**Research MS Student - Thesis and Oral Defense Evaluation**

Student Name: ____________________________

Committee Member Name: ____________________________

*Instructions*: Please rate the student on their performance on the written thesis and the oral presentation. Details on the categories are provided on the opposite side.

Please provide constructive feedback! This will be provided to the student.

*A score of 3 is a good score and means the student is performing to baseline standards. Give higher scores only if the student is doing exceptionally well.*

<table>
<thead>
<tr>
<th>Graduate Learning Objective (GLO)</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>ND</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 - Demonstrate subject knowledge</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core chemical engineering topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research field topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2 - Demonstrate professional skills</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Written communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data presentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organization and planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3 - Demonstrate responsible and ethical conduct</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethical behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safe work practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4 - Demonstrate research skills</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical analysis of research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method development &amp; experiment design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data analysis and interpretation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5 - Make an original contribution to the discipline</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Originality and independence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Evaluation Scale**

5 = Outstanding
4 = Exceeds Expectations
3 = Satisfactory
2 = Needs Improvement
1 = Unsatisfactory
ND = Not able to be determined
NA = Not applicable
<table>
<thead>
<tr>
<th>Feedback on the student’s strengths:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Feedback on areas for improvement:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

______________________________  __________________
Student Signature                Date

______________________________  __________________
Faculty Signature                Date
# MS Chemical Engineering - Baseline Criteria for Evaluation

<table>
<thead>
<tr>
<th>MS Graduate Learning Objectives</th>
<th>Satisfactory Level of MS Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GLO1 - Demonstrate subject knowledge</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Core chemical engineering topics | • Demonstrates the ability to learn and apply new content related to the core CM topics  
• Able to accurately solve quantitative and conceptual problems with occasional mistakes  
• Able to propose and conduct projects relevant to the core CM disciplines |
| Research field/Elective topics | • Demonstrates a solid understanding of existing literature, scientific concepts, and experimental strategies  
• Able to synthesize and summarize information from diverse sources |
| **GLO2 - Demonstrate professional skills** | |
| Written communication | • Writing is mostly clear and well-organized, and level of writing is appropriate to the audience  
• Mostly accurate use of grammar, mechanics, spelling and punctuation |
| Oral communication | • Presentation is clear, professional, engaging, and at the level of their audience’s understanding  
• Able to concisely describe their project, why it is important, what their data shows, and what it means  
• Speed, mannerisms, language, and eye contact are appropriate and not distracting  
• Supporting materials (poster, slides, etc.) are well organized, legible, and contain few typos |
| Data presentation | • Figures and tables are legible, well-organized, relevant and decipherable in terms of their meaning |
| Organization and planning | • Keeps their work spaces organized and respects the space/equipment/resource needs of others  
• Able to design a schedule and research plan, and stay focused on a task to achieve a desired outcome |
| **GLO3 - Demonstrate responsible & ethical conduct** | |
| Professional behavior | • Collaborates well during team activities (listening, leadership, negotiation, training)  
• Able to balance the demands of different responsibilities and effectively manages their time  
• Arrives to scheduled events on time and fully prepared to participate |
| Ethical behavior | • Properly cites and references prior work during written and oral presentations  
• Properly records and maintains research data  
• Reports all relevant data, neither adding false data nor omitting inconvenient data |
| Safe work practices | • Prepares proper safety documentation before beginning a new experiment and follows safe work practices  
• Responds quickly to rectify deficiencies in work practices and promotes safe work practices to others |
| **GLO4 – Demonstrate research skills** | |
| Critical analysis of research | • Able to summarize key points from and identify strengths and weaknesses in their own and other’s research |
| Method application and experimental design | • Applies existing methods and designs experiments to answer research questions  
• Understands when it is appropriate to use certain techniques |
| Data analysis and interpretation | • Recognizes which data is clearly relevant to their research, and reports and interprets the meaning accurately  
• Correctly and creatively applies statistics, analytical and computational tools to analyze data, where appropriate |
| **GLO5 – Make original contribution to the discipline** | |
| Originality and independence | • Able to independently learn and apply new content  
• Self-motivated and capable of thinking of next steps required for a project to proceed |