

Assessment form for doctoral students in the Department of Zoology and Physiology

Student W#: _____ **Date** _____

This form is used to assess the doctoral program in the Department of Zoology and Physiology. The Ph.D. candidate will provide this form and a copy of their curriculum vitae to each member of their graduate committee at the oral defense of the dissertation. Following the defense, committee members will fill out the form and deposit it in an envelope. The outside-of-the department committee member will seal the envelope and deliver it to the office of the Department of Zoology & Physiology. GAB will summarize the information and present a report to the Department Head. Copies of this assessment form can be downloaded at http://www.uwyo.edu/zoology/grad_degrees/.

Note: The Department Head will withhold final approval of graduation forms until the assessment forms have been received in the Department of Zoology & Physiology office.

Learning outcomes for Doctoral Students.

1. Comprehend and synthesize advanced knowledge in a specific area of biology.
2. Develop a research project which constitutes a substantial and original contribution to the field of study.
3. Summarize research findings and communicate them effectively in writing and orally.

For each outcome, check the appropriate boxes and provide comments explaining your assessment.

	Indicator	Exceeds expectations	Meets expectations	Below expectations
Outcome 1 Comprehend and synthesize advanced knowledge in a specific area of biology	1. The student's program of study incorporates advanced level courses in one or more focused areas in biology.	<input type="checkbox"/> Program of study entirely advanced coursework and student has acquired lab, field or data analysis skills beyond those expected of undergraduates. Student has taught upper division courses or workshops in their specialty areas (beyond being a teaching assistant).	<input type="checkbox"/> Program of study mostly advanced coursework and student has acquired lab, field or data analysis skills beyond those expected of undergraduates. Student has developed expertise to the point where they can be the instructor for courses or workshops in their specialty areas.	<input type="checkbox"/> Program of study contains few advanced level courses and there is no clear focus in a specific area of biology. Student has not acquired lab, field or data analysis skills beyond those expected of undergraduate students.
	2. Dissertation includes an overview of the subject area that indicates why the research topic is of interest.	<input type="checkbox"/> Student provides a superior summary of prior work that clearly articulates how their research is the next step in filling an important information gap.	<input type="checkbox"/> Student provides a reasonable framework for their research which indicates how their research fills an information gap.	<input type="checkbox"/> Student does not provide a framework for their research which indicates how their research fills an information gap. Student lacks knowledge of the antecedents to their particular research topic.
	3. Dissertation provides an integration and synthesis of research findings with the existing body of knowledge in their research area.	<input type="checkbox"/> Student has a superior understanding of the knowledge base for their field. Student shows a high level of sophistication in integrating their results with the existing knowledge base and identifying novel research directions.	<input type="checkbox"/> Student has a good understanding of the knowledge base for their field. Student is able to articulate how their results conform with, extend, or contradict the existing knowledge base for their research area.	<input type="checkbox"/> There are major gaps in the student's understanding of the knowledge base for their field. The student is not able to articulate how their results conform with, extend, or contradict the existing knowledge base for their research area.

Outcome 1: Comments:

	Indicator	Exceeds expectations	Meets expectations	Below expectations
Outcome 2 Develop a research project which constitutes a substantial and original contribution to the field of study.	1. Originality of research	<input type="checkbox"/> Research questions were originated by student and represent a paradigm shift in the discipline.	<input type="checkbox"/> Research questions were originated by student and represent extension of the frontiers of knowledge in the discipline.	<input type="checkbox"/> Research mainly follows previous research of the student's major professor. Little indication of novelty that originated with the student. Findings mainly confirmatory of previous research.
	2. The extent and types of data collected by the student	<input type="checkbox"/> Student has collected original data sufficient to address multiple research questions.	<input type="checkbox"/> Student has assembled an appropriate data set to address a research question.	<input type="checkbox"/> Student has not assembled an appropriate data set to address a research question.
	3. The approaches used to analyze the data.	<input type="checkbox"/> Student has used novel approaches to analyze and visualize their data.	<input type="checkbox"/> Student has used appropriate standard techniques to analyze and visualize their data.	<input type="checkbox"/> Student has not used appropriate techniques to analyze and visualize their data.

Outcome 2: Comments

	Indicator	Exceeds expectations	Meets expectations	Below expectations
Outcome 3 Summarize research findings and communicate them effectively in writing and orally.	1. Quality of oral presentation during public defense of dissertation.	<input type="checkbox"/> Presentation is outstanding, comparable to the best talks presented at scientific meetings. Student has superior public speaking skills.	<input type="checkbox"/> Presentation is well-organized and delivered in a professional manner. Student has good public speaking skills.	<input type="checkbox"/> Presentation is disorganized and not delivered in a professional manner. Student has inadequate public speaking skills.
	2. Quality of visuals used during public defense of dissertation.	<input type="checkbox"/> Slides exceptionally well-composed, informative, and easy to read. Other types of visual aid are used if appropriate (models, videos, demonstrations).	<input type="checkbox"/> Slides are well-composed, informative, and easy to read.	<input type="checkbox"/> Slides poorly composed, difficult to read and do not convey pertinent information.
	3. Quality of writing in Dissertation.	<input type="checkbox"/> Dissertation is exceptionally well-written with no grammatical errors or violations of scientific writing conventions. Comparable to papers that appear in top scientific journals.	<input type="checkbox"/> Dissertation is well written with few grammatical errors. Paragraphs are well-structured and there is a logical flow of ideas. Scientific writing conventions are followed.	<input type="checkbox"/> Dissertation is poorly written and contains grammatical errors and poor paragraph structure. There is not a logical flow of ideas. Scientific writing conventions are not followed.
	4. Presentations at scientific meetings.	<input type="checkbox"/> Student has presented their doctoral research at multiple national or international meetings	<input type="checkbox"/> Student has presented their doctoral research at a scientific meeting.	<input type="checkbox"/> Student has not presented their doctoral research at a scientific meeting.
	5. Publication of research.	<input type="checkbox"/> One or more first-authored manuscripts from their doctoral research have been accepted for publication in peer-reviewed journals.	<input type="checkbox"/> Student has submitted a first-authored manuscript from their doctoral research to a peer-reviewed journal.	<input type="checkbox"/> Student has not submitted a first-authored manuscript from their doctoral research to a peer-reviewed journal.

Outcome 3: Comments:

