

## Civil Engineering Final Project Assessment Rubrics

Measurement of Objectives	<i>Student Performance</i>		
	<i>Exceeded Expectations</i>	<i>Met Expectations</i>	<i>Didn't Meet Expectations</i>
<b>Objective 1. Demonstrate breadth and depth of knowledge and skills appropriate to specialization</b>			
1a. Knowledge of relevant research on the subject	Excellent and thorough understanding of relevant literature and research, in-depth knowledge of researched subject.	Familiar with and adequate understanding of relevant literature and research, knowledgeable on researched subject.	Inadequate knowledge and misunderstanding of relevant literature and research, insufficient knowledge of researched subject.
1b. Extensiveness, quality and variety of literature	Reviewed literature is comprehensive and extensive, covering both theory and application. Majority are peer-reviewed publications.	Reviewed literature covers a variety of sources including theory and application. A number of literatures are peer-reviewed publications.	Reviewed literature is inadequate and is not related well to the researched subject. Little peer-reviewed publications.
<b>Objective 2. Apply appropriate concepts and methods to solve problems</b>			
2a. Methodology (experiment design, computer analysis method, data collection)	Rigorous experiment design and/or computer analysis method appropriate to the researched subject. Justify selected methodologies and protocols. Explain assumptions and reasoning fully.	Experiment design and/or computer analysis method are appropriate to the researched subject. Describe assumptions and justify chosen methodologies and protocols.	Experiment design and/or computer analysis are not appropriate to the researched subject. Inadequate justification on the chosen methodologies and protocols.
2b. Data analysis and/or comparative study	Data are fully analyzed with appropriate concepts and methods. Appropriate comparisons with a wide variety of relevant solutions. Apply statistical and/or sensitivity analysis, where applicable.	Data are analyzed using appropriate concepts and methods. Some comparisons with a few relevant solutions. Consider statistical and/or sensitivity analysis, where applicable.	Major problem with concepts and methods of data analysis. Little or no comparison with other relevant solutions.
<b>Objective 3. Identify and analyze problems and issues</b>			
3a. Statement of objectives	Research problem is clearly defined and significance shown.	Research problem is defined and significance indicated.	Research problem is not well defined and/or insignificant.

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3b. Discussions, conclusions, recommendations	Results are evaluated correctly. Major alternatives are assessed thoughtfully. Result discussions are linked to research objectives and are related to other relevant work. Conclusions are clearly drawn from results. Future research is recommended. New research questions are suggested.	Results are evaluated and are mostly correct. There is assessment on alternatives. Result discussions are linked to research objectives, related to some other relevant work. Conclusions are drawn from results. Some but brief recommendations on future research and new research questions.	Results are evaluated, but have some major problems. Little or no assessment on alternatives. No linkage of results to research objectives. Weak or inappropriate connection between conclusions and results. No recommendations on future and new research questions.
<b>Objective 4. Exhibit professional practices and ethics</b>			
4a. Ethical research conduct (follow methodology in experiments, computer analysis, data collection)	Follow through diligently and honestly on approved methodology in conducting experiments, computer analysis, data collection, and reporting.	Follow through on the majority of approved methodology in conducting experiments, computer analysis, data collection, and reporting.	Not follow through on approved methodology in conducting experiments, computer analysis, data collection, and reporting.
4b. Citation of sources and use of references	All references are cited properly. Contributions of others are fully acknowledged	References are cited. Contributions of others are acknowledged.	The citation of references and acknowledgment are incomplete or missing.
<b>Objective 5. Communicate clearly and effectively</b>			
<b>5a. Written Report</b>			
Writing style, organization, grammar, English usage	Excellent organization, structure, presentation of the research. Excellent quality in text, figures, and English usage.	The presented research is well organized. Text and figures are well prepared. No major errors of English usage.	Lack of organization in the presented research. Major Improvements are needed on text, figures, English usage.
<b>5b. Final Presentation</b>			
5b1. Thoroughness, cohesiveness, delivery style, quality of visual aids	Very thorough and cohesive oral presentation. The presentation is of excellent quality and well prepared.	The oral presentation covers major aspects of the research. The presentation is of good quality and well prepared.	The oral presentation misses some important aspects of the research. Major improvement is needed with the presentation.
5b2. Ability to comprehend and respond to questions	Fully comprehend questions. Answer all questions correctly with explanations and elaborations.	Comprehend and answer majority of questions correctly. Need guidance with some questions.	Unable to comprehend or answer most questions.