

Goal 1. To promote critical thinking skills by employing the scientific method.

- Outcome 1.1 Students will be able to formulate testable scientific hypotheses.
- Outcome 1.2 Students will be able to propose a well-designed experiment.
- Outcome 1.3 Students will be able to analyze and evaluate data in order to draw conclusions.
- Outcome 1.4 Students will relate conclusions to key biological concepts.

Goal 2. To perform basic laboratory techniques.

- Outcome 2.1 Students will be able to correctly use basic tools and laboratory equipment, such as micropipette, spectrophotometer, gel electrophoresis equipment, light compound microscope, dissecting microscope.
- Outcome 2.2 Students will be able to appropriately handle live research specimens (goldfish).
- Outcome 2.3 Students will be able to perform basic lab techniques such as loading gels, handling histology slides, performing a dissection, swabbing bacterial plates.
- Outcome 2.4 Students will be able to collect and record accurate laboratory data and properly enter and access data in a shared online database.

Goal 3. To promote scientific communication skills.

- Outcome 3.1 Students will present their findings to their peers orally.
- Outcome 3.2 Students will draft a scientific style research paper.
- Outcome 3.3 Students will practice giving appropriate and useful feedback to their peers.