

Crop, Soil, and Environmental Sciences
Thesis/Dissertation Defense Performance Assessment Rubric

Student Learning Outcomes

To assist with program assessment, in which of the following student learning outcomes did the student demonstrate proficiency? Mark performance on a scale of 1 (not prepared, unskilled) to 4 (advanced, mastery of skill) in each Learning outcome box.

Learning outcome	4 Advanced/Mastery	3 Proficient/Adequate	2 Developing/Beginning	1 Unprepared/Unskilled
Depth and breadth of discipline related knowledge	Shows higher levels of learning - Clearly explains key concepts and principles; Understands current, relevant literature, and gaps in science; apply concepts to analyze new situations; demonstrates mastery of technical, statistical and/or relevant computer skills	Understands and applies key concepts and principles; Understands current, relevant literature; Collects, summarizes, correctly analyzes data; demonstrates competency of technical, statistical and/or computer skills relevant to discipline	Understands and applies key concepts and principles; some understanding of relevant literature; demonstrates adequate use of some technical, statistical and/or computer skills relevant to discipline	Incomplete and uncomprehensive knowledge of basics principles and ability to apply principle and concepts; demonstrates incomplete or unrefined use of technical, statistical and/or computer skills relevant to discipline
Critical thinking	Clearly and comprehensively states issue/problem. Thoroughly reviews literature and interprets data to evaluate scenarios and create solutions to new problems. Systematically and methodically analyzes own and others' assumptions and carefully evaluates relevance of contexts and limitations of a position. Thesis is imaginative, multidimensional, and conclusions are logical and reflect informed evaluation.	Issue/problem is stated, described, and clarified critically, so that understanding is not seriously impeded by omissions. Interpretation/evaluation is supported with evidence from the literature, but literature and experts are subject to questioning. Identifies own and others' assumptions, relevant contexts when presenting a position. Conclusions are logical and related to outcomes.	Issue/problem is stated critically, but is incompletely defined or explored. Literature review is incomplete, and there is little questioning of experts and assumptions. Acknowledges different sides of an issue. Conclusion is logically tied to information but is unidimensional and related to only some of the outcomes.	Unclear or ill-described issue/problem. Information is collected without interpretation or evaluation. Viewpoints of experts are not questioned. Shows emerging awareness of assumptions. Simple and obvious position. Conclusion is inconsistently tied to some of the information discussed; related outcomes are oversimplified.

<p>Problem solving</p>	<p>Constructs clear and insightful problem statement with evidence of all relevant contextual factors. Proposes one or more hypotheses and tackles problem with multiple approaches. Sensitive to ethical, logical, historical, and cultural dimensions of the problem. Deep and elegant, thorough and insightful, logical explanations. Examines feasibility of solution, and weighs impacts of solution, and considers need for further work.</p>	<p>Constructs a problem statement with adequate detail and evidence of most relevant contextual factors. Identifies multiple approaches for problem solving, some of which apply within a specific context. Comprehends the problem. Sensitive to ethical, logical, historical, and cultural considerations. Evaluation of solutions is adequate, and examines feasibility of solution, weighs impacts of solution, and considers some of the needs for further work.</p>	<p>Superficial problem statement with evidence of most relevant contextual factors. Identifies a single, “off the shelf” approach for solving the problem that does apply within a specific context. Evaluation of solution(s) is brief but includes history of problem, logic/reasoning, solution feasibility, and impacts of solution. Addresses the problem, but ignores relevant contextual factors and need for further work.</p>	<p>Limited ability to define a problem statement, related contextual factors, or specific or relevant solutions. Superficial evaluation and/or irrelevant implementation of solutions that does not directly address the problem statement or consideration of need for further work.</p>
<p>Communication skills - oral</p>	<p>Clearly organized, cohesive content. Imaginative, memorable, and compelling. Presentation enhances effectiveness. Delivered at appropriate level. Polished delivery techniques (posture, gesture, eye contact, and vocal expressiveness). Confident speaker. Variety of supporting materials reference information or analysis that significantly supports the presentation or establishes credibility or authority. Central message is compelling (precise, appropriate, memorable, and strongly supported.)</p>	<p>Clear and consistent organization. Thoughtful and effective presentation. Delivered at appropriate level. Quality in delivery techniques (posture, gesture, eye contact, and vocal expressiveness. Supporting materials reference information or analysis that generally supports the presentation or establishes the presenter's credibility. Central message is clear and consistent with the supporting material.</p>	<p>Intermittently observable organizational pattern. Mundane language partially supports the presentation effectiveness. Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) make the presentation understandable. Supporting materials partially supports the presentation or establishes the presenter's credibility/authority on the topic. Central message is basically understandable.</p>	<p>Organizational pattern is not observable. Unclear language. Presentation is not appropriate to audience. Delivery detracts from the understandability of the presentation, and is uncomfortable. Insufficient supporting materials make reference to information or analysis that minimally supports the presentation or establishes the presenter's credibility/authority on the topic. Central message can be deduced, but is not explicitly stated in the presentation.</p>

<p>Communication skills - written</p>	<p>Demonstrates a thorough understanding of context, audience, and purpose that is responsive to the assigned task(s) and focused. Appropriate, relevant, and compelling content illustrates mastery of the subject. Detailed attention to and successful execution of organization, content, presentation, formatting, and stylistic choices. Skillful use of high-quality, credible, relevant sources to develop ideas. Clear, fluent, and virtually error-free.</p>	<p>Demonstrates adequate consideration of context, audience, and purpose and a clear focus on the assigned task(s). Appropriate, relevant, and compelling content explores ideas. Organized. Credible, relevant sources to support ideas. Uses straightforward language that generally conveys meaning to readers. Few errors.</p>	<p>Demonstrates awareness of context, audience, purpose, and to the assigned tasks(s). Appropriate and relevant content develops and explores ideas through most of the work. Basic organization. Use of credible and/or relevant sources to support ideas. Generally conveys meaning, although writing may include some errors.</p>	<p>Demonstrates minimal attention to context, audience, purpose, and to the assigned tasks(s). Uses appropriate and relevant content to develop simple ideas in some parts of the work. Attempts to use a consistent system for basic organization and presentation. Attempts to use sources to support ideas in the writing. Language and errors sometimes impede meaning.</p>
<p>Original & Independent Research</p>	<p>Work contributes to advancement of science; adds new contribution to science; student is independent thinker and contributes uniquely to team. Student takes ownership of project and learning by taking initiative and by mastering necessary skills (e.g. conceptual, statistics, laboratory or field skills, etc.) for comprehensive project completion.</p>	<p>Work adds to database of scientific knowledge by confirming or clarifying previous results; student works with minimal guidance. Student is proficient in skills (e.g. conceptual, statistics, laboratory or field skills, etc.) for project completion.</p>	<p>Work adds to database of knowledge but does not advance science; student completes some tasks independently. Student is proficient in some skills (e.g. conceptual, statistics, laboratory or field skills, etc.) necessary for project completion.</p>	<p>Work does not advance science; work need much supervision and review to proceed.</p>

