>Student is able to demonstrate the following skill sets:</th>
<th>Satisfactory</th>
<th>Dissatisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Manages appropriately post procedurally.</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>• Assess access site for hematomas and pain.</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>• Assess post procedural vital signs and compare to baseline.</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>• Assess pulses post procedurally and compare to baseline.</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>• Assists or pulls sheath appropriately.</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>• Is familiar with post procedural compression devices (femstop, compressar etc.).</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>• Gives proper report regarding patient care</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>• Assesses patient post procedurally for skin color and character, respiratory status, pain and level of consciousness.</td>
<td>______</td>
<td>______</td>
</tr>
</tbody>
</table>

**Comments:**

________________________________________________________________________

________________________________________________________________________
INVASIVE CARDIOVASCULAR TECHNOLOGY
Fall, Spring & Summer
Clinical Competency

Student ____________________________  Evaluator ____________________________

Date __________

**Diagnostic Cardiac Cath**

<table>
<thead>
<tr>
<th>Skill Description</th>
<th>Satisfactory</th>
<th>Dissatisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shave preps proper area.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepares sterile field correctly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identifies proper site for femoral, upper extremity, jugular and pericardial access.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labels all fluids on tray properly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flushes lines and cath equipment properly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balances transducer properly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handles and disposes of sharp products in a safe manner.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support physician with proper equipment, and technique during catheter exchanges.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pans correctly to visualize cardiac anatomy.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Command of table and tube functions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Able to use imaging review systems in the room.</td>
<td></td>
<td></td>
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<tr>
<td>Secures sheaths post procedurally.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assists in deploying hemostasis devices.</td>
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</tbody>
</table>

**Comments:**
________________________________________________________________________
________________________________________________________________________
**INVASIVE CARDIOVASCULAR TECHNOLOGY**  
Spring  
Clinical Competency

Student_________________________   Evaluator_________________________

Date________

**Intra-aortic Balloon Pump**

<table>
<thead>
<tr>
<th></th>
<th>Satisfactory</th>
<th>Dissatisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relates the physiologic rationale for IABP therapy in patients with the following conditions:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>congestive heart failure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cardiogenic shock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pre-cardiac surgery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>post-cardiac surgery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identifies the indications, contraindications and risks of IABP therapy.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrates proper technique with IABP balloon catheter preparation and assistance with insertion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identifies and assesses patient parameters to evaluate vascular integrity pre and post IABP insertion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Describes the potential hemodynamic/vascular response and the appropriate intervention with IABP removal from femoral artery.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**

____________________________________________________________________________________

____________________________________________________________________________________
## INVASIVE CARDIOVASCULAR TECHNOLOGY

### Spring

Clinical Competency

<table>
<thead>
<tr>
<th>Student</th>
<th>Evaluator</th>
<th>Date</th>
</tr>
</thead>
</table>

### Percutaneous Transluminal Coronary Angioplasty

<table>
<thead>
<tr>
<th>Satisfactory</th>
<th>Dissatisfactory</th>
</tr>
</thead>
</table>

- Describes indications, contraindications and risk of a PTCA/Stent.
  - [ ]

- Describes the pathophysiologic mechanism of PTCA/Stent on coronary atherosclerosis.
  - [ ]

- Demonstrates proper negative and positive PTCA balloon preparation.
  - [ ]

- Assists MD with guidewire, introducer sheath and balloon catheter during a PTCA.
  - [ ]

- Troubleshoots PTCA balloons for air, inadequate connections and proper setup.
  - [ ]

- Records all pertinent hemodynamic information, patient parameters and medications with 100% accuracy.
  - [ ]

- Assesses, reports and documents patient response with minimal supervision.
  - [ ]

- Understands rates of inflations for various Stent/balloons.
  - [ ]

- Physically examines stent for integrity before use.
  - [ ]

### Comments:

________________________________________________________________________________________

________________________________________________________________________________________
**Emergency Intervention**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Satisfactory</th>
<th>Dissatisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrates BCLS principles appropriately and intervenes &quot;within the scope of practice&quot; of an RCVT student.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uses all emergency equipment effectively and appropriately.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practices electrical and environmental safety rules at all times.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identifies the rationale and calculates the proper drug dosage with 100% accuracy of the following standard cath medications:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xylocaine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heparin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protamine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procardia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atropine</td>
<td></td>
<td></td>
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<tr>
<td>Lasix</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitroglycerin (IV and po)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identifies the Advanced Cardiac Life Support algorithms for the following dysrhythmias:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ventricular Fibrillation-monitored</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ventricular Fibrillation-unmonitored</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ventricular Tachycardia-conscious</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ventricular Tachycardia-unconscious/pulse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ventricular Tachycardia-unconscious/no pulse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bradycardia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Describes the rationale for the drug choice in an emergency situation.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**

------------------------------------------------------------------------
**Electrophysiologic Studies**

<table>
<thead>
<tr>
<th>Satisfactory</th>
<th>Dissatisfactory</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

- Discusses the indications, contraindications and risks of an EPS study.  
- Measures the following electrophysiologic intervals from an intracardiac electrogram:
  - HRA
  - PA
  - AH
  - HV
  - HIS
- Discusses the diagnostic and/or therapeutic uses of an electrophysiologic study in patients with the following dysrhythmias:
  - ventricular tachycardia
  - supraventricular tachycardia
  - atrioventricular block
  - sinus node disease
- Identifies and discusses the various treatment modalities for dysrhythmias:
  - endocardial mapping/surgical ablation
  - antitachycardia pacer treatment
  - antiarrhythmics
  - AICD
- Assists the MD with guide wire, sheath and pacing catheter insertion.
- Demonstrates proper usage of the following equipment:
  - IVAC pump
Pulse oximeter
Automatic B/P cuff
Arterial Doppler
Electrophysiologic recorder
Defibrillator

- Identifies the rationale for use of antiarrhythmics.

- Calculates antiarrhythmic drug dosage (p.o.) or IV with 100% accuracy.

Comments:
INVASIVE CARDIOVASCULAR TECHNOLOGY
Summer
Clinical Competency

Student ____________________________  Evaluator ____________________________  

Date ____________

Pacemakers

• Compares and contrasts the patient indications and risk of the following:
  
  - permanent pacemaker implantation
  - temporary transvenous pacemaker
  - external noninvasive pacemaker
  - AICD

  Satisfactory  Dissatisfactory

• Describes and applies the following electrophysiologic principles to the placement and testing of pace function:
  
  - Ohms law
  - resistance of pacer energy
  - threshold measurement
  - sensitivity requirements
  - intracardiac R wave sensing
  - measurement of electrograms
  - low voltage electrograms

  Satisfactory  Dissatisfactory

• Describes and applies the following programmability principles to the placement and testing of pacer function:
  
  - rate programmability
  - magnet rate
  - pulse width
  - strength duration curves
  - voltage in permanent pacer
  - EMI interference
  - refractory periods
  - hysteresis programming
  - programmable modes
  - pacemaker syndrome
  - antitachy pacing modes
  - pacemaker modes

  Satisfactory  Dissatisfactory

• Discusses the clinical implications for pacemaker follow-up with the use of magnets, externals programmability and trans-telephonic pacemaker monitoring.

  Satisfactory  Dissatisfactory
• Identifies the following pacer malfunctions by ECG strips and clinical case studies:

undersensing
pulse generator malfunction
oversensing
nonpacing
intermittent pacing altered
parameter pacing problems
with fixed rate pacing weak
battery
hysteresis pacing

• Prepares and/or assists MD or clinical preceptor with preparing; guide wires, sheaths, lead wires and permanent pacemakers prior to patient insertion.

• Demonstrates proper procedure for testing and recording pacemaker parameters.

Comments:
INVASIVE CARDIOVASCULAR TECHNOLOGY
Summer
Clinical Competency

Student ___________________________________________ Evaluator ____________________________

Date __________________

Cardiac Catheterization-Hemodynamics and Angiographic Abnormalities in Specific Disorders

- Identifies the abnormal hemodynamic ____________________ ____________________

- Identifies the angiographic measurement of valvular regurgitation in the following disease states:
  - mitral stenosis ____________________ ____________________
  - aortic stenosis ____________________ ____________________

- Identifies the abnormal hemodynamic, angiographic and oximetric findings in the following cardiovascular disease states:
  - cardiac tamponade ____________________ ____________________
  - constrictive pericarditis ____________________ ____________________
  - atrial septal defects ____________________ ____________________
  - ventricular septal defects ____________________ ____________________
  - endocardial cushion defects ____________________ ____________________
  - patent ductus arteriosus ____________________ ____________________
  - tetralogy of fallot ____________________ ____________________
  - transposition of the great arteries ____________________ ____________________
  - aortic stenosis ____________________ ____________________
  - pulmonary stenosis ____________________ ____________________
  - aortic coarctation ____________________ ____________________

- Describes the equipment and technique of the indicator dilution cardiac output method. ____________________ ____________________
• Calculates the following hemodynamic measurements independently:

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>thermodilution cardiac output</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fick cardiac output</td>
<td></td>
<td></td>
</tr>
<tr>
<td>angiographic cardiac output</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cardiac index</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VO2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-V difference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O2 content</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SVR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVR</td>
<td></td>
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</tr>
</tbody>
</table>

• Describes the pathophysiology of intracardiac shunts.

• Identifies normal vs. abnormal oximetry findings and correlates with patient clinical condition.

• Differentiates between right-to-left and left-to-right shunts.

• Calculates the following shunt measurements independently:

<table>
<thead>
<tr>
<th>Shunt</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>shunt site and direction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SBF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>shunt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bidirectional shunt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SVR</td>
<td></td>
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</tbody>
</table>

Comments:

__________________________________________________________________________
__________________________________________________________________________
INVASIVE CARDIOVASCULAR TECHNOLOGY last
Summer
Clinical Competency

Student __________________________  Evaluator ___________________

Date__________________________

Pediatric Cardiac Catheterization

<table>
<thead>
<tr>
<th></th>
<th>Satisfactory</th>
<th>Dissatisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifies indications and contraindications for a pediatric cardiac catheterization.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Describes the technique and cardiac pathophysiologic result from a balloon septostomy.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performs pediatric drug calculations with 100% accuracy.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:____________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
APPENDIX F

Radiation Protection Practices

1. A student is required to exercise sound radiation protection practices at all times. At no time may a student participate in a procedure utilizing unsafe protection practices.

2. A student should not hold patients while exposures are occurring.

3. A student will always wear radiation monitors in the Clinical Affiliate Centers and in all laboratory classes.

4. A student will leave the radiographic rooms while a radiographic exposure is being made unless the proper radiation protection attire is being worn or student is behind appropriate shield.

5. The radiation film badge should be worn outside on a lead apron at the collar level. The radiation film badge should be worn at torso level, if not in fluoroscopy.

6. A student will always remove personal radiation monitors while having diagnostic medical or dental radiographs taken.

7. A student will always wear lead aprons when doing portable radiography/fluoro.

8. Radiation protection of the patient and others within the examination room is the student's responsibility when he/she is performing the study.

9. The student must be aware of and enforce the policies and procedures of patient shielding, in keeping with national and international radiation protection standards.

10. A student may not have his/her self-x-rayed by a staff radiographer without an x-ray prescription for the exam by a physician. **The student will be dismissed from the program for this violation.**

11. A student may not x-ray staff at their request without a prescription for the exam by a physician. **The student will be dismissed from the program for this violation.**

12. Students who deliberately expose their radiation Dosimetry badge will be suspended and/or dismissed from the program.

*(PA Code, Title 25. Environmental Protection. Department of Environmental Protection, Chapter 211.11.)*
APPENDIX G Personnel

Radiation Monitoring

1. Each student is responsible for wearing radiation monitors at the Clinical Affiliate Sites and in laboratory classes. No student will be allowed in a Clinical Affiliate Site or laboratory class without properly dated radiation monitors appropriately worn.

2. Any student who does not have the properly dated radiation monitor will be suspended from his/her clinical area until he/she has the properly dated radiation monitor. Time lost from the clinical area must be made up.

3. Each student is responsible for exchanging radiation monitors on the first day of each month. Badges are exchanged with the Program Director, Invasive Cardiovascular Program.

4. An accident with, or loss of, monitor(s) must be reported immediately to Education Coordinator, and Program Director.

5. The Clinical Coordinator receives and reviews with each student the radiation dose report from the Radiation Safety Office. The report will be posted on the notice board.

6. Monthly radiation exposures for students MUST NOT exceed the maximum permissible dosage to occupationally exposed persons as established by state and federal agencies for radiologic health.

7. On completion of the clinical rotation students must return their radiation badges to the Program Director. Students will be billed for unreturned badges.

8. “High” Radiation Dosimeter Readings

High or unusual radiation dosimeter readings are investigated by Jefferson Radiation Safety Officer. Readings above designated “Investigation Levels” are evaluated with regard to workload and type of duties performed by the dosimeter wearer; adherence to proper work practices; proper care and use of the dosimeter; and possible exposure of the dosimeter to “non-occupational” radiation sources. In cases where it appears that the high readings may be due to inadequate safe work practices or improper use or storage of the dosimeter(s), the wearer is counseled by Radiation Safety Officer and/or the wearer’s supervisor(s).

The Office of Radiation Safety maintains a history of each individual’s exposure and anyone may examine his/her own radiation exposure record, or obtain a copy by sending a signed, written request to the Radiation Safety Office.
9. The **cost** for replacement of lost badges is the responsibility of the student. **Payment is due at the time the student receives the new badge.**

- Radiation Monitors not returned - **$5.00**
- Replacement Holder - **$5.00**
- Replacement Film - **$2.00**
- Replacement Monitor Ring - **$5.00**