1. Purpose
Graduates of VTCSOM must have the knowledge and skills to function in a wide variety of clinical situations. Candidates for the degree of Doctor of Medicine must possess essential observation, communication, motor, intellectual, and behavioral skills, as well as meeting ethical, legal, and professional standards to complete the educational program.

2. Policy
General Issues
A. Overview
The Virginia Tech Carilion School of Medicine (VTCSOM) has a responsibility to society to graduate the best possible future physicians. The essential standards (academic and technical) are designed to ensure the graduation of capable, well-rounded future clinicians. All graduates must have knowledge, skills, and attitudes to function in a wide variety of clinical situations and to render a broad spectrum of patient care.

Undergraduate medical education in the United States is required by the Liaison Committee on Medical Education (LCME - the accrediting body) to prepare students to enter any field of graduate medical education. VTCSOM's academic and technical standards support that requirement, and all candidates must meet both to matriculate, to progress through the curriculum, and to meet the requirements for graduation. The standards ensure that graduates of VTCSOM possess the background to pursue a clinical medicine specialty.
B. Academic Standards
These refer to acceptable demonstrations of mastery in various disciplines before matriculation and after, as judged by faculty members, examinations, and performance measurements. Once a candidate matriculates, acceptable levels of mastery are required in seven broad areas of competency. These general areas of competency are quite similar to those used by graduate medical education programs to evaluate their residents. Through its curriculum, VTCSOM will prepare its students for the next phase of their education. These areas of competency are:

- Practice-Based Learning and Improvement
- Patient Care and Procedural Skills
- Systems-Based Practice
- Medical Knowledge
- Interpersonal and Communication Skills
- Professionalism

Academic standards are addressed in more detail in the VTCSOM Student Handbook.

C. Technical Standards
The LCME requires technical standards for the admission, retention, and graduation of all applicants and students, including students with disabilities, in accordance with legal standards. Technical Standards are the essential aptitudes and abilities that allow medical students (and physicians) to perform in the vast array of requisite ways summarized by the seven areas of competency above. All candidates will have received notice of the technical standards expected of students for the degree of Doctor of Medicine and will sign a statement that they understand the standards and believe they will be able to meet those standards during their medical school training at VTCSOM, with or without accommodation.

Without the ability to demonstrate the essential technical standards, students cannot fulfill the requirements of the curriculum. Meeting the technical standards (detailed below) is required for the following:

- Matriculation (inasmuch as the abilities can reasonably be determined before matriculation).
- Subsequent promotion from year to year.
- Graduation.

1. Observation
Medical students must be able to acquire information as presented through demonstrations and participate in experiments in the foundation sciences, including but not limited to physiologic and pharmacologic demonstrations, microbiologic cultures, and microscopic studies of microorganisms and tissues in normal and pathologic states.

Medical students must be able to obtain and interpret information through a comprehensive assessment of patients, correctly interpret diagnostic representations of patients’ physiological
data, and accurately evaluate patients' conditions and responses. Observation necessitates the functional use of the sense of vision, hearing, and somatic sensation.

2. Communication
Medical students must be able to speak, to hear, and to perceive nonverbal communication (e.g., mood or posture) and effectively communicate their observations in written and oral forms. Medical students must be able to communicate effectively and sensitively with patients and all members of the healthcare team. Medical students must possess communication and interpersonal skills in order to interact positively with people from all levels of society, ethnic backgrounds, and beliefs.

3. Motor
Medical students must have sufficient motor function to perform physical examinations and diagnostic maneuvers using palpation, auscultation, percussion, and other diagnostic maneuvers. A medical student must be able to perform anatomical dissections, complete a physical examination (including pelvic examination), and carry out diagnostic procedures. A medical student must be able to execute motor movements reasonably required to provide general care and emergency treatment to patients. Examples of emergency treatment reasonably required of physicians are cardiopulmonary resuscitation, the administration of intravenous medications, the application of pressure to stop bleeding, the opening of obstructed airways, the suturing of simple wounds, and the performance of simple obstetrical maneuvers and gynecologic procedures. Such actions require coordination of both fine and gross muscular movements, equilibrium, and functional uses of the senses of touch and vision. Medical students must adhere to universal precaution measures and meet standards applicable to inpatient and outpatient settings and other clinical activities.

4. Intellectual - Conceptual, integrative, and quantitative abilities
Medical students must have sufficient cognitive abilities and effective learning techniques to assimilate the detailed and complex information presented in the curriculum. These abilities include measurement, calculation, reasoning, analysis, and synthesis. They must be able to learn through a variety of modalities including, but not limited to, classroom instruction; small group, team, and collaborative activities; individual study; preparation and presentation of reports; and use of computer technology. Problem-solving, the critical skill demanded of physicians, requires a medical student to be able to learn, retrieve, analyze, sequence, organize, synthesize, and integrate information efficiently and reason effectively. In addition, the medical student should possess the ability to measure and calculate accurately, to perceive three-dimensional relationships, and to understand the special relationship of structures.

5. Behavioral and Social Attributes
Medical students must possess the physical and emotional health required for full utilization of their intellectual abilities, exercise of good judgment, attend to the responsibilities necessary for the care of the patients, and the development of mature, sensitive, and effective relationships with patients, their family members, staff, and colleagues. Each medical student must be able to
work effectively, respectfully, and professionally as a member of a healthcare team and must be able to interact with patients, their family members, and healthcare personnel in a courteous, professional, and respectful manner. A medical student must be able to tolerate physically taxing workloads and to function effectively under stress. They must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties inherent in the clinical problems of many patients. Compassion, integrity, concern for others, interpersonal skills, ability to work within teams, interest, and motivation are all personal qualities that are required.

Medical students must be able to contribute to collaborative, constructive learning environments, accept constructive feedback from others, and take personal responsibility for making appropriate positive changes.

6. Ethical and Legal Standards
Medical students must maintain and display ethical and moral behavior commensurate with the role of a physician in all interactions with patients, faculty, staff, students, and the public. Medical students should understand and function within the legal and ethical aspects of the practice of medicine.
Candidates must meet the legal standards to be licensed to practice medicine in the Commonwealth of Virginia. As such, candidates for admission must acknowledge and provide a written explanation of any felony offense or disciplinary action taken against them prior to matriculation in VTCSOM. Any student convicted of any felony offense while in medical school agrees to immediately notify the Senior Dean for Student Affairs as to the nature of the conviction. Failure to disclose prior or new offenses can lead to disciplinary action by VTCSOM that may include dismissal.

D. Student Responsibility
The technical standards delineated above must be met with or without accommodation. Students at VTCSOM are required to sign a document upon matriculation stating that they are able to meet these standards, with or without accommodation. Students who, after review of the technical standards, determine that they require reasonable accommodation to fully engage in the program should contact Services for Students with Disability (SSD) to confidentially discuss their accommodation needs. While medical students can disclose a disability and request an accommodation at any time during their enrollment, students are encouraged to disclose the need for accommodation(s) as soon as possible. Given the clinical nature of our programs, time may be needed to create and implement the accommodations. Accommodations are not retroactive; therefore, timely requests are essential and encouraged.

E. Students with Disabilities
Individuals with disabilities (as defined by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act) may be qualified to study and practice medicine with the use of reasonable accommodations. To be qualified for the study of medicine, those candidates must be able to meet the VTCSOM technical standards for medical school matriculation, promotion, and graduation, with or without reasonable accommodation.
Accommodation is viewed as a means of assisting students with disabilities to meet essential standards by providing them with an equal opportunity to participate in all aspects of the curriculum. Reasonable accommodation is not intended to guarantee that students will be successful in meeting the requirements of the curriculum.

When requested, qualified candidates with documented disabilities are provided with reasonable accommodations, which may include the involvement of an intermediary or an auxiliary aid. No disability, however, can be reasonably accommodated with an aid or intermediary that provides cognitive support, substitutes for essential clinical skills, or supplements clinical and ethical judgment. Thus, accommodations cannot eliminate essential program elements or fundamentally alter the medical school curriculum.

REFERENCES:
Recommendations of the AAMC Special Advisory Panel on Technical Standards for Medical School Admission (Memorandum #79-4), approved by the AAMC Executive Council on January 18, 1979.

Americans with Disabilities Act of 1990, including changes made by the ADA Amendments Act of 2008 (PL 110-325)

Section 504 of the Rehabilitative Act of 1973 (PL 93-112)

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