

TECHNICAL STANDARDS FOR GRADUATE SCHOOL ADMISSION AND GRADUATION – PH.D. (2014)

Graduate education requires that the accumulation of scientific knowledge be accompanied by the simultaneous acquisition of skills, professional attitudes and behavior. Graduate school faculties have a responsibility to society to matriculate and graduate the best possible scientists. Thus, admission into graduate school is offered to those who present the highest qualifications for scientific study. Technical standards presented in this document are prerequisites for admission to and graduation from Meharry Medical College, School of Graduate Studies and Research. All courses in the curriculum are required in order to develop essential skills critical to becoming a competent scientist.

Graduates of biomedical science programs must have the knowledge and skills to function in a broad variety of laboratory settings and be able to analyze and synthesize scientific data. Meharry Medical College, School of Graduate Studies and Research acknowledges Section 504 of the 1973 Vocational Rehabilitation Act, PL 101-336 - the Americans with Disabilities Act (ADA) 1993, and the ADA Amendments Act of 2008 - PL 110-325 but ascertains that certain minimum technical standards must be present in prospective candidates.

A candidate for the Ph.D. degree in biomedical sciences must have aptitude, abilities and skills in five areas: (1) observation (2) communication (3) motor function (4) quantitative and intellectual conception (5) behavioral and social stability. Technological compensation can be made for some handicaps in these areas, but a candidate should be able to perform in a reasonably independent manner. The use of a trained intermediary would mean that a candidate's judgment must be mediated by someone else's power of selection and observation. Therefore, third parties cannot be used to assist students in accomplishing curricular requirements in the five skill areas specified above.

OBSERVATION

The candidate must be able to observe demonstrations and participate in laboratory experiments in the basic sciences including but not limited to: physiologic and pharmacological demonstrations in animals, studies of microbiologic cultures and organisms and the identification of normal and abnormal cells or tissues through a microscope. Observation necessitates the functional use and ability to accurately process visual, auditory, tactile and olfactory information in laboratory settings and the ability to process these competing stimuli while conducting experiments.

COMMUNICATION

The candidate must be able to communicate clearly and concisely through oral, written, and electronic means in order to discuss their experimental hypotheses, research and results with their laboratory research team and the scientific community including but not limited to presenting at scientific meetings/seminars, or writing publications for scientific journals.

MOTOR COORDINATION OR FUNCTION

The candidate should have sufficient motor function to be able to elicit information and to execute motor movements reasonably required to perform laboratory experiments. Such actions require coordination of both gross and fine muscular movements, hand-eye coordination, manual dexterity and a stable equilibrium. Physical stamina must be sufficient to complete the didactic and laboratory requirements, including prolonged periods of sitting or standing.

INTELLECTUAL-CONCEPTUAL, INTEGRATIVE AND QUANTITATIVE ABILITIES

The candidate must be able to cognitively process, interpret, and retain information delivered electronically, orally, and in written form including in charts and graphs. Cognitive abilities include but are not limited to: measurement, calculation, problem reasoning, analysis, integration and synthesis of information. Candidates must demonstrate the ability to acquire, retain, and apply new and learned information as well as be able to integrate visual, auditory, sensory, tactile and spatial information in laboratory problem solving. The candidate should demonstrate the ability to pursue a course of independent research in a laboratory setting, including the ability to plan and execute experiments.

BEHAVIORAL AND SOCIAL ATTRIBUTES

The candidate must possess the emotional health required for full use of his/her intellectual abilities, the exercise of good judgment, the prompt completion of all responsibilities pertaining to laboratory experimentation, and the development of mature, sensitive and effective relationships within the research team and the scientific community. The candidate must be able to tolerate physically taxing workloads, function effectively when stressed and be able to understand and comply with ethical standards for conducting research. The candidate must display compliance with standards, policies, and practices set forth in the School of Graduate Studies and Research *Student Academic Policies and Procedures Manual* and the *Handbook for Graduate Students in Biomedical Sciences*.

The candidate must also be able to adapt to changing environments, display flexibility and learn to function in the face of uncertainties inherent in laboratory work. Empathy, integrity, concern for others, interpersonal skills, interest and motivation are all personal qualities that should be assessed during the admission and education process.

The Meharry Medical College, School of Graduate Studies and Research will consider for admission any applicant who demonstrates the ability to learn or to perform the skills listed in this document. Students will be judged not only on their scholastic accomplishments, but also on their physical and emotional capacities to meet the full requirements of the school's curriculum in order to graduate as skilled and effective biomedical scientists.

The following technical requirements apply:

1. Is the candidate able to conduct original research by formulating hypotheses, planning methodologies, gathering data, and drawing conclusions?
2. Is the candidate able to analyze, synthesize, extrapolate, solve problems and reach scientific judgments?
3. Is the candidate able to develop theoretical principles that advance the understanding of their chosen discipline?
4. Does the candidate have sufficient use of the senses of vision, hearing and somatic sensation necessary to perform laboratory experiments?
5. Does the candidate have breadth of knowledge in their discipline and in the research literature?
6. Can the candidate reasonably be expected to communicate the results of their experimentation within the laboratory to a research team, or within the scientific community either in scientific meetings/seminars or scientific journals, with accuracy, clarity and efficiency?
7. Can the candidate reasonably be expected to learn and to perform routine laboratory tests and experiments?
8. Can the candidate reasonably be expected to perform with precise, quick and appropriate actions in emergency situations?
9. Can the candidate reasonably be expected to display good judgment and ethical behavior while conducting experiments?
10. Can the candidate reasonably be expected to possess the perseverance, diligence and consistency necessary to complete the School of Graduate Studies and Research biomedical sciences curriculum?
11. Can the candidate reasonably be expected to accept criticism and respond with the appropriate modification of behavior?

Please read the following statement and check the appropriate box.

I have read the technical requirements of Meharry Medical College, School of Graduate Studies and Research. (Please check the appropriate box below)

I can comply with these functions. I cannot comply with these functions.

If you cannot comply, please explain: _____

I affirm that the information I am submitting directly to the School of Graduate Studies and Research at Meharry Medical College relating to my application for admission is true, correct and complete to the best of my knowledge and belief.

Date

Name of Applicant (Print name)

Signature of Applicant