**Initial assessment form for Master of Science students in the Department of Zoology and Physiology**

**Student W#: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

This form is used to assess the M.S. program in the Department of Zoology and Physiology. The M.S. candidate will provide this form and a copy of their curriculum vitae to each member of their graduate committee at their first committee meeting. Following the meeting, 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 approval of graduation forms until the assessment forms have been received in the Department of Zoology & Physiology office.**

**Learning outcomes for M.S. students.**

1. Comprehend and synthesize advanced knowledge in a specific area of biology.
2. Collect and analyze data to address a research question.
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.

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|  | Indicator | Exceeds expectations | Meets expectations  | Below expectations |
| **Outcome 1**Comprehend and synthesize advanced knowledge in a specific area of biology. | 1. Program of study incorporates advanced level courses in one or more focused areas in biology. | □ Program of study mostly advanced coursework. Student will acquire lab, field or data analysis skills beyond those expected of undergraduates. The student has developed expertise to the point where they can be the instructor for courses or workshops in their specialty areas. | □ Program of study mostly advanced coursework and the student will acquire lab, field or data analysis skills beyond those expected of undergraduate students.  | □ Program of study contains few advanced level courses and there is no clear focus in a specific area of biology. The student has not acquired lab, field or data analysis skills beyond those expected of undergraduate students.  |
| 2. The thesis includes an overview of the subject area that indicates why the research topic is of interest. | □ Student provides a superior summary of prior work that clearly articulates how their research is the next step in filling an important information gap. | □ Student provides a reasonable framework for their research which indicates how their research fills an information gap. | □ Student does not provide a framework for their research or indicate how it fills an information gap. Student does not appear to have knowledge of the antecedents to their research topic. |
| 3. The thesis shows an integration and synthesis of research findings with the existing body of knowledge in the research area. | □ 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 in suggesting future research directions. | □ Student has a good understanding of the knowledge base for their field. Student articulates how their results conform with, extend, or contradict the existing knowledge base for their research area. | □ 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. |

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| Outcome 1: Comments: |
|  | Indicator | Exceeds expectations | Meets expectations  | Below expectations |
| **Outcome 2**Collect and analyze data to address a research question. | 1. The extent and types of data to be collected by the student | □ Student will collect original data sufficient to address multiple research questions. | □ Student will assemble an appropriate data set to address a research question. | □ Student not on track to assemble an appropriate data set to address a research question. |
| 2. The approaches used to analyze the data. | □ Student will independently analyze their data using novel approaches. | □ Student will use appropriate methods to analyze and visualize their data.  | □ Student not on track to use appropriate techniques to analyze and visualize their data.  |

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| Outcome 2: Comments: |

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|  | 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 to the committee. | □ Oral presentation is outstanding. Student has superior public speaking skills.  | □ Oral presentation is well-organized and delivered in a professional manner. Student has good public speaking skills. | □ Oral presentation is disorganized and not delivered in a professional manner. Student has inadequate public speaking skills. |
| 2. Quality of visuals used during presentation to the committee. | □ Slides exceptionally well-composed, informative and easy to read. Other visual aids are used (models, videos, demonstrations).  | □ Slides are well-composed, informative, and easy to read. | □ Slides are poorly composed, difficult to read and do not convey pertinent information. |
| 3. Quality of writing in thesis proposal | □ Proposal is exceptionally well-written with no grammatical errors or violations of scientific writing conventions.  | □ Proposal is well written with few grammatical errors. Paragraphs are well-structured and there is a logical flow of ideas. Scientific writing conventions are followed.  | □ Proposal is poorly written with grammatical errors and poor paragraph structure. There is not a logical flow of ideas. Scientific writing conventions are not followed.  |

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| Outcome 3: Comments: |

**Post-program assessment form for Master of Science students in the**

 **Department of Zoology and Physiology**

**Student W#: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

This form is used to assess the M.S. program in the Department of Zoology and Physiology. The M.S. 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 thesis. 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 M.S. students.**

1. Comprehend and synthesize advanced knowledge in a specific area of biology.
2. Collect and analyze data to address a research question.
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.

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|  | Indicator | Exceeds expectations | Meets expectations  | Below expectations |
| **Outcome 1**Comprehend and synthesize advanced knowledge in a specific area of biology. | 1. Program of study incorporates advanced level courses in one or more focused areas in biology. | □ Program of study mostly advanced coursework. Student has acquired lab, field or data analysis skills beyond those expected of undergraduates. The student has developed expertise to the point where they can be the instructor for courses or workshops in their specialty areas. | □ Program of study mostly of advanced coursework and the student has acquired lab, field or data analysis skills beyond those expected of undergraduate students.  | □ Program of study contains few advanced level courses and there is no clear focus in a specific area of biology. The student has not acquired lab, field or data analysis skills beyond those expected of undergraduate students.  |
| 2. The thesis includes an overview of the subject area that indicates why the research topic is of interest. | □ Student provides a superior summary of prior work that clearly articulates how their research is the next step in filling an important information gap. | □ Student provides a reasonable framework for their research which indicates how their research fills an information gap. | □ Student does not provide a framework for their research or indicate how it fills an information gap. Student does not appear to have knowledge of the antecedents to their research topic. |
| 3. The thesis shows an integration and synthesis of research findings with the existing body of knowledge in the research area. | □ 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 in suggesting future research directions. | □ Student has a good understanding of the knowledge base for their field. Student articulates how their results conform with, extend, or contradict the existing knowledge base for their research area. | □ 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. |

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| Outcome 1: Comments: |
|  | Indicator | Exceeds expectations | Meets expectations  | Below expectations |
| **Outcome 2**Collect and analyze data to address a research question. | 1. The extent and types of data collected by the student | □ Student has collected original data sufficient to address multiple research questions. | □ Student has assembled an appropriate data set to address a research question. | □ Student has not assembled an appropriate data set to address a research question. |
| 2. The approaches used to analyze the data. | □ Student has independently analyzed their data using novel approaches. | □ Student used appropriate methods to analyze and visualize their data.  | □ Student has not used appropriate techniques to analyze and visualize their data.  |

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| Outcome 2: Comments: |

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|  | 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 thesis. | □ Oral presentation is outstanding, comparable to the best talks at scientific meetings. Student has superior public speaking skills.  | □ Oral presentation is well-organized and delivered in a professional manner. Student has good public speaking skills. | □ Oral 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 thesis. | □ Slides exceptionally well-composed, informative and easy to read. Other visual aids are used (models, videos, demonstrations).  | □ Slides are well-composed, informative, and easy to read. | □ Slides are poorly composed, difficult to read and do not convey pertinent information. |
| 3. Quality of writing in thesis.  | □ Thesis is exceptionally well-written with no grammatical errors or violations of scientific writing conventions. Thesis has been submitted to a peer-reviewed journal.  | □ Thesis is well written with few grammatical errors. Paragraphs are well-structured and there is a logical flow of ideas. Scientific writing conventions are followed. Thesis is publishable. | □ Thesis is poorly written with grammatical errors and poor paragraph structure. There is not a logical flow of ideas. Scientific writing conventions are not followed. Not likely to be publishable. |

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| Outcome 3: Comments: |