

Mechanical Engineering (Specialisation in Automotive)

UNDERGRADUATE
PROSPECTUS 2024

NED UNIVERSITY OF ENGINEERING & TECHNOLOGY

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In response to the evolving needs of the job market and to better support our graduates in the Mechanical and Allied Engineering field, the Department of Automotive and Marine Engineering at NED University of Engineering and Technology is excited to announce a strategic shift in its academic offerings. Currently offering a Bachelor of Engineering in Automotive Engineering, we see this as an opportunity to enhance our graduates' employment prospects by acknowledging that more than 80% of the curriculum aligns with Mechanical Engineering.

We are thrilled to propose an innovative initiative offering a Bachelor of Engineering in Mechanical Engineering with a specialized focus on Automotive Engineering. This new direction will open up a broader range of career opportunities for our graduates, allowing them to excel in both Mechanical and Automotive Industries, as well as in government organizations. This document outlines the proposed scheme of studies, highlighting the extensive scope and relevance of a Bachelor of Engineering program in Mechanical Engineering with a specialization in Automotive. Through this strategic adjustment, we aim to align our educational offerings more closely with the dynamic demands of the job market, ensuring our graduates are exceptionally well-prepared and highly sought-after in diverse engineering sectors.

The Mechanical Engineering (Specialization in Automotive) program is designed to empower students with the knowledge and skills necessary to thrive in the modern Automotive Industry. Our new curriculum features cutting-edge courses in Artificial Intelligence, Autonomous Vehicles, Vehicle Crashworthiness, and Robotics, ensuring that our graduates are well-versed in the latest technological advancements. By integrating these advanced topics, we prepare our students to lead and innovate in the development of safer, more efficient, and intelligent vehicles. This specialization not only addresses the current demands of the industry but also anticipates future trends, enabling our graduates to excel in a rapidly evolving field.

Join us in shaping the future of Mechanical Engineering with a specialization in Automotive, and become a leader in an industry where innovation knows no bounds.





3.1.8 Mechanical Engineering (Specialisation in Automotive)

FIRST YEAR

Fall Semester			Spring Semester		
Course Code	Course Title	Credit Hours	Course Code	Course Title	Credit Hours
		Th Pr Total			Th Pr Total
CY-111	Applied Chemistry	2 0 2	PH-112	Applied Physics	2 1 3
MT-114	Calculus	3 0 3	EA-111	Functional English	2 0 2
EE-124	Basic Electricity & Electronics	2 1 3	ME-112	Thermodynamics	3 0 3
ME-111	Engineering Drawing	2 1 3	ME-115	Statics	3 0 3
ME-104	Workshop Practice	0 2 2	ME-214	Computer Programming & Applications	2 1 3
ME-113	Computer Aided Drawing	0 1 1	ES-105/ ES-127	Pakistan Studies/ Pakistan Studies (for Foreigners)	2 0 2

SECOND YEAR

Fall Semester			Spring Semester		
Course Code	Course Title	Credit Hours	Course Code	Course Title	Credit Hours
		Th Pr Total			Th Pr Total
MT-223	Ordinary Differential Equations & Fourier Series	3 0 3	MT-330	Applied Probability & Statistics	2 1 3
ME-221	Fluid Mechanics - I	3 0 3	ME-218	Solid Mechanics - I	3 0 3
ME-222	Dynamics	3 0 3	ME-209	Materials & Metallurgy	3 1 4
ME-223	Engineering Mechanics Lab	0 1 1	ES-205/ ES-209	Islamic Studies OR Ethical Behaviour	2 0 2
AU-251	Automotive Propulsion	3 1 4	ME-219	Mechanics of Machines	3 0 3
ME-220	Manufacturing Processes - I	3 1 4	EA-208 EA-200	Business Communication & Ethics Community Service	3 0 3 -- -- NC

THIRD YEAR

Fall Semester			Spring Semester		
Course Code	Course Title	Credit Hours	Course Code	Course Title	Credit Hours
		Th Pr Total			Th Pr Total
ME-317	Manufacturing Processes - II	3 1 4	EE-376	Feedback Control Systems	3 0 3
MT-332	Advanced Calculus & Linear Algebra	3 0 3	MF-303	Applied Economics for Engineers	3 0 3
ME-302	Solid Mechanics - II	3 1 4	ME-323	Machine Design	3 0 3
ME-316	Fluid Mechanics - II	3 1 4	ME-318	Heat & Mass Transfer	3 0 3
MG/EA-###	Social Science (Elective)	2 0 2	AU-323	Vehicle Noise & Vibrations	3 0 3
AU-350	Analogue & Digital Electronics	2 0 2	##-###	Foreign Language - I	-- -- NC
			ME-437	Machine Design & Vibration Lab	0 1 1
			AU-333	Chassis System Design	2 0 2

FINAL YEAR

Fall Semester			Spring Semester		
Course Code	Course Title	Credit Hours	Course Code	Course Title	Credit Hours
		Th Pr Total			Th Pr Total
AU-422	Automotive Transmission & Drives	2 0 2	MG-481	Entrepreneurship	3 0 3
ME-319	Refrigeration & Air conditioning	3 0 3	MT-441	Advanced Mathematical Techniques	3 0 3
AU-332	Automobile Instrumentation	2 1 3	AU-438	Electric & Hybrid Electric Vehicles	2 0 2
ME-320	RAC and Heat Transfer Lab	0 1 1	AU-499	Automotive Engineering Project	0 3 3
AU-499	Automotive Engineering Project*	0 3 3	ME-435	Operations Management	3 0 3
##-###	Management Elective	2 0 2	XX-###	Technical Elective	3 0 3
XX-###	Technical Elective	3 0 3			
##-###	Foreign Language - II	-- -- NC			

Technical Elective (to be chosen from the following)

Automotive Specialization

Course Code	Course Title	Credit Hours	Course Code	Course Title	Credit Hours
AU-304	Vehicle Dynamics	2 1 3	AU-453	Introduction to Robotics	2 1 3
AU-313	Combustion, Emission & Pollution	3 0 3	AU-454	Autonomous Vehicles	3 0 3
AU-434	Automotive Service and Dealership	3 0 3	AU-455	Automotive Embedded Systems	3 0 3
AU-417	Automotive Paints and Coatings	3 0 3	AU-456	Vehicle Crashworthiness	3 0 3
AU-451	Product Design & Development	3 0 3			

Mechanical Specialization

Course Code	Course Title	Credit Hours	Course Code	Course Title	Credit Hours
ME-423	Computer Aided Design/ Computer Aided Manufacturing	2 1 3	ME-439	Mechatronics	2 1 3
ME-425	Finite Element Analysis	2 1 3	ME-438	AI & Internet of Things	2 1 3

Management Elective (to be chosen from the following)

Course Code	Course Title	Credit Hours
		Th Pr Total
ME-432	Health, Safety and Environment	2 0 2
ME-433	Law for Engineers	2 0 2
ME-434	Total Quality Management	2 0 2
MG-483	Supply Chain Management	2 0 2
AU-430	Quality Management & Reliability	2 0 2

Social Sciences Elective (to be chosen from the following)

Course Code	Course Title	Credit Hours
		Th Pr Total
MG-228	Sociology and Development	2 0 2
MG-257	Organizational Behaviour	2 0 2
EA-321	Logic and Critical Thinking	2 0 2
EA-219	Professional Ethics	2 0 2

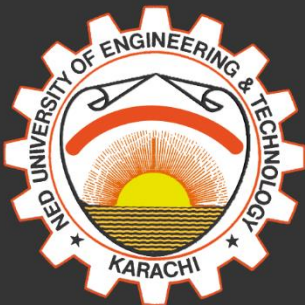
* Duration one academic year: Requires literature survey and preliminary work during this Semester.





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