Department of Biological Sciences E-portfolio Senior Project Overview

Model for E-portfolio Reflection Project: biology.westfield.ma.edu/portfolios/

Rationale: *Research shows that it is not simply general abilities, such as memory or intelligence, nor the use of general strategies that differentiate experts from novices. Instead, experts have acquired extensive knowledge that affects what they notice and how they organize, represent, and interpret information in their environment. This, in turn, affects their abilities to remember, reason, and solve problems.*

Components

1. Title, Introduction of Self, & Reflection

2. Learning Outcomes - Include a matrix or text description of your courses and the applicable learning outcomes for each. Describe how you met those learning outcomes or reference specific course materials.

3. Cover Letter & Resume/CV - Include a resume (or CV) with a sample cover letter for a specific job position being applied to for post-graduation. If applying to graduate school, also include a copy of your application essay.

4. Scientific Inquiry – Report or essay describing a research project completed in association with Investigation and Research course, Summer Internship/fellowship, or Experiential Research Experience. This essay should clearly demonstration experimental design and planning with a clear indication of the students understanding of the scientific method.

5. Laboratory and Field Proficiencies – The student must be able to demonstrate their proficiencies in <u>at least 4</u> of the various areas indicated below:
   - *Microscope techniques* (e.g, focus, oil immersion, DIC, mounting slides)
   - *Field Sampling* (e.g. data collection using quadrats, transects, seining)
   - *Electrophoresis* (e.g., agarose, polyacrylamide)
   - *Spectrophotometer* (e.g., absorbance, transmittance)
   - *Other* (e.g. Hydrolab, YSI meter, fluorescence microscopy): _____

6. Technology Skills – Students must show proficiencies in <u>one or more</u> of the following areas:
   - *Web* (e.g. maintaining a webpage, attaching files, adjusting layout, Google Drive, e-portfolio)
   - *Computer Modeling* (e.g. ability to adjust parameters, predict outcomes)
   - *Statistical Software* (e.g. SPSS, Microsoft Excel, MATLAB, R, PC-ORD)
   - *Other* (e.g. remote sensing, GIS, ImageJ): _____

7. Evaluation of Biological Literature - Summarize and evaluate <u>at least five (5)</u> scientific research papers (peer-reviewed, scholarly journal) in 300-500 words (typed, double-spaced).

8. Written communication Skills – Student should include in the portfolio a completed edited essay that was a requirement of one of their depth courses. The student must include the course information on the document. Please make clear the overall goal/purpose/instructions of the assignment