

**Objective/Criteria for Evaluation**

<p><b>1. A more general and fundamental understanding of the principles underlying a particular field of study as well as those underlying related fields.</b></p>				
<p><b>a. Depth of Knowledge</b>                  Student shows excellent understanding of fundamental principles. Directly related to project.                  Student displays good understanding of fundamentals directly related to project.                  Understanding of fundamental principles directly related to project is weak.</p>	<p>Exemplary 12</p>	<p>Satisfactory 15</p>	<p>Unacceptable 1</p>	<p>No Vote 0</p>
<p><b>b. Breadth of knowledge</b>                  Student shows good understanding of related principles.                  Knowledge of related subjects is adequate.                  Knowledge of related subjects is weak.</p>	<p>Exemplary 13</p>	<p>Satisfactory 14</p>	<p>Unacceptable 1</p>	<p>No Vote 0</p>
<p><b>2. A Familiarity with advanced methods of analysis and synthesis that are more powerful and more generally applicable than those taught at the undergraduate level.</b></p>				
<p>Student is competent in the most advanced techniques needed for research in the field. Student can synthesize and integrate results and relate them to the hypothesis.                  Student is competent in experimental/analytical techniques needed for research in the field. Student can accept or reject hypotheses.                  Student is competent in analytical techniques, with little understanding of the principles underlying the techniques. Student has difficulty in addressing the hypothesis.</p>	<p>Exemplary 13</p>	<p>Satisfactory 14</p>	<p>Unacceptable 1</p>	<p>No Vote 0</p>

**3. The ability to independently read and under the significance and limitations of the relevant literature.**

	Exemplary	Satisfactory	Unacceptable	No Vote
Student actively searches all work directly and indirectly related to the project. Student can identify the strengths and limitations of various methods.	9			
Student has read the literature related to project, and understands how project fits into the literature.		17		
Student has read only some of the articles related to the project			1	1

**4. The ability to formulate, initiate, and complete new and innovative research projects that contribute to the advancement of the field.**

	Exemplary	Satisfactory	Unacceptable	No Vote
<b>a. Impact on advancement of the field.</b>				
Work has strong impact on the field.	13			
Work has incremental impact on field.		14		
Work has no impact on the field.			1	0
<b>b. Adequacy of the scope of the research.</b>				
Work has examined many facets on the field.	10			
Amount of work is adequate.		18		
Amount of work done is inadequate.			0	0
<b>c. Adequacy of the depth of the research.</b>				
Work has probed deeply the principles behind the problem.	9			
Work answers the basic questions of the problem.		17		
Work only touched the surface of the problem.			2	0

	Exemplary	Satisfactory	Unacceptable	No Vote
<b>d. Novelty of the research.</b> The thesis is an innovative idea from the student; student shows creativity in designing experiments and solving problems.	7			
Student contributed originally to designing experiments and solving problems.		12		
The student followed directions from his/her advisor.			8	1

<b>5. To communicate effectively in written and oral form.</b>				
	Exemplary	Satisfactory	Unacceptable	No Vote
<b>a. Quality of the writing style.</b> Written sentences are complete and grammatical, and they flow together easily. Words are chosen for their precise meaning.	12			
Writing is grammatically correct. Paragraphs and sentences may not flow together perfectly.		14		
Writing contains grammatical errors.			2	0
<b>b. Organization of the written thesis.</b>				
Thesis is logically organized and easy to follow.	11			
Thesis organization is clear		17		
Thesis is poorly organized.			0	0
<b>c. Organization of the presentation.</b>				
	Exemplary	Satisfactory	Unacceptable	No Vote

<p>Presentation is clear, logical and organized. Listener can follow line of reasoning. Pacing is correct for the audience.</p> <p>Listener can follow and understand the presentation.</p> <p>Talk is poorly organized. Speaker jumps around from topic to topic.</p>	<p>20</p>	<p>8</p>	<p>0</p>	<p>0</p>	<p>0</p>
<p><b>d. Clarity of the language usage.</b>                      Speaker is comfortable in front of the group and can be heard by all.</p> <p>Grammatical errors and use of slang are evident. Some sentences may be incomplete.</p> <p>Speaker is difficult to understand or hear.</p>	<p>26</p>	<p>2</p>	<p>0</p>	<p>0</p>	<p>0</p>
<p><b>e. Ability to answer questions.</b>                      Answered questions directly and clearly.</p> <p>Student can answer questions, but with some difficulty.</p> <p>Student had difficulty understanding questions and answering clearly.</p>	<p>11</p>	<p>14.5</p>	<p>2.5</p>	<p>0</p>	<p>0</p>
<p><b>f. Quality of slides.</b>                      Slides enhance the presentation and are prepared in a professional manner.</p> <p>Slides are adequate for the presentation.</p> <p>Slides are inadequate (writing too small, too much or too little information per slide).</p>	<p>23</p>	<p>5</p>	<p>0</p>	<p>0</p>	<p>0</p>