

Safety and Technical Standards and Essential Functions

1. Essential physical/neurological functions: Students must be able to accurately observe close at hand and at a distance to learn skills and to gather data (e.g., observe an instructor’s movements, a patient’s gait or verbal response, a chemical reaction, a femicroscopic image, etc.). Students must possess functional use of the senses that permit such observation.

Standard	Clinical Examples
<p>Tactile:</p> <ul style="list-style-type: none"> • Feel vibrations • Feel differences in sizes, shapes • Detect temperature • Feel differences in surface characteristics • Detect environmental temperature 	<p>Tactile ability sufficient to perform physical assessments, examinations and procedures:</p> <ul style="list-style-type: none"> • Palpate pulses, detect fremitus • Palpate vein • Identify body landmarks • Skin turgor, rashes • Skin temperature • Check for drafts • Detect deviations in skin temperature, solutions, and environment
<p>Visual:</p> <ul style="list-style-type: none"> • See objects up to 20 inches away (e.g., information on a computer screen, skin conditions) • See objects up to 20 feet away(e.g., client at end of hall) • Use depth perception to distinguish elevation • Use peripheral vision • Distinguish color (e.g., color codes on supplies, charts, bed) • Distinguish color intensity (e.g., flushed skin, skin paleness) • Distinguish objects and patient movement in dimed light • Distinguish between various shades of gray and colors in medical imaging 	<p>Visual acuity sufficient to:</p> <ul style="list-style-type: none"> • Observe changes in skin condition including distinguishing change in skin integrity, breathing patterns (including absence of respiratory movement), and color intensity such as the ability to identify cyanosis. • Identification of allergic responses such as skin rashes. • Access patient information on computer screens. • Read very fine print on medication labels, monitor strips, equipment calibrations. • Draw up correct quantity of medication labels, monitor strips, equipment calibrations. • Draw up correct quantity of medication into syringe • Read accurately IV infusion pump screens, LED output on electronic devices and monitors. • Distinguish tissue swelling, IV infiltration. • Discriminate among black, several shades of gray, and white on display monitor. • Analyze various color combinations that indicate blood flow on both display and

	color devices and recorded images
Hearing: <ul style="list-style-type: none"> • Hear normal speaking level sounds (e.g., person-to-person report) • Hear faint voices • Hear faint body sounds (e.g., blood pressure sounds, assessment placement of tubes) • Hear in situations when not able to see lips (e.g., when masks are used) • Hear auditory alarms (e.g., monitors, fire alarms, call bells) • Perceive origin of sound 	<ul style="list-style-type: none"> • Assess changes in heart, breath, abdominal, vascular sounds. • Take blood pressure • Recognize electronic device alarms • Monitor multiple patients in clinical setting
Smell: <ul style="list-style-type: none"> • Detect odors from client (e.g., foul smelling drainage, alcohol breath, etc.) • Detect smoke • Detect gases or noxious smells • Detect electrical problems 	<ul style="list-style-type: none"> • Detect odors exhibited by body fluids which may be indicative of disease processes • Detect hot electrical wires

2. Essential motor skills: Students must have sufficient motor capacities and mobility to execute the various tasks and physical maneuvers that are required within each program. Candidates must be able to display motor capabilities and mobility to execute the various tasks and physical maneuvers that are required within each program. Candidates must be able to display motor function sufficient to fulfill the professional roles toward which each program educates.

Standard	Clinical Examples
Gross motor skills: <ul style="list-style-type: none"> • Move within confined spaces • Sit and maintain balance • Stand and maintain balance • Reach above shoulders (e.g., IV poles) • Reach 6' above floor (manipulate imaging equipment) • Reach below waist (e.g., plug electrical appliance into wall outlets) • Stoop and squat 	<ul style="list-style-type: none"> • Administer medication via all routes including intravenous therapy. • Institute appropriate nursing interventions to stabilize a patient's condition and/or prevent complications. • Position and move patients • Maneuver and inspect equipment
Fine motor skills: <ul style="list-style-type: none"> • Pick up objects with hands • Coordinate eyes and hands/fingers with speed and accuracy in making precise movements • Grasp small objects with hands (e.g., IV tubing, pencil) • Write with pen or pencil 	<ul style="list-style-type: none"> • Adjust environment when providing patient care • Calibrate equipment • Draw up solution/medication in a syringe • Twist objects with hands • Take vital signs, including blood pressure, pulse, temperature, respiratory rates

<ul style="list-style-type: none"> • Key/type (e.g., use a computer) • Pinch/pick or otherwise work with fingers (e.g., manipulate a syringe) • Squeeze with fingers (e.g., eye dropper) 	<ul style="list-style-type: none"> • Use pulse oximeter, and electrocardiogram. • Insert catheters • Pick up or grasp small objects used in patient care, use eye dropper • Transmit information via electronic means • Write and enter patient information on a patient's record
<p>Physical endurance:</p> <ul style="list-style-type: none"> • Stand (e.g., at client side during surgical or therapeutic procedure) for long periods of time – 30” or greater • Sustain repetitive movements • Maintain physical tolerance for entire work shift 	<ul style="list-style-type: none"> • Perform cardiopulmonary resuscitation (e.g., move above patient to compress chest and manually ventilate patient) • Stand/walk to complete clinical day (e.g., 8/12 hour shift) • Complete assigned clinical practice within an acceptable time period.
<p>Physical strength:</p> <ul style="list-style-type: none"> • Push and pull 50+ pounds (e.g., position clients) • Support 50+ pounds (e.g., pick up a child, transfer client) • Move light objects weighing 0-50 pounds (e.g., IV poles) • Use upper body strength (e.g., perform CPR, physically restrain a client) • Squeeze with hands (e.g., operate fire extinguisher) • Maneuver medical/imaging equipment (e.g., C-arm, portable, ultrasound units) 	<ul style="list-style-type: none"> • Position patients • Use transfer techniques in moving and lifting patient in all age groups and weights. • Assist with ambulation.
<p>Mobility:</p> <ul style="list-style-type: none"> • Twist • Bend • Stoop/squat • Move quickly (e.g., response to an emergency) • Climb (e.g., ladders/stools/stairs) • Walk 	<p>Maneuver in small spaces*</p> <p>Move independently from room to room</p> <p>Twist, bend, stoop, engage in procedures and direct patient care</p> <p>*While health agencies must meet ADA physical access standards, potential clients and equipment may limit the amount of available space in which to move</p>

3. Essential communication skills: Students must be able to communicate effectively and efficiently. Students must be able to process and comprehend written and verbal material.

Standard	Clinical Examples
<ul style="list-style-type: none"> • Teach (e.g., client/family about health care) procedures pre and post care 	<ul style="list-style-type: none"> • Communicate with patients/clients, family members and health care providers

<ul style="list-style-type: none"> • Explain procedures • Give oral reports (e.g., health care workers) • Speak on the telephone • Influence people • Direct activities of others • Convey information through writing (e.g., progress notes) or using a keyboard 	<ul style="list-style-type: none"> • regarding the individual's plan of care. • Read and comprehend printed materials and documents. • Document clearly and correctly on patient's medical record for legal documentation. • Transmit information through written documents that use good grammar, syntax, spelling, and punctuation. • Access laboratory data via automated information system. • Clarify the meaning of non-verbal communication. • Use physical touch as a therapeutic non-verbal intervention. • Present oral reports • Clarify physician orders
---	---

4. Essential judgment skills: Students must exercise good judgment and promptly complete all responsibilities required of each program. They must develop mature, sensitive, and effective professional relationships with others. They must be able to tolerate taxing workloads and function effectively under stress. They must be able to adapt to changing environments, display flexibility and function in the face of uncertainties and ambiguities. Concern for others, interpersonal competence and motivation are requisite for all programs.

Standard	Clinical Examples
<ul style="list-style-type: none"> • Interpersonal abilities essential to interact with individuals, families, and groups from diverse social, emotional, cultural and intellectual backgrounds • Make judgments based on scientific knowledge and thorough assessment of individual patient situations • Practice in a manner that is non-judgmental and non-discriminatory • Function as a contributing member of an interdisciplinary team • Recognize that decision making occurs in an environment of uncertainty and ambiguities • Demonstrate capacity to make sound decisions when under stress • 	<ul style="list-style-type: none"> • Deliver care within accepted timeframe allowing others to complete their responsibilities to patients • Create climate in which patients feel comfortable and able to make informed decisions about their health care • Practice safe care in high stress and/or ambiguous environments such as ICU, Emergency Department, mental health facilities and the community. • Assume responsibility for acquiring knowledge to provide care or perform procedure.
<p>Occupational Behavior:</p> <ul style="list-style-type: none"> • Ability to protect self and others by 	<ul style="list-style-type: none"> • Enforcing the ALARA principles at all

implementing appropriate precautions due to possible exposure to communicable disease and/or body fluids, toxic substances.	<p>times during medical imaging/procedures to provide adequate protection for self, patient, and others.</p> <ul style="list-style-type: none"> • Provide standards precautions for patients with communicable diseases
---	--

5. Essential intellectual and cognitive skills: Students must be able to measure, calculate, reason, analyze, synthesize, integrate, remember and apply and evaluate information. Creative problem-solving and clinical reasoning require all of these intellectual abilities. In addition, many candidates must be able to comprehend three dimensional relationships and understand the spatial relationship of structure.

Standard	Clinical Examples
<p>Reading:</p> <ul style="list-style-type: none"> • Read and understand written documents 	<ul style="list-style-type: none"> • Read and understand English printed documents (e.g., policies, protocols, standards of care). • Read measurement marks.
<p>Arithmetic Competence:</p> <ul style="list-style-type: none"> • Read and understand columns of writing (e.g., flow sheet, charts) • Read digital displays • Read graphic printouts (e.g., EKG) • Calibrate equipment • Convert numbers to and/or from Metric System • Read graphs (e.g., vital sign sheets) • Tell time using a clock • Measure time (e.g., count duration of contractions, etc.) • Count rates (e.g., drips/minute, pulse) • Use measuring tools (e.g., thermometer) • Read measurement marks (e.g., measurement tapes, scales, etc.) • Add, subtract, multiply, and/or divide whole numbers • Compute fractions (e.g., medication dosages) • Use a calculator • Write numbers in records 	<ul style="list-style-type: none"> • Use measurement tools recognized as central to the care of patients/clients. • Perform dosage calculations in a time frame to deliver safe care. • Assess and monitor patient status.
<p>Analytical Thinking:</p> <ul style="list-style-type: none"> • Transfer knowledge from one situation to another • Process information • Evaluate outcomes 	<ul style="list-style-type: none"> • Handle multiple tasks and problem solve simultaneously. • Assimilate and apply knowledge acquired from multiple learning experiences.

<ul style="list-style-type: none"> • Problem solve • Prioritize tasks 	<ul style="list-style-type: none"> • Seek supervision and consultation in a timely manner.
<p>Critical Thinking:</p> <ul style="list-style-type: none"> • Identify cause-effect relationships • Plan/control activities for others • Synthesize knowledge and skills • Sequence information 	<ul style="list-style-type: none"> • Analyze assessment data in determining diagnoses. • Prioritize tasks. • Comprehend and apply abstract concepts.

6. Essential emotional coping skills: Students must have the emotional health to fully use their intellectual ability, exercise good judgment and complete all responsibilities requisite to the delivery of patient care. Students must be able to develop mature, sensitive and effective relationships with patients and colleagues and be adaptable, flexible and able to function in the face of uncertainty.

Standard	Clinical Examples
<p>Interpersonal Skills:</p> <ul style="list-style-type: none"> • Negotiate interpersonal conflict • Respect differences in clients • Establish rapport with clients • Establish rapport with clinical supervisors, mentors, physicians, and /or preceptors • Establish rapport with peers 	<ul style="list-style-type: none"> • Show respect for the differences in patients/clients and co-workers. • Function as a member of an interdisciplinary team (e.g., consult, negotiate, share) • Establish rapport with patients/clients. • Participate in a manner that is non-judgmental and non-discriminatory. • Interact with individuals, families, and groups from a variety of social, cultural, and intellectual backgrounds
<p>Emotional Stability</p> <ul style="list-style-type: none"> • Establish therapeutic boundaries • Provide client with emotion support • Adapt to changing environment/stress • Deal with the unexpected (e.g., client going bad, crisis) • Focus attention on tasks • Monitor own emotions • Perform multiple responsibilities concurrently • Handle strong emotions (e.g., grief) • Ability to adhere to professional boundaries and ethical conduct in accordance with Code of Ethics for Nursing, Imaging, and Diagnostic Medical Sonography professionals. 	<ul style="list-style-type: none"> • Function effectively under stress. • Assume responsibility/accountability for own actions. • Provide patient/family with emotional support • Adapt effectively to changing environments and increasing tension levels in a variety of situations (e.g. learning, patient care, emergencies). • Avoid criminal behaviors such as chemical dependency and abuse.

In an eight hour clinical, the student is expected to be able to:

Activity	Rarely (1-10%)	Occasionally (11-33%)	Frequently (34-66%)
Bend/Stoop			
Squat			
Reach above shoulder level			
Kneel			
Push/pull			

Weight Requirements

Requirements Activity	Never		Occasionally		Frequently	
	Weights					
	0-10 lbs.	11-24 lbs.	25-34 lbs.	35-50 lbs.	51-74 lbs.	75-100 lbs.
Lifting	F	F	F	F	F	O
Carrying	F	F	O	O	O	O
Push/Pull	F	F	F	F	F	F

By signing and dating below, I have reviewed the Safety and Technical Standards and Essential Functions required for SCHS and I am able to meet all standards.

Student Signature

Date

Print Student's Name

FOR OFFICIAL USE ONLY:

Health Care Provider Signature

Date

Health Care Provider Printed Name

Health Care Provider Contact Information:

Practice Name

Practice Address

Phone Number

College Official (if applicable)

Date