## Appendix B: Chemistry and Biochemistry Oral Presentation Rubric

### Scoring Rubric for Oral Scientific Presentations

<table>
<thead>
<tr>
<th>Level of Achievement</th>
<th>Excellent 16-20 points</th>
<th>Good 11-15 points</th>
<th>Marginal 6-10 points</th>
<th>Inadequate 0-5 points</th>
</tr>
</thead>
</table>
| **Organization**      | • Well thought out with logical progression  
                        • Use of proper language  
                        • Significance clearly stated  
                        • Content level appropriate for audience  
                        • Abstract and bibliography are well constructed | • Talk easy to follow  
                        • Use of proper language  
                        • Significance clearly stated  
                        • Content level not always appropriate  
                        • Abstract and/or bibliography have some errors | • Talk somewhat disorganized  
                        • Shows some effort to use proper language  
                        • Significance somewhat unclear  
                        • Includes some irrelevant content and inappropriate content level  
                        • Abstract and bibliography are not well constructed | • Talk difficult to follow  
                        • Unclear language  
                        • Does not understand significance of work  
                        • Inadequate content  
                        • Abstract and bibliography lack proper content and construction |
| **Understanding of Scientific Content** | • Identifies the research question/research field  
                        • Has advanced understanding of the experimental approach and significance  
                        • Critically evaluates results, methodology and conclusions  
                        • Scientifically rigorous and well researched | • Identifies the research question/research field  
                        • Has basic understanding of the experimental approach and significance  
                        • Limited evaluation of results, methodology and conclusions  
                        • Well researched | • Research question/research field somewhat unclear  
                        • Description of experimental approach somewhat confusing  
                        • Results and conclusions stated but not critically evaluated  
                        • Does not integrate outside readings | • Does not understand the research  
                        • Does not understand the experimental approach  
                        • Does not understand conclusions or recognize implications for future work |

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**Understanding of Scientific Content**

- Identifies the research question/research field
- Has advanced understanding of the experimental approach and significance
- Critically evaluates results, methodology and conclusions
- Scientifically rigorous and well researched

**Organization**

- Well thought out with logical progression
- Use of proper language
- Significance clearly stated
- Content level appropriate for audience
- Abstract and bibliography are well constructed

**Excellent 16-20 points**

- Talk easy to follow
- Use of proper language
- Significance clearly stated
- Content level not always appropriate
- Abstract and/or bibliography have some errors

**Good 11-15 points**

- Talk somewhat disorganized
- Shows some effort to use proper language
- Significance somewhat unclear
- Includes some irrelevant content and inappropriate content level
- Abstract and bibliography are not well constructed

**Marginal 6-10 points**

- Talk difficult to follow
- Unclear language
- Does not understand significance of work
- Inadequate content
- Abstract and bibliography lack proper content and construction

**Inadequate 0-5 points**

- Does not understand the research
- Does not understand the experimental approach
- Does not understand conclusions or recognize implications for future work
<table>
<thead>
<tr>
<th>Style/Delivery</th>
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<th>Style/Delivery</th>
<th>Style/Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Uses time wisely</td>
<td>• Speaks well, but often repeats comments</td>
<td>• Presentation poorly timed</td>
<td>• Presentation poorly timed</td>
<td>• Presentation poorly timed</td>
</tr>
<tr>
<td>• Speaks with good pacing and enthusiasm</td>
<td>• Exhibits few disfluencies (“ahs”, “uhms”, etc.)</td>
<td>• Some hesitation and uncertainty are apparent</td>
<td>• Makes no eye contact and reads from notes</td>
<td>• Makes no eye contact and reads from notes</td>
</tr>
<tr>
<td>• Makes eye contact and does not read information</td>
<td>• Makes eye contact</td>
<td>• Exhibits many disfluencies</td>
<td>• Hesitation and uncertainty are very apparent</td>
<td>• Hesitation and uncertainty are very apparent</td>
</tr>
<tr>
<td>• Uses engaging tone and appropriate vocabulary</td>
<td>• Uses good vocabulary and tone</td>
<td>• Makes little eye contact and looks at notes</td>
<td>• Speaks too quietly or quickly for audience to hear and understand</td>
<td>• Speaks too quietly or quickly for audience to hear and understand</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Use of Visual Aids</th>
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<th>Use of Visual Aids</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Tables/graphs summarize data and/or conclusions</td>
<td>• Text appropriately sized</td>
<td>• Labels and legends somewhat unclear</td>
<td>• Labeling is not clear</td>
<td>• Labeling is not clear</td>
</tr>
<tr>
<td>• Size and labels are clear</td>
<td>• Very little text</td>
<td>• Text size somewhat small</td>
<td>• Size is too small to see</td>
<td>• Size is too small to see</td>
</tr>
<tr>
<td>• Very little text</td>
<td>• Most figures and images explained and described well</td>
<td>• Too much detail on slides</td>
<td>• No logical placement of information</td>
<td>• No logical placement of information</td>
</tr>
<tr>
<td>• Figures and images explained and described well</td>
<td>• Presentation has an occasional misspelling or grammatical error</td>
<td>• Blocks of text on slides</td>
<td>• Mostly text and very few images</td>
<td>• Mostly text and very few images</td>
</tr>
<tr>
<td>• Presentation has no misspellings or grammatical errors</td>
<td>• Uses laser pointer effectively</td>
<td>• Figures are explained</td>
<td>• Figures are not explained</td>
<td>• Figures are not explained</td>
</tr>
<tr>
<td>• Makes limited and effective use of laser pointer</td>
<td>• AV set up properly</td>
<td>• Presentation has multiple misspellings and/or grammatical errors</td>
<td>• Presentation has numerous misspellings and/or grammatical errors</td>
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</tr>
<tr>
<td>• AV set up properly</td>
<td>• Uses laser pointer unnecessarily</td>
<td>• Uses laser pointer unnecessarily</td>
<td>• Use of laser pointer is distracting</td>
<td>• Use of laser pointer is distracting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ability to Answer Questions</th>
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<th>Ability to Answer Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Anticipates audience questions</td>
<td>• Does not anticipate audience questions</td>
<td>• Does not anticipate audience questions</td>
<td>• Either makes no effort to respond to questions or does so poorly</td>
<td>• Either makes no effort to respond to questions or does so poorly</td>
</tr>
<tr>
<td>• Understands audience questions</td>
<td>• Understands audience questions</td>
<td>• Makes an effort to address question</td>
<td>• Makes an effort to address question</td>
<td>• Makes an effort to address question</td>
</tr>
<tr>
<td>• Can integrate knowledge to answer questions</td>
<td>• Can integrate knowledge to answer questions</td>
<td>• Can address some questions</td>
<td>• Can address some questions</td>
<td>• Can address some questions</td>
</tr>
<tr>
<td>• Thoroughly responds to questions</td>
<td>• Thoroughly responds to most questions</td>
<td>• Often responds poorly to questions</td>
<td>• Often responds poorly to questions</td>
<td>• Often responds poorly to questions</td>
</tr>
</tbody>
</table>