

MOLECULAR, CELLULAR AND INTEGRATIVE BIOSCIENCES

Learning Outcomes

Master of Science (M.S.)

1. **KNOW:** Students will explain key concepts and foundations principles in their specialty area as they apply to methodology, results, and data analysis.
2. **APPLY/CREATE:** Students will design and carry out a research project in the field, that synthesizes foundational studies and assembles findings into a written work.
3. **THINK:** Students will critically analyze work by others in their specialty area.
4. **COMMUNICATE:** Students will convey scientific ideas and results in clear, concise and original writing to audiences in their specialty area.
5. **PROFESSIONAL PRACTICE:** Students will apply responsible and ethical research practices in the design, execution, and reporting of research.

Doctor of Philosophy (Ph.D.)

1. **KNOW:** Students will explain key concepts and foundations principles in their specialty area and across the field as they apply to methodology, results, and data analysis.
2. **APPLY/CREATE:** Students will design and carry out a major research project in the field, including synthesis of previous work in the field, and assembling new findings into a written work that advances understanding in the field.
3. **THINK:** Students will critically analyze work by others in their specialty area and across the field.
4. **COMMUNICATE:** Students will convey scientific ideas and results in clear, concise and original writing as well as in formal oral presentations to diverse audiences.
5. **PROFESSIONAL PRACTICE:** Students will apply responsible and ethical research practices in the design, execution, and reporting of their own research, as well as adapting to and contributing to evolving practices in the field.
6. **PROFESSIONAL PRACTICE:** Students will express key concepts of the discipline clearly in writing and oral presentation in a way that is accessible to trainees.