

## Assessment Rubric: Interim Design Report

The first semester design report is a required component of CHBE 411, a course taken by all CHBE majors. We are including the report in the student portfolio to provide assessment data relevant to program outcomes **c** and **h**.

**c.** ...an ability to design a system, component, or process to meet desired needs.

**h.** ...the broad education necessary to understand the impact of engineering solutions in a global and societal context.

This assessment rubric is designed to help evaluate student performance relative to these outcomes.

### Outcome c. ... an ability to design a system, component, or process to meet desired needs.

Outcome element	Unacceptable (0)	Marginal (1)	Acceptable (2)	Exceptional (3)	Points
<b>Clearly articulated need that is to be addressed by the design.</b>	No need is indicated.	Need stated incompletely or ambiguously.	Statement of need is made, but some improvement is possible.	Clearly articulated statement of need.	
<b>Does the proposed design meet the need?</b>	No evidence that the proposed design will meet the stated need.	Reader must infer how the design will meet the need.	It is apparent that the design will meet the stated need, but could be presented better.	The utility of the design in meeting the stated need is well communicated as part of the presentation.	
<b>Has the group assembled a logical and practical sequence of integrated unit operations?</b>	The proposed design sequence cannot achieve the intended result.	The proposed design sequence will likely work, but design has significant shortcomings.	The proposed design sequence appears to be a reasonable approach to accomplishing the intended task.	The proposed design sequence exhibits a high degree of innovation.	
<b>Has the group integrated knowledge from multiple courses or sources?</b>	No evidence of knowledge presented.	Minimal integration is evident; the bulk of the design comes from one field of study.	The students have successfully incorporated information from multiple courses.	The students have successfully incorporated information from multiple sources, including sources beyond the classroom.	
<b>Has safety been considered appropriately in the design?</b>	Obvious safety problems with the proposed design.	The design appears to be potentially safe, but safety awareness is poorly articulated in the report.	Safety awareness has clearly been a part of the proposed design.	The design is innovative in building safety into the proposed process.	
<b>Has the design been clearly presented?</b>	The report is difficult to comprehend, full of errors, or fails to communicate clearly.	The design is presented, but lots of room for improvement.	The reader can easily grasp the technical features of the proposed design.	The proposed design is presented in a way that is both technically correct and highly readable.	

**Outcome h. ... the broad education necessary to understand the impact of engineering solutions in a global and societal context.**

Outcome element	Unacceptable (0)	Marginal (1)	Acceptable (2)	Exceptional (3)	Points
<b>Evidence that the proposed solution must fit into a global context.</b>	The proposed solution is clearly detrimental to the planet.	The proposed solution is reasonable, but the impact on society and the planet is poorly articulated.	The impact of the proposed solution on society and the planet is considered and reported.	The proposed solution is an innovative approach to solving a global or societal problem.	

**Assessing the assessment tool...**

After completing the assessment of the transport projects, please complete the following items on a fresh assessment form.

This assessment rubric was:            [useless] -- | -- [marginal] -- | -- [helpful] -- | -- [awesome]

Suggestions for improving this tool...