

Program Assessment and Evaluation Matrix and Plan (IQ-10)

PO Code	PO Statement	Performance Indicators (PI)	Codes of Key Course(s) for the PI(s)	Assessment Methods			Evaluation Method(s)	Standards
				A1	A2	A3		
a	An ability to apply knowledge of mathematics, physical and information sciences, and engineering sciences to the practice of industrial engineering.	1. Choose the appropriate mathematical, science, and engineering principles in solving problems in engineering.	M-01 to 09, S-01 to 03, E-01-10, L01-03, P-28, P-29, P-30, P-31, P-32, P-33, P-34, P-35, P-36, P-37	Locally developed examination	See template for direct assessment of program outcome Rubric (a)		Meeting and Consultation with the committee and Stakeholders	60% of the students get a rating of 70%
		2. Examine different approaches in solving problems in engineering and choose the most effective approach.						
		3. Apply the appropriate mathematical, science, and engineering principles to arrive at a solution						
b	Ability to design and conduct experiments, as well as to analyze and interpret data.	1. Conduct experiments in accordance with good and safe laboratory practice.	L-01 to L-14, P-27	Laboratory Exercises	Laboratory Exercises Rubric		Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Operate equipment and instruments with ease						
		3. Analyze data, validate experimental values against theoretical values to determine possible experimental errors, and provide valid conclusions.						
c	Ability to design a system, component, or process to meet desired needs within identified constraints.	1. Consideration of economic constraints	E-10, A-04, L-04	Culminating Design Project	Culminating Design Project Rubric		Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Based on accepted local and/or international standards						
		3. Consideration of health and safety/environmental constraints						
d	Ability to work effectively in multi-disciplinary and multi-cultural teams.	1. Take responsibility as an individual or as a team member fulfilling appropriate roles to assure team success.	E-08, E-09, E-10, A-05, P-13 to P-26	Group Project	Rubric for Individual and Team Work		Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Contribute useful inputs in relation to the team's objective.						
		3. Communicate freely to teammates, give and provide feedback and suggestion to improve team outputs.						
e	Ability to recognize, formulate, and solve engineering problems.	1. Ability to identify an engineering problem (Statement of the Problem)	P-28, P-29, P-30, P-31, P-32, P-33, P-34, P-35, P-36, P-37	Engineering Research Project	Rubric for Company Study		Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Ability to formulate engineering solutions to a given problem(Design/Research Methodology)						
		3. Ability to apply the best solution to an engineering problem(Summary and Conclusion)						
f	Recognition of professional, social, and ethical responsibility.	1. Understand the code of ethics relevant to the practice of the profession	P-28, P-29, P-30, P-31, P-32, P-33, P-34, P-35, P-36,	Case Problem	Culminating Design Project	Rubric for Ethics	Consultation with the committee	60% of the students get a rating of 70%
		2. Evaluate the ethical extent of a discipline-related problem						
		3. Apply relevant principles of ethics						

g	Ability to effectively communicate orally and in writing using the English language.	1. Express ideas clearly in English language	P-28, P-29, P-30, P-31, P-32, P-33, P-34, P-35, P-36, P-37	Culminating Design Project	Oral and Written Report	Rubric for Effective communication	Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Effectively communicate with diverse audiences						
		3. Effectively communicate in a variety of ways						
h	Understanding of the effects of engineering solutions in a comprehensive context.	1. Recognize the current effects of engineering solutions in a comprehensive context (e.g., new technologies, new regulations, environmental and energy issues, etc.)	P-28, P-29, P-30, P-31, P-32, P-33, P-34, P-35, P-36, P-37	Culminating Design Project	Rubric for Solutions with Multiple Constraints and Standards		Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Apply appropriate engineering solutions to address the effect of current critical issues.						
i	Ability to engage in life-long learning and an understanding of the need to keep current of the developments in the specified field of practice.	1. Learn independently	P-28, P-29, P-30, P-31, P-32, P-33, P-34, P-35, P-36,	On the job training	Rubric for Life Long Learning		Meeting and Consultation with the	60% of the students get a rating of 70%
		2. Acquire relevant knowledge from outside sources to solve problems						
		3. Recognize one's weaknesses or mistakes as learning opportunities						
j	Knowledge of contemporary issues	1. Apply appropriate techniques, skills, and modern tools to perform a discipline-specific engineering task.	P-28, P-29, P-30, P-31, P-32, P-33, P-34, P-35, P-36, P-37	Engineering Software based tools applied to design course	Rubric for Modern Tool Usage		Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Participates actively in the professional organization.						
		3. Recognize the benefits and constraints of modern engineering tools.						
k	Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	1. Ability to identify an engineering problem (Statement of the Problem)	P-28, P-29, P-30, P-31, P-32, P-33, P-34, P-35, P-36, P-37	Group Project	Rubric for Company Study		Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Ability to formulate engineering solutions to a given problem(Analysis and Formulation of Alternative Courses of Action)						
		3. Ability to apply the best solution to an engineering problem(Conclusion and Recommendations)						
l	Demonstrate knowledge and understanding of engineering and management principles that address national and local issues.	1. Identify the effect of professional engineering solutions to society and the environment.	P-28, P-29, P-30, P-31, P-32, P-33, P-34, P-35, P-36, P-37	Locally developed examination	Rubric for Environment and Sustainability		Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Select appropriate professional engineering solutions to address social and environmental problems.						
		3. Apply professional engineering solutions in solving societal issues towards sustainable development.						
		1. Understands engineering and management principles, guided by La Sallian Principles.	P-28, P-29, P-30, P-31, P-32, P-33, P-34, P-35, P-36, P-37	Group Project	Rubric for Project Management		Meeting and Consultation with the committee	60% of the students get a rating of 70%

m	integrate creative, effective, and implement Christian-like concepts in managing projects.	2. Applies engineering and management principles to an assigned task and in multidisciplinary environments						
		3. Manages assigned projects in multidisciplinary environments						