

Keck Science Assessment Rubric for Senior Thesis in Organismal Biology

Student Name: _____

Evaluator Name: _____

College: _____

Term: _____

Learning Outcomes	Superior 4	Good 3	Fair 2	Poor 1	Score
Applies foundational principles, especially evolution, to problems in nature	Student has fully and clearly articulated the foundational scientific principles, especially evolution, pertinent to the project and has grounded the project in these principles.	Student has discussed foundational principles, especially evolution, but has not fully grounded the project in these principles.	Student alludes to foundational principles, including evolution, but connects them to the project in an indirect way.	Student has not connected the project to foundational principles.	
Develops hypotheses and tests them using the application of quantitative/ analytical tools	Student has clearly developed hypotheses and has used quantitative/analytical tools to test them.	Student has developed hypotheses but has not systematically used quantitative/analytical tools to test them.	Student has not clearly developed hypotheses and/or has used quantitative/analytical tools only to a limited extent.	Student has not developed hypotheses and has not used quantitative/analytical tools.	
Effectively communicates scientific concepts in writing (Articulation)	Each main idea is supported by detailed data or reasoning. All details are related to topic. Complete, correct documentation of a wide variety of sources.	Clear overall though details and/or data in some paragraphs may be vague. Data cited may at times be insufficient to support conclusions. Documentation of a variety of sources.	Arguments presented are not integrated into a coherent flow; some details are irrelevant. Marginal documentation of sources; some key sources may be missing.	Many conclusions/main ideas are not supported by details. Unclear presentation and many details cited are irrelevant. Inadequate documentation of sources.	
Effectively communicates scientific concepts in writing (Style)	Ideas/paragraphs/ sections are connected by effective transition words and phrases. Precise, interesting, and accurate word choice. Writing style enhances readability of writing.	Transitions used. Word choice is adequate to convey meaning.	Few or no transitions. Overall style choppy.	No transitions. Sentence style choppy. Vocabulary limited.	

Learning Outcomes	Superior 4	Good 3	Fair 2	Poor 1	Score
Effectively communicates scientific concepts in writing (Grammar/Usage/ Mechanics)	Free of spelling, capitalization, and usage errors. Few, if any, errors in punctuation. Sophisticated and consistent command of standard English.	Number and type of errors does not interfere with meaning. Few, if any, spelling, capitalization, or usage errors.	Number and type of errors may interfere with meaning at some points. Some spelling, capitalization, or usage errors. Some fragments and/or run-ons. Some errors in punctuation.	Number and type of errors obscure meaning. Frequent errors in spelling, capitalization, and usage. Many fragments and/or run-ons. Serious and frequent punctuation errors.	
Articulates how science relates to current problems in the modern world, especially contemporary concerns such as conservation biology, climate change, and ecosystem degradation	YES	NO			
Reads and understands original research publications	Student makes extensive reference to the primary literature and cogently analyzes the conclusions presented in the literature cited.	Student makes reference to the primary literature but does not fully analyze the conclusions presented in the literature cited.	Student makes reference to the primary literature but does not demonstrate understanding of the conclusions presented in the literature cited.	Student has made only limited reference to the primary literature.	