



VISION, MISSION, PROGRAM EDUCATIONAL OBJECTIVES, OUTCOME, BLOOMS TAXONOMY AND ITS MAPPING

AUTOMOTIVE ENGINEERING DEPARTMENT, NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY

Program Learning Outcomes (Graduate Attribute)

University, Department Vision & Mission

1	University Vision	Be a leader in enabling Pakistan's social and economic transformation.
2	University Mission	Acquire education and research excellence in engineering and allied disciplines to produce leadership and enabling application of knowledge and skills for the benefit of the society with integrity and wisdom.
3	Departments' Mission	To develop automotive engineer capable of applying knowledge and skills for solving the problems of society in general and automotive industry in particular keeping higher values and professional ethics.

1. **Engineering Knowledge:** An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
2. **Problem Analysis:** An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
3. **Design/Development of Solutions:** An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations .
4. **Investigation:** An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.
5. **Modern Tool Usage:** An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.
6. **The Engineer and Society:** An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the responsibilities relevant to professional engineering practice and solution to complex engineering problems.
7. **Environment and Sustainability:** An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
9. **Individual and Team Work:** An ability to work effectively, as an individual or in a team, on multifaceted and /or multidisciplinary settings.
10. **Communication:** An ability to communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project Management:** An ability to demonstrate management skills and apply engineering principles to one's own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.
12. **Lifelong Learning:** Ability to recognize importance of, and pursue lifelong learning in the broader context of innovation and technological developments.

Mapping of PEO to PLO

PEOs		PLOs			
		PEO-1	PEO-2	PEO-3	PEO-4
1	Engineering Knowledge.	✓			
2	Problem Analysis.	✓			
3	Design / Development of Solutions.	✓			
4	Investigation.	✓			
5	Modern Tool Usage.			✓	
6	The Engineer and Society.				✓
7	Environment and Sustainability.			✓	
8	Ethics.				✓
9	Individual and Team Work.			✓	
10	Communication.		✓		
11	Project Management.		✓		
12	Lifelong Learning.				✓

Bloom's Taxonomy

Levels	Knowledge Cognitive		Levels	Skills Psychomotor		Levels	Attitude Affective	
	Thinking Knowledge			Doing			Feeling Attitude	
C1	Knowledge: Remember previously learned material, Sample Verbs: Define, Identify, List Name, Recall State, Label		P1	Perception: Senses cues that guide motor activity, Sample verbs: Detect, Observe, Observe, Perceive, Recognize, View		A1	Receiving: Selectively attends to stimuli, Sample verbs: Accept, Acknowledge, Be Aware, Listen, Notice, Pay Attention, Tolerate	
C2	Comprehension: Grasp the meaning of material Sample Verbs: Describe, Discuss, Explain, Locate, Paraphrase Give example, Translate		P2	Set: Mentally, emotionally and physically ready to act, Sample verbs: Establish a body position, stand, sit, position the body, Station		A2	Responding: Response to stimuli, Sample Verbs: Agree To, Answer Freely, Assist, Care For, Communicate, Comply, Conform, Consent, Contribute, Cooperate, Follow, Obey	
C3	Application: Uses learning in new and complex situations, Sample verbs: Apply, Carry out, Demonstrate, Prepare, Solve, Use		P3	Guided response: Imitates and practices skill, often in discrete steps, sample verbs: Copy, Duplicate, Imitate, Manipulate with guidance, Operate under supervision, Practice, Repeat, Try		A3	Valuing: Attaches value or worth to something, Sample verbs: Adopt, Choose, Commit, Initiate, Seek	
C4	Analysis: Understanding both the content and structure of material, Sample verbs: Analyze, Categorize, Compare, Contrast, Differentiate, Discriminate, Outline		P4	Mechanism: Performs acts with increasing efficiency, confidence and presidency, sample verbs: Complete with confidence, Conduct, Demonstrate, Execute, Improve efficiency, Make, Produce.		A4	Organization: Conceptualizes the value and resolves conflict between it and other, Sample verbs: Adopt, Adjust, Arrange, Balance, Classify, Formulate, Organize, Group	
C5	Synthesis: formulate the new structures from existing knowledge and skills, Sample verbs: Combine, Construct, Design, Develop, Generate, Plan, Propose		P5	Complete Overt response: Performs automatically, sample verbs: Act habitually, Control, Direct, Excel, Guide, Maintain efficiency, Manage, Organize, Perfect, Perform		A5	Internalizing: Integrates the value into a value system that controls behavior, Sample Verbs: Act Upon, Advocate, Defend, Exemplify, Influence, Justify Behavior, Maintain, Serve, Support	
C6	Evaluation: judges the value of material for a given purpose, Sample verbs: Assess, Conclude, Evaluate, Interpret, Justify, Select, Support		P6	Adaption: Adapts the skill sets to meet a problem situation, Sample verbs: Adapts, Reorganize, Alters, Revises, Changes				
			P7	Organization: Creates new patterns for specific situations, sample verbs: Designs, Originate, Combines, Composes, Constructs				

