

STUDENT LEARNING OUTCOMES of Molecular Biosciences Graduate Program

Objectives for Student Learning Outcomes:

1. Trainees will gain *research expertise* that is interdisciplinary, spanning the areas of cellular, molecular and structural biology, and receive focused training in biochemistry, cell biology, genetics or microbiology. This outcome will be demonstrated by their ability to:
 - a. Develop the skills to critically read and evaluate molecular biosciences literature and place new findings in the context of the previous and current research in their general discipline and specific field of expertise.
 - b. Develop testable hypotheses based on an in-depth understanding of previous and current research, and design experimental approaches to successfully test the hypothesis. Evaluate experimental results critically, including quantitative analyses, and formulate a defensible conclusion. Demonstrate technical competency in appropriate methodologies from the disciplines of biochemistry, genetics and microbiology.
2. Trainees will have opportunities to master various *professional skills*, particularly in the areas of communication, mentoring and leadership. Success in this outcome will be demonstrated by students' ability to:
 - a. Communicate their research results and its importance to experts in their field as well as general lay audiences, effectively in both written and oral form.
 - b. Understand and follow norms of scientific ethics, including concepts of publication ethics and responsible conduct in research.
 - c. Exhibit proficiency in mentoring and teaching, including development of leadership skills.