

Guiding Principles of PhD Graduate Education at CWRU SOM

Ph.D. graduate education in the School of Medicine at Case Western Reserve University will prepare students for success as future leaders in the rapidly changing biomedical research environment of the 21st century. The curriculum and training environment will be developed and assessed using a framework that is based on the following principles.

1. Recognizing the insurmountable task of covering the complete breadth of an ever-expanding scientific knowledge base, graduate education will stress an interdisciplinary, concept-driven curriculum rather than a content-driven approach.
2. Educational methods will be chosen that stimulate active interchange of ideas among students and faculty. Passive lecture-based approaches will be supplemented with a preponderance of experiential in-class, active learning, team-based learning, and small group, collaborative, student-driven learning experiences. All courses and faculty instructors should be reviewed and provided with feedback from the students taking the course. A summary should be provided to the Chair.
3. Graduate education will foster a spirit of collaboration among the students and faculty where intellectually safe learning environments are expected.
4. Students will be immersed in a graduate school educational environment characterized by flexibility and high expectations for independent study, self-directed learning, and the development of life-long learning skills.
5. Graduate training programs are the first step in the professional career of a biomedical research scientist. Students and faculty are recognized as junior colleagues that will adhere to a professional skill set and behaviors reflecting their key positions in society.
6. Students will acquire a mastery of research, a broad understanding of the scientific method, and a core set of competencies including:
 - broad foundational knowledge of their discipline and a depth of knowledge in their field
 - interdisciplinary knowledge of experimental approaches and a willingness to adopt innovative approaches
 - expertise in biostatistics and high standards for research rigor and reproducibility
 - think and communicate clearly in oral and written formats
 - plan and execute experiments
 - read, critically evaluate, and integrate scientific literature
 - think creatively and acquire creative problem-solving skills
 - clear understanding of ethical conduct of research
 - broad understanding of PhD career options

A major goal of obtaining these competencies is to acquire the ability to choose important research problems, formulate hypotheses and research questions, as well as apply these to research grant proposal development.

7. Every student's thesis committee will be an integral, consistent aspect of the educational process. Thesis committees will begin meeting early and regularly to ensure a timely progression towards degree.
8. Students and mentors will be mutually respectful, communicative partners in the training experience. They will work together to define, refine, and accomplish each other's professional goals for the future.
9. Recognizing the changing patterns of the biomedical workforce, an emphasis on the development of a professional skill set beyond the academic research profession will be woven throughout the entire curriculum.