



Universidad de Puerto Rico, Recinto de Ciencias Médicas
University of Puerto Rico, Medical Sciences Campus

Senado
Académico
*Academic
Senate*

2024-2025
Certificación 020

Yo, Raúl Rivera González, Secretario Ejecutivo Interino del Senado Académico del Recinto de Ciencias Médicas de la Universidad de Puerto Rico, Certifico:

Que el Senado Académico en su reunión ordinaria del 3 de octubre de 2024, luego de recibir el Informe del Comité de Asuntos Académicos, acordó:

- **Aprobar Enmienda a estándares técnicos para admisión, retención, promoción y graduación del Programa Doctor en Medicina de la Escuela de Medicina.**
- **El cambio propuesto tiene efectividad para el año académico 2024-2025.**
- **Los anejos 1 y 2 que incluyen la revisión de estos estándares técnicos forma parte de esta Certificación.**

Y, para que así conste, expido y remito la presente Certificación bajo el sello del Recinto de Ciencias Médicas de la Universidad de Puerto Rico, en San Juan, Puerto Rico, hoy 9 de octubre de 2024.

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Secretario Ejecutivo Interino

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TECHNICAL STANDARDS FOR MEDICAL SCHOOL ADMISSION, RETENTION, PROMOTION AND GRADUATION

OVERVIEW

The University of Puerto Rico School of Medicine is committed to educating diverse, competent, and humane physicians and researchers. Therefore, it is a great responsibility to select the best and most qualified candidates for medical school, as well as the development of a curricular experience that will allow these candidates to succeed and graduate as the best possible physicians.

Technical Standards are additional criteria beyond academic requirements like MCAT, GPA, and faculty letters. Compliance with these standards with or without reasonable accommodation is required for admission, retention, promotion, and graduation. To earn the MD degree, all candidates must demonstrate essential skills and aptitudes required for successful completion of the medical school curriculum in five key areas:

- Observation
- Communication
- Motor Function
- Intellectual-Conceptual, Integrative and Quantitative Abilities
- Behavioral, Emotional, Social Attributes and Professionalism

The UPRSOM is dedicated to the promotion of diversity, and the recruitment and education of students regardless of their gender identity, age, race, sexual orientation, religion, disability and functional diversity, or any other protected status. The objective is to achieve a medical professional population that reflects the demographic makeup of our island. The UPRSOM acknowledges Section 504 of the Rehabilitation Act of 1973, The American Disability Act (ADA) of 1990, and its congressional amendment of 2008. We are committed to providing educational opportunities for qualified students with disabilities and functional diversity, and recognize their potential to excel as physicians. The technical standards aim to ensure that no qualified candidate

with disabilities and functional diversity, is deterred from applying, as reasonable accommodations can facilitate the fulfillment of the complete curriculum. We encourage matriculants to disclose any disability and functional diversity, and request accommodation from the Office of Services for Students with Disabilities (OSEI) (osei.rcm@upr.edu, ext. 4006, 4002).

POLICY

All applicants and medical students must meet both the academic standards and the technical standards to progress through the medical curriculum and ultimately graduate. Prospective applicants and current enrollees who have inquiries regarding their ability to fulfill the institution's technical standards should reach out to the Office for Student Affairs (Office A-873, Tel. 787-758-2525 Ext. 1810, 2045). Those who anticipate the need to seek reasonable accommodations to adhere to these standards are encouraged to contact the Office of Services for Students with Disabilities (OSEI) (osei.rcm@upr.edu, ext. 4006, 4002). Timely disclosure and requests by students are of the utmost importance, as accommodations are not applied retroactively and additional time may be needed to implement them.

The following abilities and characteristics are defined as technical standards and are requirements for admission, retention, promotion, and graduation.

1. Observational Skills

Candidates for the MD program must be able to acquire different levels of information by using their senses and mental abilities, as presented through demonstrations and experiences in the learning environments. In the basic sciences, the medical students must be able to participate in activities, including but not limited to, laboratory exercises, histologic examination of specimens, and dissection of cadavers. In clinical sciences, the candidate must be able to perform a complete physical examination and analyze clinical data to develop a diagnostic and treatment plan.

2. Communication Skills

Candidates must be able to quickly, clearly, effectively, and efficiently communicate and elicit information in both Spanish and English. Communication in both languages includes oral and written, not only with patients and their families, but also with health care personnel, colleagues, faculty, staff, and all other individuals with whom they come in contact.

3. Motor Function

Following a period of comprehensive training, a candidate is expected to perform physical examinations and diagnostic maneuvers, exercising both general and emergency medical care in a timely manner. These tasks necessitate the coordination of gross and fine motor functions, physical mobility, and adherence to applicable safety standards, including universal precaution protocols.

4. Intellectual-Conceptual, Integrative, and Quantitative Abilities

Candidates must have ample and diverse cognitive (mental) abilities and appropriate studying techniques to assimilate the detailed and complex information presented in the didactic curriculum and clinical coursework; they must be able to do so in both remote and in person situations. Candidates must be able to adapt to different learning environments and modalities including, but not limited to, classroom lectures; small group, team, and collaborative activities; individual study; preparation and presentation of reports; use of medical technology; medical simulation; clinical encounters; coaching; and personal reflection. Candidates must be able to learn, participate, collaborate, and contribute as part of a team effectively. Candidates must be able to memorize, measure, calculate, reason, analyze, synthesize, and communicate their knowledge and reasoning. They must recognize and draw conclusions about three-dimensional spatial relationships and logical sequential relationships among events. They must be able to formulate and evaluate hypotheses consistent with the scientific method that enable effective and timely problem solving in diagnosis and treatment of patients in a variety of clinical modalities. They must be able to make timely, prudent, informed, and defensible decisions in the best interests of patients.

5. Behavioral, Emotional, Social Attributes and Professionalism

Candidates are required to demonstrate an elevated level of maturity and emotional stability to effectively leverage their intellectual capabilities. This includes exercising sound judgment and ensuring the timely completion of all duties associated with patient diagnosis and care. Maturity, motivation, reliability, creativity, perseverance, sensitivity towards others and resiliency are fundamental attributes expected of all candidates.

Furthermore, candidates are expected to possess a comprehensive understanding of the legal and ethical aspects inherent in medical practice and adhere to the established standards of the medical profession. Interactions with patients and their families, healthcare professionals, colleagues, faculty, and staff should consistently reflect courtesy, professionalism, and respect regardless of gender identity, age, race, sexual orientation, religion, disability and functional diversity, or any other protected status.

Candidates should actively contribute to collaborative and constructive learning environments, be open to receiving constructive feedback, and demonstrate a personal commitment to making positive changes when needed.

Physical and emotional endurance are essential traits for candidates, enabling them to withstand demanding workloads, perform competently and professionally in high-stress, fast-paced situations, and adapt to changing environments. Flexibility, along with the ability to manage uncertainties inherent to in-patient care and the healthcare system, is imperative. Candidates must not only accept responsibility for their own learning and actions, but also contribute to the overall well-being of the healthcare team.

All applicants will be asked to review these standards and to sign a form certifying they have read, understand and are able to meet all the Technical Standards of our School.

Any applicant or enrolled student who has a question regarding their ability to fulfill these standards and expectations is strongly recommended to contact the Office for Student Affairs (Office A-873, Tel. 787-758-2525 Ext. 1810, 2025).

Revised by the Subcommittee on Technical Standards of the SOM Admission Committee on January 2024.

Approved by the UPRSOM Admission Committee of the on March 12, 2024.

Approved by the UPRSOM Curriculum Committee of the SOM on March 22, 2024.

Approved by the Committee of Administration of the SOM on April 2, 2024

Approved by the Faculty of Medicine on May 9, 2024

SCHOOL OF MEDICINE

Technical Standards for Medical School Admission, Retention, Promotion and Graduation Overview

Schools of medicine face the challenge to provide their students with the necessary updated scientific knowledge available, while at the same time guide them toward the acquisition of the skills and abilities, attitudes and behaviors needed for the profession. This process of medical education markedly differs from the educational process in other fields precisely in the need to develop the attributes that are specific to the medical profession.

The responsibility to select the best and most qualified candidates for medical school, as well as the development of a curricular experience that will allow these candidates to succeed and graduate as the best possible physicians, rely in the faculty. It is for this reason that the Faculty of the School of Medicine of the University of Puerto Rico (hereafter UPR-SOM) has developed rules and regulations to guide the selection process for admission. Equally, it has developed standards as pre-requisites for admission and graduation.

The UPR-SOM has clearly defined its academic standards in documents such as the Medical Sciences Campus Registrar Manual and the Policies and Guidelines for the Academic Evaluation and Advancement of Medical Students. Key academic standards defined in these documents include: the definition of good academic standing; the policies that govern academic progress, evaluation, promotion and graduation; conditions for counseling; and the determination of the maximum time allowed for completion of the M.D. degree.

The curriculum of the UPR-SOM has been divided into required (essential) courses and electives. All required or essential courses have been designed as part of a whole set of academic experiences that will lead to the acquisition of the necessary knowledge, skills and attitudes to become an M.D. Each level of knowledge is a pre-requisite to the next level and provides the foundations for it. Successfully participating and completing all phases of the entire medical curriculum is required for all students

Technical Standards

The M.D. degree is a broad degree attesting to the acquisition and mastery of general knowledge in all fields of medicine and the simultaneous development of specific skills, competences and abilities, which are requisite for the eventual entry into the practice of the profession and postgraduate training programs. Hence, all graduates of the UPR-SOM must have the essential knowledge and skills to perform adequately in diverse settings and situations and be able to provide a wide spectrum of patient care, safely and effectively.

Technical Standards refer to criteria that go beyond academic requirements for admission (e.g. MCAT, GPA, faculty letters) and are fundamental and essential to meeting the academic requirements of the medical program. In order to fulfill the academic experiences and training at the medical school, students must be able to perform specific behavioral (mental, emotional, social), physical and cognitive/intellectual

standards. These standards and expectations represent the minimum requirements for the satisfactory completion of all aspects of the curriculum and the achievement of the attributes needed for graduation. Meeting these standards is required for: entrance and matriculation, subsequent promotion, retention and graduation.

Therefore, all applicants and medical students must meet both the academic standards and the technical standards in order to progress through the medical curriculum and graduate.

The UPR-SOM acknowledges the Americans with Disabilities Act (ADA) and Section 504 of the 1973 Vocational Rehabilitation Act and at the same time affirms that technical standards and attributes must be present in all prospective candidates to the M.D. degree. Students with or without disabilities applying to Medical School will be expected to have met the same requirements and will be held to the same fundamental standards. Every reasonable attempt will be made to facilitate the progress of students where it does not compromise the Medical School standards or interfere with the rights of other students and patients. Although acceptable accommodations can be made to deal with some documented handicaps, either a candidate to the M.D. degree must be able to perform in an independent manner, with or without reasonable accommodation for any disability the individual may have. The UPR-SOM believes that a reasonable accommodation that involves the use of an intermediary that would in effect require a student to rely on someone else's power of selection and observation implies that the student's actions, decisions and judgment are mediated by someone else and are not a result of the student's own abilities. The use of this intermediary constitutes cognitive support, substitutes for essential intellectual and clinical skills and supplements clinical and ethical judgment, thus, is not appropriate for the student's achievement of the curricular goals.

The use of this type of assistance in accomplishing the curricular standards listed in the five categories below, eliminate essential program elements, fundamentally alter the nature of the School's educational program, lower academic standards and endanger the safety of patients or others. Thus, the use of this intermediary will not be permitted. The UPR-SOM reserves the right to reject any requests for this type of accommodation. All candidates for the M.D. degree must possess essential skills, abilities and aptitudes necessary to complete the medical school curriculum successfully in five major areas:

- Observation
- Communication
- Motor
- Intellectual-Conceptual, Integrative and Quantitative Abilities
- Behavioral, Emotional and Social Attributes

1. OBSERVATION

To carry out observation you need the functional use of the sense of vision, as well as the ability for establishing visual-spatial relations and integrating these to other sensory modalities, (smell, auditory and somatic sensations). Candidates to the M.D. program must be able to perceive and acquire, by the use of senses and mental abilities, defined levels of information as presented through demonstrations and experiences in the learning environments, both in the basic and clinical sciences. Specific examples include, but are not limited to:

- Visually recognize, understand and interpret instructional materials; efficiently read written documents, books, diagrams and illustrations; observe demonstrations including audiovisual

presentations, projected slides, films, videos, overheads, case presentations and patient interviews; efficiently conduct online computer searches.

- Observe demonstrations, participate actively and conduct experiments in all laboratory exercises, such as anatomic dissection of preserved tissues and cadavers, chemical reactions and representations, physiologic and pharmacologic demonstrations in animals, microbiologic cultures, gross and microscopic studies of organisms, animal and human tissues, both in normal and pathologic states.
- Observe, assess and comprehend the condition of all patients assigned, accurately and completely, nearby and at a reasonable distance, noting non-verbal as well as verbal signs, in order to elicit information for description, examination, diagnosis and treatment.
- Perceive with acuity and accurately discriminating findings on laboratory data, x-rays and other diagnostic and imaging studies.
- Detect and identify significant changes in colors of fluids and skin; observe and differentiate changes in body movement and anatomic structures.
- Discriminate numbers and patterns associated with diagnostic instruments and tests, such as sphygmomanometers and electrocardiograms, and use instruments competently, such as the otoscope, ophthalmoscope, microscope and stethoscope.

2. COMMUNICATION

Skillful communication implies speech, hearing and/or listening, observation, reading and writing, (speak, write, hear, see, read and use a keyboard). A candidate must be able to relate and perceive/assess verbal and non-verbal communication in a sensitive and effective manner with patients, their families, the health team and others under diverse circumstances. In our school, a candidate must be able to quickly, clearly, effectively and efficiently communicate and elicit information in both English and Spanish. Communication in both languages includes oral and written, not only with patients, but also with all members of the academic and health care communities.

Medical education presents exceptional challenges in the volume and breadth of required reading and writing; the necessities to elicit, convey, clarify and impart information; create rapport; develop therapeutic relationships and demonstrate competencies. Specific examples include, but are not limited to:

- Answer oral and written exam questions; present information in oral and written form to preceptors; participate in sometimes fast-paced small-group discussions/interactions; participate in group dissections and pathology labs.
- Elicit a complete history and physical examination from a patient; detect, understand and interpret physical findings; communicate findings and record histories, physicals, diagnosis, treatment plans and observations legibly and accurately in documents such as the patient record.
- Accurately describe observed changes in mood activity and posture; recognize and promptly respond to emotional communications such as sadness, worry, agitation, and lack of comprehension of physician's communication, including facial expression, body language and affection changes.
- Review and interpret notes prepared by other members of the health care team; complete forms according to directions in a complete and timely fashion.
- Prepare and communicate concise but complete summaries of individual encounters, including hospitalizations; participate in clinical rounds and conferences; make presentations

(formal and informal); daily communications and interactions with healthcare teams; interact in a therapeutic manner with psychiatric patients; talk with patients and families about medical issues; provide educational presentations to patients, families and the community; write notes and papers.

3. MOTOR AND SENSORY

Candidates must have sufficient and adequate gross and fine motor function, coordination, equilibrium and functional use of the senses to be able to gather information from patients as well as to perform certain diagnostic maneuvers and demonstrate competencies. They must be able to elicit information with acuity, accuracy and facility when performing a complete physical examination by observation, palpation, percussion and auscultation. Candidates must have adequate exteroceptive (smell, touch, pain and temperature) and proprioceptive senses (position, pressure, movement, stereognosis and vibratory) as well as the ability to manipulate with precision, at a fine level of movement, patients, medical instruments and equipment. Medical education requires all candidates to perform in a reasonably independent and competent way, sometimes in chaotic clinical environments, dealing with difficult medical situations, where they must be able to perform movements required to provide general care as well as emergency treatment to patients. Specific examples include, but are not limited to:

- Transporting themselves from location to location in a timely matter in order to attend and participate in classes, groups and activities which are part of the curriculum; this includes a variety of settings, such as clinical rotations and ambulatory care, medical emergencies, inpatient rounds and overnight calls within the hospital, which require prolonged and rapid movement.
- Arrive quickly when called to initiate adequate cardiopulmonary resuscitation, intubations and the opening of obstructed airways. Cardiopulmonary resuscitation may require moving an adult patient, repeatedly applying considerable chest pressure, delivering an adequate volume of artificial respiration, and calling for help.
- Administration of intravenous, intramuscular or subcutaneous medications; application of pressure to stop bleeding; suturing wounds; performance of simple obstetrical maneuvers.
- Manipulate equipment and instruments to perform basic laboratory tests (urinalysis, complete blood count) and diagnostic and therapeutic procedures (stethoscope, ophthalmoscope, phlebotomy, arterial blood gas drawings, lumbar puncture, arthrocentesis, venipunctures, thoracenteses, paracenteses, endotracheal intubations, and tube insertions).
- Measure angles and diameters of various body structures using tape measure, measure blood pressure and pulse, and interpret graphs describing biologic relationships.
- Maintain appropriate medical records; acting as assistant in the OR; Use of a computer; use of light microscopes.

4. INTELLECTUAL-CONCEPTUAL, INTEGRATIVE, QUANTITATIVE ABILITIES

Candidates must be able to demonstrate conceptual, intellectual, and integrative abilities necessary for clinical and ethical reasoning, critical thinking, problem solving, and diagnosis (critical skills demanded of physicians). In addition, they must demonstrate abilities to carry out and resolve quantitative procedures quickly and accurately (recognize letters and numbers, calculation of doses, interpretation of lab results). This requires abilities for measurement,

calculation, reasoning, analysis, sound judgment, integration, application, collection, organization, assimilation, conceptualization, representation, memorization and synthesis. All candidates must be able to understand and comprehend three-dimensional spatial relationships of structures, such as those demonstrated in the anatomy class.

Moreover, the effective physician often must deal with several tasks or problems simultaneously (multi-tasking) and must be able to prioritize and perform these abilities quickly, especially in emergencies, remaining awake and alert. Examples include, but are not limited to:

- Understand, synthesize and recall material presented in classes, labs, small and large groups, patient interactions and meetings with preceptors; recall and retain information in an efficient and timely manner.
- Successfully pass oral, written, laboratory and computer exams; complete forms according to directions in a complete and timely fashion.
- Good judgment in patient assessment, diagnostic and therapeutic planning; identify, interpret and integrate significant findings from history, physical examination and laboratory data into differential diagnosis and treatment plans; provide a reasoned explanation for likely diagnoses, construct a reasoned and cost-effective diagnostic plan, and prescribe medications and therapy. Understand indications for various diagnostic tests, treatment modalities and methods for various procedures.
- Analyze complicated situations, such as cardiac arrest, and determine the appropriate sequence of events to effect successful treatment.
- Think through medical issues and exhibit sound judgment in a variety of clinical settings, including emergencies.
- Make concise, cogent and thorough presentations based on various kinds of data collection, including web-based research; know how to organize information, materials and tasks in order to perform efficiently on service.
- Identify and communicate the limits of their knowledge to others when appropriate.
- Incorporate new information from peers, teachers, and the medical literature in formulating diagnoses and plans.
- Understanding how to work and learn independently and how to function effectively as part of a healthcare team.
- Understand ethical issues related to the practice of medicine; getting advice when handling ethical-legal dilemmas; work through genetic problems.
- Use hospital/clinical resources responsibly.

5. BEHAVIORAL, EMOTIONAL AND SOCIAL ATTRIBUTES

Candidates must consistently demonstrate certain personal qualities during admission and during the educational process. These include empathy, compassion, caring, sensitivity to the needs of others, integrity, honesty, fairness, diligence, interest, motivation, good interpersonal skills, dedication, respect for self and others and concern for others. Candidates must be able to develop, and maintain, mature, sensitive, effective and professional relationships with patients, families, members of the medical school community and health care teams.

In addition to these qualities, and in all clinical and academic settings, they must possess the emotional health required to promptly carry out and complete all assigned tasks, to fully utilize

their intellectual abilities and to exercise good judgment. At times, this requires the ability to be aware of and appropriately react to one's own immediate emotional responses. Examples include, but are not limited to:

- Show up for required experiences on time and prepared; hand in assignments on time.
- Refrain from plagiarizing or cheating; respect Institutional Rules and Regulations.
- Maintain a professional demeanor on service, and be able to function at a high level in the face of personal fatigue, dissatisfied patients and families, tired colleagues and large workloads.
- Provide comfort and reassurance to patients and families when appropriate while protecting patient confidentiality.
- Maintain professional conduct when interacting with patients and the families of patients suffering from catastrophic illness, trauma and death; develop empathic listening skills.
- Possess adequate endurance to tolerate physically, emotionally and mentally demanding workloads; to function effectively under stress, and proactively make use of available resources to help maintain both physical and mental health.
- Be able to work for extended periods, occasionally with rotating shifts, adapt to changing environments, display flexibility and learn to function in the face of uncertainties inherent in the clinical problems of many patients.
- Take responsibility for themselves and their behaviors.
- Develop successful working relationships with preceptors, staff and peers by accepting constructive feedback, suggestions and criticism and if necessary, with open-mindedness and the intention to improve and modify behavior, if necessary.
- Contribute to the effectiveness, efficiency and collegiality of healthcare teams.

SUMMARY

In summary, a candidate must be able to integrate information received by the different senses and demonstrate the intellectual ability to learn from it, integrate, analyze and synthesize it to be able to provide and communicate effective and adequate care of patients. The candidates must also be able to demonstrate professionalism, that is, the behaviors and attitudes pertinent to the profession, which will enable them to provide solutions to their patients' problems.

Candidates must be able to perform all of the above skills within specific timeframes appropriate for academic and clinical settings, in a complete and timely fashion. All students must be able to perform in a reasonably independent manner, with or without recommended accommodations for documented disabilities.

All applicants will be asked to review these standards and to sign a form certifying they have read, understand and are able to meet all the Technical Standards of our School.

Any applicant who has a question whether he or she can meet these standards and expectations is strongly recommended to contact the Office for Student Affairs (Office A-873, Tel. 787-764-5740).