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**	

1. Ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science and mathematics.

Scale Element\Rating	4	3	2	1
Identify	Clearly identifies the characteristics of a complex engineering problem.	Adequately identifies the characteristics of a complex engineering problem.	Fails identifying the characteristics of a complex engineering problem.	Does not identify the characteristics of a complex engineering problem.
Formulate	Formulates a fully appropriate (based on principles of engineering, science and math) and clear solution to the identified problem .	Does not formulates a fully appropriate or clear solution to the identified problem.	Formulates an inappropriate or unclear solution to the identified problem.	Does not formulate a solution to the identified problem.
Evaluate solutions	Performs a logical and exhaustive interpretation of the findings.	Performs an adequate interpretation of the findings.	Performs an inadequate/incomplete interpretation of the findings.	Does not interpret the findings.
Apply resources (techniques, skills and modern tools)	Consistently applies appropriate resources to identify, formulate and solve the problem.	Generally applies resources to identify, formulate and solve the problem.	Ocassionaly applies resources to identify, formulate and solve the problem.	Does not apply resources to identify, formulate and solve the problem.

	Characteristics
Complex problems have one or more of the following characteristics:	1) Involve a wide-range, or conflicting, technical issues. 2) Have no obvious solution. 3) Address problems not encompassed by current standards and codes. 4) Involve diverse groups of stakeholders. 5) Include many component parts or sub-problems. 6) Involve multiple disciplines. 7) Have significant consequences in a range of contexts.