

**Students Name:**

**Student's Graduate Program: Mechanical Engineering**

## Appendix C. **RUBRIC FOR EVALUATING PHD CANDIDACY EXAMINATION**

**Committee Members and Students are responsible for being aware of the evaluation rubric in advance of the examination.**

**Date of Exam:**

**Student Name:**

**Student Number:**

**PhD Candidacy examination committee members:**

### Examination Procedure

- Candidate presents a brief (~20 minute) summary of the work
- Examining committee asks at least two rounds of questions. The set of question should address the attributes in this rubric. In particular, questions must assess the candidate's
  - Understanding of the subject matter and associate literature.
  - Breath of knowledge in the relevant areas.
  - Understanding of the fundamental concepts and methodology.
- When questioning is completed, the candidate is asked to leave the room
- Each committee member must complete the attached response sheets **separately and prior to the post-oral discussion.**
- For each attribute that a committee member feels is somewhat or very deficient, a short explanation should be provided. Confidential Comment sections at the bottom of the rubric are provided for explanations.
- The committee conducts post-oral discussion in camera. The discussion and decision of the examining committee should be based on the completed rubrics.
- The committee choose an outcome.

Completed forms are to be treated as **confidential** and are to be **turned in to the graduate program director.**

Completed by:

**Students Name:**

**Student's Graduate Program: Mechanical Engineering**

Attribute for Written	Does Not Meet Expectations	Meets Expectations	Exceeds Expectations
Quality of writing	<ul style="list-style-type: none"><li>• Writing is weak</li><li>• Numerous grammatical and spelling errors apparent</li><li>• Organization is poor</li><li>• Documentation is poor</li></ul>	<ul style="list-style-type: none"><li>• Writing is adequate</li><li>• Some grammatical and spelling errors apparent</li><li>• Organization is acceptable</li><li>• Documentation is adequate</li></ul>	<ul style="list-style-type: none"><li>• Writing is high quality</li><li>• No grammatical and spelling errors apparent</li><li>• Organization is excellent</li><li>• Documentation is excellent</li></ul>
Quality of formatting	<ul style="list-style-type: none"><li>• Formatting is inconsistent</li><li>• Equations are not clear or not coherent</li><li>• Figures are difficult to read or not relevant</li><li>• Captions/legends are not clear</li></ul>	<ul style="list-style-type: none"><li>• Formatting is consistent</li><li>• Equations are clear and logical</li><li>• Figures clear to read and relevant</li><li>• Captions/legends are clear</li></ul>	<ul style="list-style-type: none"><li>• Formatting is excellent</li><li>• Equations are excellent</li><li>• Figures are excellent</li><li>• Captions/legends are excellent</li></ul>
Overall assessment	<ul style="list-style-type: none"><li>• Does not meet expectation</li></ul>	<ul style="list-style-type: none"><li>• Meets expectation</li></ul>	<ul style="list-style-type: none"><li>• Exceeds expectation</li></ul>

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Attribute for Oral	Does Not Meet Expectations	Meets Expectations	Exceeds Expectations
Quality of presentation	<ul style="list-style-type: none"><li>• Poorly organized</li><li>• Poor presentation</li><li>• Poor communication skills</li></ul>	<ul style="list-style-type: none"><li>• Clearly organized</li><li>• Clear presentation</li><li>• Good communication skills</li></ul>	<ul style="list-style-type: none"><li>• Well organized</li><li>• Professional presentation</li><li>• Excellent communication skills</li></ul>
Overall breadth of knowledge	<ul style="list-style-type: none"><li>• Presentation reveals critical weaknesses in depth of knowledge</li><li>• Presentation does not reflect well developed critical thinking</li><li>• Presentation is narrow in scope</li></ul>	<ul style="list-style-type: none"><li>• Presentation reveals some depth of knowledge</li><li>• Presentation reveals adequate critical thinking skill</li><li>• Presentation reveals the ability to draw from broad knowledge</li></ul>	<ul style="list-style-type: none"><li>• Presentation reveals excellent depth of knowledge</li><li>• Presentation reveals well developed critical thinking skill</li><li>• Presentation reveals the ability to interconnect and extend knowledge from multiple disciplines</li></ul>
Quality of response to questions	<ul style="list-style-type: none"><li>• Responses are incomplete or require prompting</li><li>• Arguments are poorly presented</li><li>• Respondent exhibits lack of knowledge</li><li>• Responses do not meet level of expectation</li></ul>	<ul style="list-style-type: none"><li>• Responses are complete</li><li>• Arguments are well presented</li><li>• Respondent exhibits adequate knowledge</li><li>• Responses meet level of expectation</li></ul>	<ul style="list-style-type: none"><li>• Responses are eloquent</li><li>• Arguments are skillfully presented</li><li>• Respondent exhibits excellent knowledge</li><li>• Responses exceed level of expectation</li></ul>
Overall assessment	<ul style="list-style-type: none"><li>• Does not meet expectation</li></ul>	<ul style="list-style-type: none"><li>• Meets expectation</li></ul>	<ul style="list-style-type: none"><li>• Exceeds expectation</li></ul>

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Attribute for Research	Does Not Meet Expectations	Meets Expectations	Exceeds Expectations
Overall Quality of Science	<ul style="list-style-type: none"><li>• Arguments are incorrect, incoherent or flawed</li><li>• Objectives are poorly defined</li><li>• Demonstrates rudimentary critical thinking</li><li>• Does not reflect understanding of subject matter and associated literature</li><li>• Demonstrates poor understanding of theoretical concepts</li><li>• Displays limited creativity and insight</li></ul>	<ul style="list-style-type: none"><li>• Arguments are coherent and clear</li><li>• Objectives are clear</li><li>• Demonstrates adequate critical thinking skills</li><li>• Reflects understanding of subject matter and associated literature</li><li>• Demonstrates understanding of theoretical concepts</li><li>• Displays creativity and insight</li></ul>	<ul style="list-style-type: none"><li>• Arguments are superior</li><li>• Objectives are well defined</li><li>• Demonstrates mature critical thinking skills</li><li>• Exhibits mastery of subject matter and associated literature</li><li>• Demonstrates mastery of theoretical concepts</li><li>• Displays exceptional creativity and insight</li></ul>
Contribution to discipline	<ul style="list-style-type: none"><li>• Limited evidence of potential discovery</li><li>• Limited expansion upon previous research</li><li>• Limited potential of theoretical or applied significance</li></ul>	<ul style="list-style-type: none"><li>• Some evidence of potential discovery</li><li>• Builds upon previous research</li><li>• Reasonable potential of theoretical or applied significance</li></ul>	<ul style="list-style-type: none"><li>• Exceptional evidence of potential discovery</li><li>• Greatly extends previous research</li><li>• Exceptional potential of theoretical or applied significance</li></ul>
Overall assessment	<ul style="list-style-type: none"><li>• Does not meet expectation</li></ul>	<ul style="list-style-type: none"><li>• Meets expectation</li></ul>	<ul style="list-style-type: none"><li>• Exceeds expectation</li></ul>

Confidential Comments: