

Energy Science and Engineering PhD Comprehensive Examination Rubric

Student: _____ **Exam Date:** _____

Reviewer's Name: _____

Please rank the student in each area below using a 1-5 scale (5 is of highest quality).						
Outcome: Demonstrate the ability to carry out an independent, original research project in energy science and engineering by constructing a written proposal and defending this proposal in an oral presentation to a doctoral committee. The proposal and defense should display competencies in *1) critical thinking and information literacy; *2) analysis and synthesis of scientific themes; and *3) written and oral communication.						
Written Proposal	1	2	3	4	5	Learning skills*
Student presents a complete dissertation proposal focusing on a relevant topic in energy science and engineering. The student thoroughly investigates the background and significance of the problem.						1
Student presents a compelling and cohesive research proposal demonstrating his/her understanding of the problem and clearly defines the methodology used to investigate and propose a solution.						2
Student produces a professionally written proposal integrating advanced writing techniques. The proposal is free of grammar and spelling errors and follows general formatting guidelines.						3
Oral Defense	1	2	3	4	5	
Student communicates scientific themes and ideas clearly demonstrating his/her understanding of the problem and the proposed solution.						2
Student effectively utilizes visual aides to enhance the presentation and to communicate the theme of the proposal.						3
Student answers questions clearly and thoroughly demonstrating his/her understanding of the problem, the proposed solution, and other published research on the topic.						3
Research Potential	1	2	3	4	5	
Student effectively demonstrates the ability to identify, analyze, and research the proposed dissertation topic.						1, 2, 3
Student understands and clearly communicates the relevancy of the problem and the proposed solution to global energy challenges.						1, 2, 3
Total Score						

*Adopted from the Association of American Colleges & Universities Essential Learning Outcomes