

UNIVERSIDAD DE LAS AMERICAS PUEBLA – SCHOOL OF ENGINEERING – STUDENT OUTCOMES

Academic Program		Curricular review	
Course		Semester	
Type of work used for assessment		Sample size / Students in course	

2. Ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

Scale Element\Rating	4	3	2	1
Identify	Clearly identifies objectives and standards based on general and realistic engineering design requirements and constraints.	Adequately identifies objectives, standards, and constraints based on general engineering design requirements and constraints.	Have fails to identifies objectives, standards, and constraints based on general engineering design requirements and constraints.	Does not identifies objectives, standards, and constraints based on general engineering design requirements and constraints.
Analyze	Always applies appropriate engineering analysis of a problem to design its solution, or if applicable, different solution alternatives.	Generally applies appropriate engineering analysis of a problem to design its solution, or if applicable, different solution alternatives.	Occasionally applies appropriate engineering analysis of a problem to design its solution, or if applicable, different solution alternatives.	Does not apply appropriate engineering analysis of a problem to design its solution.
Evaluate solutions	Fully evaluates each generated solution against recognized requirements.	Generally evaluates each generated solution against recognized requirements.	Occasionally evaluates each generated solution against recognized requirements.	Does not evaluate each generated solution against recognized requirements.
Develop solutions	Student clearly defines or describes an effective solution methodology that meets realistic technical specifications.	Student mostly defines or describes an effective solution methodology that meets realistic technical specifications.	Student poorly defines or describes an effective solution methodology that meets realistic technical specifications.	Student does not define or describes an effective solution methodology that meets realistic technical specifications.
Implement engineering design	Achieves satisfactory completion of the design meeting the initial specifications.	Achieves completion of the design meeting the initial specifications.	Achieves partial completion of the design meeting the initial specifications.	Does not complete the design.
Consider non-technical issues	Considers significant non-technical issues (such as cultural, social, environmental, and economic factors), and incorporates them into the design.	Considers common non-technical issues (such as cultural, social, environmental, and economic factors), and incorporates them into the design.	Occasionally considers non-technical issues (such as cultural, social, environmental, and economic factors), and incorporates them into the design.	Does not incorporate non-technical issues (such as cultural, social, environmental, and economic factors) into the design.