Student Learning Outcome | SCORE | SCALE
---|---|---
SLO 1 (biology) | Information correct and relevant | 4 = Exemplary
| Question fully answered | 3 = Proficient
| Terminology and citations | 2 = Marginal
| Interpretation of content | 1 = Unacceptable
| **SLO 1 Biology** | **SUM** |
SLO 1 (entomology/nematology) | Information correct and relevant | 4 = Exemplary
| Question fully answered | 3 = Proficient
| Terminology and citations | 2 = Marginal
| Interpretation of content | 1 = Unacceptable
| **SLO 1 Entomology/Nematology** | **SUM** |
SLO 1 (research area) | Information correct and relevant | 4 = Exemplary
| Question fully answered | 3 = Proficient
| Terminology and citations | 2 = Marginal
| Interpretation of content | 1 = Unacceptable
| **SLO 1 Research area** | **SUM** |

Student Learning Outcome | SCORE | SCALE
---|---|---
SLO 2 | Statistical understanding | 4 = Exemplary
| Experimental design understanding | 3 = Proficient
| **SLO 2 Experimental design and statistics** | **SUM**
<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>SCORE</th>
<th>SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SLO 3</strong>&lt;br&gt;Oral presentation skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delivery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supporting material</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central message</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SLO 3 Oral presentation skills</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td>SUM</td>
<td></td>
</tr>
<tr>
<td><strong>SLO 3</strong>&lt;br&gt;Written skills&lt;sup&gt;2&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Context and purpose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Content development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conventions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sources and evidence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syntax and mechanics</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SLO 3 Written skills</strong>&lt;sup&gt;2&lt;/sup&gt;</td>
<td>SUM</td>
<td></td>
</tr>
<tr>
<td><strong>SLO 5</strong>&lt;br&gt;Critical thinking and application of inquiry and analysis&lt;sup&gt;3&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clear statement of research problem and motivation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value of research demonstrated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge of literature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well-defined hypotheses or objectives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sound methods/tools</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data interpretation and analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conclusions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broader impact and limitations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent research and developed expertise</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SLO 5 – PhD Critical thinking</strong></td>
<td>SUM</td>
<td></td>
</tr>
</tbody>
</table>
These scores do not determine whether the student passes or fails the oral defense or the written thesis/dissertation. They are for the committee to consider when deciding on whether the student passes or not. All committee members should fill out a form and copies should be delivered to the Graduate Coordinator’s office for deposit in the student’s file.

Supervisory committee chair - please share the results of this evaluation with your student, either summarizing their strengths/weaknesses or showing the individual score sheets.

\[
\begin{align*}
\text{SLO 1 (knowledge of discipline)} & = \_\_\_\_\_\_\_\_ \quad (\text{maximum 48, minimum 12}) \\
\text{SLO 2 (knowledge of statistical and research methodology)} & = \_\_\_\_\_\_\_\_ \quad (\text{maximum 8, minimum 2}) \\
\text{SLO 3 (oral communication skills)} & = \_\_\_\_\_\_\_\_ \quad (\text{maximum 20, minimum 5}) \\
\text{SLO 3 (written communication skills)} & = \_\_\_\_\_\_\_\_ \quad (\text{maximum 20, minimum 5}) \\
\text{SLO 5 (critical thinking ability)} & = \_\_\_\_\_\_\_\_ \quad (\text{maximum 36, minimum 9})
\end{align*}
\]

Additional comments (strengths/weaknesses):

\[1\] Taken from Written Communication VALUE Rubric – Association of American Colleges and Universities
\[2\] Taken from Oral Communication VALUE Rubric - Association of American Colleges and Universities
\[3\] Modified from Inquiry and Analysis VALUE Rubric - Association of American Colleges and Universities
<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>4 - Exemplary</th>
<th>3 - Proficient</th>
<th>2 - Marginal</th>
<th>1 - Unacceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SLO 1</strong>&lt;br&gt;Identify insects, other arthropods and/or nematodes, and describe their relationship with the environment and humans (Max. points 48, min. 12)</td>
<td>□ All information presented is both accurate and relevant</td>
<td>□ Nearly all information presented is accurate and relevant</td>
<td>□ Many inaccuracies and some misinterpretation of content and largely irrelevant</td>
<td>□ Inaccurate or misinterpreted content and almost entirely irrelevant</td>
</tr>
<tr>
<td>General knowledge in biology</td>
<td>□ Question is answered fully</td>
<td>□ Question is essentially answered</td>
<td>□ Multiple aspects of question unanswered</td>
<td>□ Question not answered</td>
</tr>
<tr>
<td>General knowledge in entomology or nematology</td>
<td>□ All information presented is both accurate and relevant</td>
<td>□ Nearly all information presented is accurate and relevant</td>
<td>□ Many inaccuracies and some misinterpretation of content and largely irrelevant</td>
<td>□ Inaccurate or misinterpreted content and almost entirely irrelevant</td>
</tr>
<tr>
<td></td>
<td>□ Question is answered fully</td>
<td>□ Question is essentially answered</td>
<td>□ Multiple aspects of question unanswered</td>
<td>□ Question not answered</td>
</tr>
<tr>
<td>In-depth knowledge in area of</td>
<td>□ All information presented is both accurate and relevant</td>
<td>□ Nearly all information presented is accurate and relevant</td>
<td>□ Many inaccuracies and some misinterpretation of content and largely irrelevant</td>
<td>□ Inaccurate or misinterpreted content and almost entirely irrelevant</td>
</tr>
<tr>
<td></td>
<td>□ Question is answered fully</td>
<td>□ Question is essentially answered</td>
<td>□ Multiple aspects of question unanswered</td>
<td>□ Question not answered</td>
</tr>
<tr>
<td>research specialization</td>
<td>□ Proper use of terminology and citations</td>
<td>□ Mostly proper use of terminology and citations</td>
<td>□ Improper use of terminology and citations</td>
<td>□ Misuse of terminology and citations</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------------------------</td>
<td>-----------------------------------------------</td>
<td>---------------------------------------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>□ Insightful interpretation of the content</td>
<td>□ Demonstrates clear understanding of the content without misinterpretation</td>
<td>□ Misinterpretation of content</td>
<td>□ Gross misinterpretation of content</td>
<td></td>
</tr>
</tbody>
</table>

**SLO 2**

Discuss appropriate research methodology, including aspects of statistical design and analysis, in the execution of arthropod research

(Max. points 8, min. 2)

<table>
<thead>
<tr>
<th>General knowledge in statistics and experimental method</th>
<th>□ Answers all statistical questions correctly, in detail and logically</th>
<th>□ Answers all statistical questions in some detail</th>
<th>□ Attempts all statistical questions but has errors in answers</th>
<th>□ Does not attempt to answer all statistical questions and/or has many errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Answers all experimental methodology questions correctly, in detail and logically</td>
<td>□ Answers all experimental methodology questions in some detail</td>
<td>□ Attempts all experimental methodology questions but has errors in answers</td>
<td>□ Does not attempt to answer all experimental methodology questions and/or has many errors</td>
<td></td>
</tr>
</tbody>
</table>

**SLO 3**

Written skills ¹

<table>
<thead>
<tr>
<th>Context and purpose</th>
<th>Demonstrates a thorough understanding of context, audience, and purpose that focuses all elements of the work.</th>
<th>Demonstrates adequate consideration of context, audience and purpose, and a clear focus of the work.</th>
<th>Demonstrates awareness of context, audience, and purpose of the work.</th>
<th>Does not demonstrate attention to context, audience, and purpose of the work.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. 20 points, min. 5 points</td>
<td>Content development</td>
<td>Consistently uses appropriate, relevant and compelling content to illustrate mastery of the subject, conveying the writer’s understanding.</td>
<td>Consistently uses appropriate, relevant, and compelling content to explore ideas within the subject.</td>
<td>Use appropriate and relevant content to develop and explore ideas throughout most of the work.</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
</tr>
<tr>
<td>Conventions</td>
<td>Detailed attention to and successful execution of all conventions specific to the discipline (organization, content, presentation, formatting, style)</td>
<td>Consistent use of important conventions specific to the discipline.</td>
<td>Follows expectations appropriate for specific discipline for organization, content and presentation.</td>
<td>Does not use a consistent system for basic organization and presentation.</td>
</tr>
<tr>
<td>Sources and evidence</td>
<td>Demonstrates skillful use of high-quality, credible, relevant sources to develop ideas that are appropriate.</td>
<td>Demonstrates consistent use of credible, relevant sources to support ideas.</td>
<td>Demonstrates an attempt to use credible and/or relevant sources to support ideas.</td>
<td>Does not use sources to support ideas.</td>
</tr>
<tr>
<td>Syntax and mechanics</td>
<td>Uses language that skillfully communicates meaning to readers with clarity and fluency, and is virtually error-free.</td>
<td>Uses straightforward language that generally conveys meaning to readers and has few errors.</td>
<td>Uses language that generally conveys meaning to readers with clarity but may include errors.</td>
<td>Uses language that sometimes impedes meaning because of errors in usage.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>4 - Exemplary</th>
<th>3 - Proficient</th>
<th>2- Marginal</th>
<th>1 - Unacceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLO 3</td>
<td>Oral presentation skills</td>
<td>Organizational pattern is clearly and consistently observable, is skillful, and makes the content of the presentation cohesive</td>
<td>Organizational pattern is clearly and consistently observable</td>
<td>Organizational pattern is intermittently observable</td>
</tr>
<tr>
<td>Max. 20 points, min. 5 points</td>
<td>Language</td>
<td>Delivery (posture, use of pointer, eye contact, vocal expressiveness)</td>
<td>Supporting material (explanations, examples, illustrations, figures, photos, diagrams, statistics)</td>
<td>Central message</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------</td>
<td>-------------------------------------------------</td>
<td>-------------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Material in body, and transitions</td>
<td>Language choices enhance the effectiveness of the presentation and are appropriate for the audience.</td>
<td>Delivery techniques make the presentation compelling, and speaker appears polished and confident.</td>
<td>A variety of supporting materials makes appropriate reference to information or analysis that significantly supports the presentation.</td>
<td>Central message is compelling (strongly stated, appropriately repeated, memorable and strongly supported).</td>
</tr>
<tr>
<td>Language</td>
<td>Language choices generally support the effectiveness of the presentation and are appropriate for the audience.</td>
<td>Delivery techniques make the presentation interesting and speaker appears comfortable.</td>
<td>Supporting materials make appropriate reference to information or analysis that generally supports the presentation.</td>
<td>Central message is clear and consistent with the supporting material.</td>
</tr>
<tr>
<td></td>
<td>Language choices partially support the effectiveness of the presentation and are appropriate for the audience.</td>
<td>Delivery techniques make the presentation understandable, and speaker appears tentative.</td>
<td>Supporting materials make appropriate reference to information or analysis that partially supports the presentation.</td>
<td>Central message is basically understandable but is not often repeated or is not memorable.</td>
</tr>
<tr>
<td></td>
<td>Language choices are unclear and minimally support the effectiveness of the presentation and are not appropriate for the audience.</td>
<td>Delivery techniques detract from the understandability of the presentation and speaker appears uncomfortable.</td>
<td>Insufficient supporting materials make reference to information or analysis that minimally supports the presentation.</td>
<td>Central message can be deduced, but is not explicitly stated in the presentation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>4 - Exemplary</th>
<th>3 - Proficient</th>
<th>2 - Marginal</th>
<th>1 - Unacceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLO 5 – PhD Critical thinking and application</td>
<td>Has stated the research problem clearly, providing motivation for</td>
<td>Clear statement of the research problem with well stated associated rationale</td>
<td>Statement of research problem with associated rationale</td>
<td>Unclear statement of research problem OR rationale for undertaking the research is not well developed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Unclear statement of research problem AND rationale for undertaking the research is not well developed</td>
</tr>
</tbody>
</table>
| of inquiry and analysis | undertaking the research | | | | | | \hline
| Max. 36 points, min. 9 points | | | | | | \hline
| Demonstrated the potential value of solution to the research problem in advancing knowledge within the area of study | Clearly states the value of the proposed research | States the value of proposed research | Recognizes the value of the research but didn’t state explicitly | Doesn’t recognize the potential value of the proposed research | | | \hline
|Demonstrates sound knowledge of literature in the area, and of prior work on the specific research problem| Synthesizes in-depth information from relevant sources representing various points of view/approaches| Presents in-depth information from relevant sources presenting various points of view/approaches | Presents information from relevant sources representing limited points of view/approaches | Presents information from irrelevant sources representing limited points of view/approaches | | | \hline
|Research is creative and original with well-defined hypotheses or objectives | Highly creative and original with well-defined hypotheses or objectives | Somewhat creative and original with well-defined hypotheses or objectives | Research not very creative and original OR hypotheses or objectives not well-defined | Research neither creative nor original AND hypotheses or objectives not well-defined | | | \hline
<table>
<thead>
<tr>
<th>Has applied sound state-of-the field research methods/tools to solve the defined problem and has described the methods/tools effectively</th>
<th>All elements of the methodology are skillfully developed. Appropriate methodology may be synthesized from across disciplines or from relevant subdisciplines</th>
<th>Critical elements of the methodology are appropriately developed, however, more subtle elements are ignored or unaccounted for</th>
<th>Critical elements of the methodology are missing, incorrectly developed, or unfocused</th>
<th>Design of experiments demonstrates a misunderstanding of the methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyzed and interpreted research results/data effectively</td>
<td>Organizes and synthesizes evidence to reveal insightful patterns, differences, or similarities related to focus</td>
<td>Organizes evidence to reveal important patterns, differences, or similarities related to focus</td>
<td>Organizes evidence, but the organization is not effective in revealing important patterns, differences, or similarities</td>
<td>Lists evidence, but it is not organized and/or is unrelated to focus</td>
</tr>
<tr>
<td>Conclusions</td>
<td>Conclusions are logical extrapolations from the research findings</td>
<td>Conclusions focused solely on research findings.</td>
<td>Conclusions are so general that they apply beyond the scope of the research findings</td>
<td>Conclusions are ambiguous, illogical, or unsupported from inquiry findings</td>
</tr>
<tr>
<td>Demonstrated awareness of broader implications and limitations of the concluded research</td>
<td>Insightfully discusses in detail relevant and supported limitations and implications</td>
<td>Discusses relevant and supported limitations and implications</td>
<td>Presents relevant and supported limitations and implications</td>
<td>Presents limitations and implications but they are possibly irrelevant and unsupported</td>
</tr>
<tr>
<td>Has demonstrated capability for</td>
<td>Research was conceived and conducted independently and candidate has</td>
<td>Research was conceived and conducted with minimal supervision.</td>
<td>Research topic and methodology was conceived with much supervision.</td>
<td>Research topic and methodology was provided to the student and candidate</td>
</tr>
<tr>
<td>independent research in the area of study and expertise in the area, appropriate to the degree</td>
<td>demonstrated a high level of expertise in the area</td>
<td>Candidate is confident in the area of research</td>
<td>Candidate shows some competence in the area</td>
<td>shows little expertise in the area</td>
</tr>
</tbody>
</table>