

PEO

Programme Educational Objectives (PEO) are specific goals consistent with the mission and vision. It also describe the expected achievements of graduates in their career and professional life a few years after graduation.

PEO 1

Graduates who can apply their technical knowledge and hands-on skills to perform their job tasks in construction industry with competent.

PEO 2

Graduates who can work independently or in team with effective communication, positive attitudes and ethical values to fulfill their duties towards the working culture and community.

PEO 3

Graduates who possess leadership qualities, entrepreneurial, lifelong learning skills and attributes for career advancement in related construction industry.

PO

Programme Outcomes (PO) are statements that describe what students are expected to know and be able to perform or attain by the time of graduation. These relate to learning domain of knowledge (**C**), skills (**P**) and behaviour (**A**) that students acquire through the programme.

Students of KKTM Sri Gading are expected to attain twelve (12) PO in the practice oriented learning environment:

Programme Outcomes (PO)			Domain
01	Knowledge	Apply knowledge of applied mathematics, applied science, engineering fundamentals and an *engineering specialisation to wide practical procedures and practices	C
02	Problem analysis	Identify and analyse *well-defined engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activities	C
03	Design / development of solutions	Design solutions for well-defined technical problems and assist with the design of systems, components or processes to meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations	C
04	Investigation	Conduct investigations of *well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements	P
05	Modern Tool Usage	Apply appropriate techniques, resources, and modern engineering and IT tools to *well-defined engineering problems, with an awareness of the limitations	P
06	The Engineer and Society	Demonstrate knowledge of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering technician practice and solutions to *well-defined engineering problems	C,P,A

** according to disciplines core*

Programme Outcomes (PO)			Domain
07	Environment and Sustainability	Understand and evaluate the sustainability and impact of engineering technician work in the solution of *well-defined engineering problems in societal and environmental contexts	C,P,A
08	Ethics	Understand and commit to professional ethics and responsibilities and norms of technician practice	C,P,A
09	Individual and Team Work	Function effectively as an individual, and as a member in diverse technical teams	C,P,A
10	Communications	Communicate effectively on *well-defined engineering activities with the engineering community and with society at large, by being able to comprehend the work of others, document their own work, and give and receive clear instructions;	C,P,A
11	Project Management and Finance	Demonstrate knowledge and understanding of engineering management principles and apply these to one's own work, as a member or leader in a technical team and to manage projects in multidisciplinary environments;	C,P,A
12	Life Long Learning	Recognise the need for, and have the ability to engage in independent updating in the context of specialised technical knowledge;	C,P,A

** according to disciplines core*

The definitions of knowledge profile (**DK**), well-defined engineering problems (**DP**), and well-defined engineering activities (**NA**) are given in the tables below;

Knowledge Profile (DK)	
DK 1	∧ descriptive, formula-based understanding of the natural sciences applicable in a sub-discipline
DK 2	Procedural mathematics, numerical analysis, statistics applicable in a sub-discipline
DK 3	∧ coherent procedural formulation of engineering fundamentals required in an accepted sub-discipline
DK 4	Engineering specialist knowledge that provides the body of knowledge for an accepted sub-discipline
DK 5	Knowledge that supports engineering design based on the techniques and procedures of a practice area
DK 6	Codified practical engineering knowledge in recognised practice area.
DK 7	Knowledge of issues and approaches in engineering technician practice: ethics, financial, cultural, environmental and sustainability impacts

Well-defined Engineering Problems (DP) (have characteristic DP1 and some or all of DP2 to DP7)		
DP 1	Depth of Knowledge Required	DP1 Cannot be resolved without extensive practical knowledge as reflected in DK5 and DK6 supported by theoretical knowledge defined in DK3 and DK4
DP 2	Range of conflicting requirements	DP2: Involve several issues, but with few of these exerting conflicting constraints
DP 3	Depth of analysis required	DP3: Can be solved in standardised ways
DP 4	Familiarity of issues	DP4: Are frequently encountered and thus familiar to most practitioners in the practice area
DP 5	Extent of applicable codes	DP5: Are encompassed by standards and/or documented codes of practice
DP 6	Extent of stakeholder involvement and level of conflicting requirements	DP6: Involve a limited range of stakeholders with differing needs
DP 7	Interdependence	DP7: Are discrete components of engineering systems

<p style="text-align: center;">Well-defined Engineering Activities (NA)</p> <p style="text-align: center;">Well-defined activities means (engineering) activities or projects that have some or all of the following characteristics:</p>		
NA 1	Range of resources	NA1: Involve a limited range of resources (and for this purpose resources includes people, money, equipment, materials, information and technologies)
NA 2	Level of interactions	NA2: Require resolution of interactions between limited technical and engineering issues with little or no impact of wider issues
NA 3	Innovation	NA3: Involve the use of existing materials techniques, or processes in modified or new ways
NA 4	Consequences to society and the environment	NA4: Have consequences that are locally important and not far-reaching
NA 5	Familiarity	NA5: Require a knowledge of practical procedures and practices for widely-applied operations and processes

Knowledge profile (**DK**), well-defined engineering problems (**DP**), and well-defined engineering activities (**NA**) were mapped to graduates attributes as given in the tables below;

PO 1 Knowledge	DK 1 – DK 4	DP
PO 2 Problem analysis	DK 1 – DK 4	DP
PO 3 Design / development of solutions	DK5	DP
PO 4 Investigation	-	DP
PO 5 Modern Tool Usage	DK6	DP
PO 6 The Engineer and Society	DK7	DP
PO 7 Environment and Sustainability	DK7	DP
PO 8 Ethics	DK7	-
PO 9 Individual and Team Work	-	-
PO 10 Communications	-	NA
PO 11 Project Management and Finance	-	-
PO 12 Life Long Learning	-	-