Technical Standards for

Interventional Cardiac & Vascular Technology

Our program technical standards were developed to help students understand nonacademic standards, skills, and performance requirements expected of a student to complete this curriculum.

The ICVT Program teaches students to use fluoroscopic X-ray equipment and assist physicians while introducing state-of-the-art equipment into the human body through arteries and veins in order to treat heart and vascular disease. ICVT Program technical standards have been developed to help students understand non-academic standards, skills, and performance requirements expected of a student in this particular curriculum. Certain physical, mental, and emotional capabilities are required in order to successfully complete the clinical phase of the ICVT Program and gain employment in the field. A degree in Interventional Cardiac & Vascular Technology signifies that the graduate is prepared for entry into the practice of interventional medicine. Therefore, the graduate must have both the knowledge and skills to function in a complex critical-care environment under a variety of situations, and to render independent, professional, and ethical judgement in all aspects of their field so as not to endanger the lives of patients. Registered Cardiovascular Invasive Specialists (RCIS) may work various shifts, tend to work long hours, and may work evenings. They are also typically required to be on-call during the night and on the weekends.

If an accommodation is necessary to participate in the program, it is imperative to identify reasonable accommodations to those students who qualify under the Americans with Disabilities Act (ADA). Reasonableness is determined by the Accessibility Resources Counselors and the program on a case-by-case basis utilizing the program technical standards. The accommodation must be in place before the start of the program, or it may delay your ability to start it. It is the student's responsibility to contact Accessibility Resources and request accommodations.

Skills	Description	Specific Examples
Motor Skills	Required ability to coordinate both gross and fine motor neuromuscular movements as well as a functional use of strength for the safe handling of patients and equipment.	• Hand-eye coordination and finger dexterity, flexion, and strength to perform finite motor skills with wires, catheters, and other delicate equipment • Safely elicit tactile information from patients through, palpitation, percussion, testing muscle-strength and function, skin penetration, and other diagnostic maneuvers • Stand and/or walk for 85% of work time • Reach at or above shoulder level intermittently for 90% of work time • Occasionally climb or balance, bend/stoop • Transfer/move/lift immobile patients from wheelchair or gurney to table

Skills	Description	Specific Examples
		• Lift up to 45 pounds unassisted • Move, adjust and manipulate a variety of equipment weighing up to 500 pounds
Vision	Required use of sight sufficient for accurate observation and patient assessment in either bright or dim lighting.	• Observe changes in patient monitors and regularly read small print/numbers in dim lighting • Observe patient responses • Observe patient behaviors which may pose an immediate threat to health or life and respond appropriately • Distinguish small calibration markings/numbers on syringes or equipment in low light settings • Assess color changes in skin and fluids • Discern vascular and non-vascular anatomy displayed on computer screens during fluoroscopy in a low-light setting • Hand-eye coordination while manipulating intricate/delicate equipment and simultaneously inputting equipment data
Hearing	Required auditory ability sufficient to monitor, assess and respond to patient, physician and co-worker needs.	• Ability to hear, understand and respond to comments, questions and instructions given in person, over the phone, or from a distance • Able to hear muffled sounds over medical equipment and/or through surgical masks • Able to hear/discern codes, alarms and patient calls
Technological	Ability to use electronic resources in order to seek and interpret information and apply to classroom and clinical practice	• Abe to use Microsoft Word and Power Point • Ability to use a health-agency device to access information and document care in an electronic health record • Ability to use library, professional organizational and other credible clinical resources to clinical decision-making • Ability to operate fluoroscopic x-ray and digital equipment
Communication	Required ability to demonstrate effective use of the English language in order to accurately listen, interpret and coherently respond to written, verbal and non-verbal communication.	• Engage in clear, professionally effective verbal communication with patients, family, physicians, and colleagues • Ability to communicate in accordance with the patient's understanding • Interpret and respond to non-verbal communication • Effectively and professionally engage in written communication with patients, family and colleagues • Document clearly and concisely within legal guidelines • Effectively obtain and provide information to physicians, colleagues, patients, and family

Skills	Description	Specific Examples

Critical Thinking/ Problem Solving	Required ability to solve problems sufficiently for clinical judgements	• Possess the following intellectual skills:
		  • Comprehension
		  • Analysis/Comparison
		  • Mathematical calculation and measurement
		  • Reasoning/Problem Solving
		  • Synthesize information/data
		• Ability to accept feedback, suggestions and criticism in a constructive manner
		• Able to identify cause-effect relationships in clinical situations
		• Able to assess patient conditions and treat, medicate or delegate appropriately
		• Exercise sufficient judgement in recognizing and correcting performance deviations
		• Ability to view recorded images for the purpose of identifying proper protocol, procedural sequencing, technical qualities, and identification of pathology
		• Able to remember and recall information

Interpersonal Skills	Ability to effectively interact and care for, in a non-judgmental way, persons who differ from oneself and one's beliefs in a variety of ways, including but not limited to gender, age, race, ethnicity, socio-economic status, culture, creed, military status, sexual orientation and identity, and religious or spiritual beliefs.	• Display the following characteristics:
		  • Compassion
		  • Empathy
		  • Integrity
		  • Honesty
		  • Good judgement
		  • Interest and motivation
		• Arrive on-time, prepared to participate
		• Work effectively within a team
		• Identify needs of others, and establish rapport with patients, family, and colleagues
		• Navigate stressful situations with composure
		• Demonstrate flexibility and adaptability while working with diverse populations

Environmental Tolerance	Ability to tolerate work conditions.	• Maintain sterile technique • Responsible to be on-call (after hours) and respond promptly to emergency situations • Frequently work in cool operating room temperatures in order to reduce the spread of pathogens and maintain equipment temperatures

Skills	Description	Specific Examples
		• Responsible for wearing personal protective equipment (PPE) in compliance with Universal Precautions (gowns, gloves, masks, hats, shoe-covers, lead aprons, etc) • May be assigned to work with patients who have communicability diseases • Frequently exposed to blood and body fluids while wearing PPE • Frequently wear a 20-pound (0.5 mm), wrap-around lead apron for long intervals • Radiation dose is monitored and shall not exceed the guidelines prescribed by the North Carolina Division of Environmental Health
Other- Olfactory (smell)	Ability to detect and distinguish significant environmental and patient odors.	• Ability to detect electrical malfunctions • Ability to detect smoke • Ability to recognize various patient odors and disease processes (i.e. diabetes, alcohol, infection, etc.)
Other- Health Standard /Emotional Behavioral	Prospective cardiovascular technologists must be able to consistently demonstrate emotional, mental and physical health in order to meet the demands of the position and carry out all assigned duties.	• Respond quickly to verbal instruction and patient needs • Ability to meet demands and function effectively during stressful situations • Ability to administer effective CPR for up to 45 minutes • Ability to provide safe patient care and administer medications or provide patient treatment in a stressful environment with multiple interruptions, noises, distractions, and unexpected needs • Ability to provide physical and emotional support to patients and family

This document is intended to serve as a guide regarding the physical, emotional, intellectual and psychosocial expectations placed on a student. This document cannot include every conceivable action, task, ability or behavior that may be expected of a student. Meeting these technical standards does not guarantee employment in this field upon graduation. Ability to meet the program's technical standards does not guarantee a student's eligibility for any licensure, certification exam, or successful completion of the degree program.