

## Biology Portfolio Requirements

### **Introduction**

All Biology students are responsible for meeting the Departmental Learning Outcomes throughout their academic career at Westfield State University (<http://biology.wsc.ma.edu/students/learning-outcomes>). Knowledge goals are assessed mainly through exams and many of the Skill and Dispositional Outcomes are met during laboratory experiences and seminars. The portfolio should include a short narrative and evidence for each of the departmental goals listed below. The checklist includes proficiencies in laboratory/field techniques, instrumentation, technology, oral, and written communication skills. Suggestions for evidence are given for each category; however, the list is not all-inclusive. Freshman and senior seminar will address the requirements and assess (pass/fail) the results, respectively. It is up to the student to keep the portfolio up-to-date.

**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.

**Cover letter and Resume/CV:** Include a resume (or CV) with a sample cover letter. If applying to graduate school, also include a copy of your application essay.

**Scientific Inquiry:** Attach three term project reports that include evidence of scientific inquiry. Two of the three projects should be from a 300-level BIOL course. Research project must be designed by the student and implemented in a course or during independent research.

**Laboratory and Field Proficiencies:** Include a description of experience/accomplishments and attach file or provide electronic file name (if uploaded to website) for each of the proficiencies below.

1. *Microscope techniques* (e.g. focus, oil immersion, DIC, mounting slides)
2. *Field Sampling* (e.g. data collection using quadrats, transects, seining)
3. *Electrophoresis* (e.g., agarose, polyacrylamide)
4. *Spectrophotometer* (e.g., absorbance, transmittance)
5. *Other* (e.g. Hydrolab, YSI meter, fluorescence microscopy): \_\_\_\_\_

**Technology Skills:** Description of experience/accomplishments and attach file or provide electronic file name (if uploaded to website).

1. *Web* (e.g. maintaining a webpage, attaching files, adjusting layout, Google Drive, e-portfolio)
2. *Computer Modeling* (e.g. ability to adjust parameters, predict outcomes)
3. *Statistical Software* (e.g. SPSS, Microsoft Excel, MATLAB, R, PC-ORD)
4. *Other* (e.g. remote sensing, GIS, ImageJ): \_\_\_\_\_

### Evaluation of Biological Literature

Summarize and evaluate at least five (5) scientific research papers (peer-reviewed, scholarly journal) in 300-500 words (typed, double-spaced)\*. A summary table should be provided (example below).

Author(s)	Title	Journal	Date	Volume, Issue, Page Numbers
<i>Watson, J.D. and Crick, F.H.C.</i>	<i>A structure for deoxyribose nucleic acid</i>	<i>Nature</i>	<i>1953</i>	<i>171: 737-738</i>

### Attendance at biology-related seminars, meetings, and/or conferences

Attend at least five (5) biology-related events (biology licensure candidates: two events must be related to biology/science education) and provide a summary of each in a narrative. Summaries should include the topic, description of the talk, concluding statements, and your opinion of the presentation and content. Summaries should be 300-500 words (typed, double-spaced)\*. A summary table should be provided (example below).

Speaker	Date	Title of Talk	Location
<i>Prager, E.</i>	<i>October 29, 2013</i>	<i>Sex, Drugs, and Sea Slime</i>	<i>WSU, Westfield, MA</i>

\*Format may vary, depending on course requirements.

## Oral Presentation Skills

Present at least five oral presentations (scientific). At least one must be a poster presentation. List title, date, time, and location in a summary table (example below). Include names of co-presenters if applicable. You must present at least 10 minutes of the given talk to be assessed for this skill.

Type of Presentation	Title	Date	Time	Course	Co-Presenter(s)
<i>Poster</i>	<i>Feeding Preferences of the gray squirrel</i>	<i>April 20, 2013</i>	<i>3:30pm</i>	<i>Animal Behavior</i>	<i>Smith, J.</i>

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## Written Communication Skills

Submit your written narratives from your topical seminars (or other courses). These narratives should synthesize a biological topic and should follow the directions given by the instructor. Narratives will address one or more of the department's learning outcomes, so please be sure to reference those outcomes in the portfolio. Be sure to include the course information on the document.