1) Develop skills to conduct independent research capable of generating at least one peer-reviewed publication, demonstrated through (holistic assessment will include assessment of):
   a. Ability to survey scientific literature appropriate for the MS thesis research topic
   b. Ability to generate hypotheses and propose appropriate experimental design
   c. Ability to formulate expected results and conclusion
   d. Ability to propose appropriate statistical analyses
   e. Ability to propose future research questions

2) Demonstrate depth of knowledge about the specific sub-discipline related to the MS thesis research topic.

3) Demonstrate breadth knowledge about general biological principles related to:
   a. Cellular biology and genetics
   b. Physiology
   c. Ecology and Environmental Biology
   d. Evolution

4) Develop presentation and communication skills, as demonstrated by the ability to present a PowerPoint Presentation of the MS Thesis Research Topic that (holistic assessment will include assessment of):
   a. Provides sufficient background information to justify the proposed project.
   b. Clearly presents testable hypotheses
   c. Clearly present the proposed experimental design and statistical analyses
   d. Clearly outlines the expected results and possible pitfalls to the proposed research
   e. Provides an overall clearly conceived and designed MS thesis research project.