

**PEMETAAN MATLAMAT PENDIDIKAN INSTITUSI VS. OBJEKTIF PENDIDIKAN PROGRAM (PEO)**  
**&**  
**MATLAMAT PENDIDIKAN INSTITUSI VS. HASIL PEMBELAJARAN PROGRAM (PLO)**

**PROGRAM:**

- **BACHELOR OF MECHANICAL ENGINEERING WITH HONOURS**
- **BACHELOR OF MANUFACTURING ENGINEERING WITH MANAGEMENT WITH HONOURS**

**PTJ: SCHOOL OF MECHANICAL ENGINEERING, UNIVERSITI SAINS MALAYSIA**

**a) Pemetaan PEO - IEG**

<b>PEO</b>	<b>PEO statement</b>	<b>THINKER (T)</b>	<b>BALANCED (B)</b>	<b>ENTREPRENEURIAL (E)</b>	<b>ARTICULATE (A)</b>	<b>HOLISTIC (H)</b>
	To produce employable graduate who:	<b>IEG1</b>	<b>IEG2</b>	<b>IEG3</b>	<b>IEG4</b>	<b>IEG5</b>
PEO1	Excel in engineering practices in various industries	/	/	/	/	/
PEO2	Establish themselves as leaders in their professional career		/	/	/	/
PEO3	Earn an advanced degree or professional qualification	/	/			/

**b) Pemetaan PLO – IEG**

<b>PLO (USM)</b>	<b>MQF 2.0 DOMAIN</b>	<b>PO (EAC)</b>	<b>PROGRAM OUTCOMES (PO) ~ based on Engineering Accreditation Council (EAC) Standard 2020</b>	<b>IEG ELEMENT</b>	
PLO1	• Knowledge & Understanding	<b>PO1</b>	Apply knowledge of mathematics, natural science and engineering fundamentals to solve complex engineering problems particularly in mechanical and manufacturing engineering.	IEG 1	THINKER
PLO2 PLO11	• Cognitive Skills • Numeracy Skills	<b>PO2</b>	Identify, formulate and analyze complex engineering problems to an extent of obtaining meaningful conclusions using principles of mathematics, science and engineering.	IEG 1	THINKER
PLO3	• Cognitive Skills	<b>PO3</b>	Design solutions for complex engineering problems and design systems, components or processes to within the prescribed specifications relevant to mechanical engineering with appropriate considerations for public health and safety, society and environmental impact;	IEG 1	THINKER
PLO3	• Cognitive Skills	<b>PO4</b>	Investigate complex mechanical and manufacturing engineering problems using research-based knowledge and research methods to provide justified conclusions.	IEG 1	THINKER
PLO2 PLO10	• Practical Skills • Digital Skills	<b>PO5</b>	Create, select and apply appropriate techniques, resources, and modern engineering and computational tools to complex engineering problems with an understanding of the limitations.	IEG 1 IEG 2	THINKER BALANCED
PLO6	• Ethics & Professionalism	<b>PO6</b>	Apply appropriate reasoning to assess contemporary societal, health, safety and legal issues to establish responsibilities relevant to professional engineering practice and solutions to complex engineering problems.	IEG 2	BALANCED
PLO6	• Ethics & Professionalism	<b>PO7</b>	Understand and evaluate the sustainability and impact of professional engineering work in the solutions of complex engineering problems in societal and environmental contexts.	IEG 2	BALANCED
PLO6	• Ethics & Professionalism	<b>PO8</b>	Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.	IEG 2	BALANCED
PLO5 PLO9	• Interpersonal Skills • Leadership, Autonomy & Responsibility	<b>PO9</b>	Function successfully and efficiently as an individual, and as a member or leader in multi-disciplinary teams.	IEG 4 IEG 5	ARTICULATE HOLISTIC
PLO4	• Communication Skills	<b>PO10</b>	Communicate effectively both orally and in writing on complex engineering activities with the engineering community and society.	IEG 4	ARTICULATE
PLO8	• Entrepreneurial Skills	<b>PO11</b>	Apply knowledge and understanding of project management and finance to engineering projects.	IEG 3	ENTREPRENEURIAL
PLO7	• Personal Skills	<b>PO12</b>	Recognize the need for, and is capable to undertake life-long learning in the broadest context of knowledge and technological change.	IEG 5	HOLISTIC