

### **Checklist\* for Evaluating a Biology Honors Thesis**

\*based on requirements outlined by Northwestern's Program in Biological Sciences and on advice from V.E. McMillan, *Writing Papers in the Biological Sciences*, 2<sup>nd</sup> ed., Boston: Bedford Books, 1997, and S. L. Montgomery, *The Chicago Guide to Communicating Science*, Chicago: Univ. of Chi. Press, 2003

This checklist is intended to help biology honors undergraduates evaluate a provisional honors thesis or final version in a systematic way, along with any advice they have received from their thesis supervisor.

The provisional thesis should include all major sections, although the Results and Discussion sections may have little or no information in them by the end of winter quarter. By the end of spring quarter, all sections will be revised and improved, plus the Results and Discussion will be written.

Section of paper	Notes
<p><b>Title</b></p> <ul style="list-style-type: none"> <li>○ Is informative without being too long</li> </ul>	
<p><b>Abstract</b></p> <ul style="list-style-type: none"> <li>○ Covers key points</li> <li>○ Is specific</li> <li>○ Is concise</li> <li>○ Can stand alone</li> </ul>	
<p><b>Table of Contents</b></p>	
<p><b>Literature Survey</b></p> <ul style="list-style-type: none"> <li>○ Introduces your topic &amp; concisely provides context</li> <li>○ Explains importance of the work: rationale &amp; major objectives</li> <li>○ Synthesizes previously published work that is relevant to your research</li> <li>○ Presents previous work (published and unpublished) done in your laboratory, if relevant</li> <li>○ Documents all work properly with parenthetical citations that correspond to your References section</li> </ul> <p><i>Writing advice:</i></p> <ul style="list-style-type: none"> <li>○ Use precise, accurate language</li> <li>○ Organize information logically; use subheadings when necessary</li> <li>○ Begin paragraphs with key ideas (topic sentences)</li> <li>○ Break sentences into readable “chunks”; put lists and long complicated ideas at the ends of sentences</li> </ul>	
<p><b>Materials &amp; methods</b></p> <ul style="list-style-type: none"> <li>○ Gives complete information about organisms studied</li> <li>○ Describes apparatus, tools, sampling devices, etc.</li> <li>○ Describes composition, sources of chemical substances, growth media, etc.</li> <li>○ Describes procedures in enough detail to allow evaluation and replication</li> </ul> <p><i>Writing advice:</i></p> <ul style="list-style-type: none"> <li>○ Organize information logically; use subheadings when necessary</li> </ul>	

<p><b>Results</b></p> <ul style="list-style-type: none"> <li>○ Summarizes data, emphasizing important patterns</li> <li>○ Supports generalizations with explanations, statistics, etc.</li> <li>○ Includes figures and tables as necessary to document experiments, placed appropriately within the text</li> <li>○ Avoids drawing conclusions</li> <li>○ Focuses on your own work; gives credit to any collaborators</li> </ul> <p><i>Writing advice:</i></p> <ul style="list-style-type: none"> <li>○ Use words &amp; numbers correctly &amp; precisely</li> </ul>	
<p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>○ Interprets results, supporting conclusions with evidence; explains why experiments succeeded or failed</li> <li>○ Draws relationships to others' work</li> <li>○ Examines significance; explains how the work contributes to a broader understanding of the topic</li> <li>○ In concluding, briefly summarizes what was done, what was discovered, and why findings are important; suggests possible directions for future work</li> </ul> <p><i>Writing advice:</i></p> <ul style="list-style-type: none"> <li>○ Focus on important conclusions; omit unimportant conclusions</li> <li>○ Organize information logically – can use subheadings for key findings</li> <li>○ Convey confidence</li> </ul>	
<p><b>Acknowledgments</b> (if necessary)</p>	
<p><b>References</b></p> <ul style="list-style-type: none"> <li>○ Lists all references cited</li> <li>○ Includes names of all authors and full titles of their papers</li> <li>○ Uses correct, consistent format -- (APA or style from any recognized biology journal)</li> </ul>	
<p><b>Curriculum Vita</b></p>	