

Faculty of Engineering

Domain of study	Level (BA/MA)	Study programme	Year of study	Semester	Course title	Credit units
Mechanical Engineering	BA	Mechanical Engineering	1	1	Mathematical Analysis	4
					Chemistry	5
					Sports	2
					Physics	5
					Descriptive Geometry	5
					English	2
					Mechanics I	5
					Materials Science and Engineering	5
					Professional Communication Techniques	2
				2	Linear Algebra, Analytic and Differential Geometry	4
					Technical Drawing	4
					Sports	2
					Computer Programming and Programming Languages	4
					English	2
					Dimensional Control and Tolerances	5
					Materials Technology	4
			2	1	Electrotechnics	3
					Computer Aided Graphics	4
					Mechanisms I	4
					Numerical Methods	5
					Materials Strength I	5
					Mechanics II	5
					Languages	2
					Sports	2
				2	Materials Strength I, II	3
					Thermo-Technics I	3
					Mechanisms II	4
					Applied Informatics II	3
					Mechanical Processing	3
					Fluid Mechanics	3
					Machine Parts I	4
					Sports	2
					Languages	2
					Practical Training / Internship	3
			3	1	Hydraulic and Pneumatic Drives	4
					Elasticity	5
					Machine Parts II	6
					Materials Strength III	4
					Thermo-Technics II	5
					Tribology	2
					Mechanical Vibrations	4
				2	Finite Element Analysis I	5
					Biomechanics	3

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Mechanical Engineering	BA	Mechanical Engineering	3	2	Applied Electronics	3		
					Lifting and Conveying Machines	3		
					Internal combustion engines	3		
					Optimization in Mechanical Engineering	3		
					Plasticity	3		
					Practical Training / Internship	3		
					Static and Stability of Structures I	4		
			4	1	Finite Element Analysis II	4		
					Contact Mechanics	5		
					Advanced Design of Mechanical Systems	4		
					Dynamics of structures	4		
					Modeling and Simulation of Mechanical Systems Dynamics I	5		
					Composite Structures	5		
					Economic Analysis	3		
					2	2	Modeling and Simulation of Mechanical Systems Dynamics II	6
							Collapse of Mechanical Structures	6
							Quality Management	2
					Experimental Modeling in Mechanical Engineering	5		
					Numerical Modeling for Fluids Mechanics	5		
					Practical training for the graduation paper	2		
					Welded Structures	4		

Industrial Engineering	BA	Machine Building Technology	1	1	Mathematical Analysis	4		
					Chemistry	5		
					Physics	5		
					Descriptive Geometry	5		
					English	2		
					Mechanics I	5		
					Materials Science and Engineering	5		
					Professional Communication Techniques	2		
					Sports	2		
					2	2	Linear Algebra, Analytic and Differential Geometry	4
							Technical Drawing	4
							Sports	2
					Computer Programming and Programming Languages	4		

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Industrial Engineering	BA	Machine Building Technology	1	2	English	2
					Dimensional Control and Tolerances	5
			2	1	Materials Technology	4
					Electrotechnics	3
			2	1	Computer Aided Graphics	4
					Mechanisms	5
			2	1	Numerical Methods	5
					Materials Strength I	5
			2	1	Mechanics II	4
					Sports	2
			2	1	English	2
					Experimental data processing	3
			2	1	Applied Informatics II	3
					Fluid Mechanics	3
			2	1	Mechanisms	4
					Machine Parts I	4
			2	1	Practical Training / Internship	3
					Materials Strength II	3
			2	1	Thermo-Technics I	3
					English	2
			2	1	Sports	2
					Hydraulic and Pneumatic Drives	4
			2	1	Welding Processes	4
					Machine-Tools	3
			2	1	Machine Parts II	5
					Fusion Welding Technologies	4
			2	1	Machine Manufacturing I	3
					Machine Manufacturing II	4
			2	1	Heat Treatments	3
					Essentials of Surface Generation	3
			2	1	Cutting-Tools Design	3
					Essentials of Devices Design I	3
			2	1	Machine-Tools	4
Practical Training / Internship	2					
2	1	Cold Plastic Deformation Processes I	3			
		Cutting-Tools Design	4			
2	1	Finite Element Calculation	4			
		Fusion Welding Technologies	4			
2	1	Essentials of Devices Design II	5			
		Cold Plastic Deformation Processes II	5			
2	1	Computer-Aided Manufacturing	3			
		Pressure Welding Technologies I	3			
2	1	Numerical Control Systems and	3			

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					Equipment	
Industrial Engineering	BA	Machine Building Technology	4	1	Unconventional Processing Technologies	3
					Thermal Phenomena in Manufacturing Processes	3
					Plastic Materials Processing	5
				2	Welding Related Processes	3
					Welding Equipment	3
					Non-Destructive Control	3
					Management	4
					Pressure Welding Technologies II	4
					Computer-Aided Manufacturing	3
					Welded Structures Design	5
					Numerical Control Systems and Equipment	4
					Tutorial on graduation paper work	1

Mechanical Engineering	BA	Thermal Systems and Equipment	1	1	Mathematical Analysis	4
					Chemistry	5
					Sports	2
					Physics	5
					Descriptive Geometry	5
					English	2
					Mechanics I	5
					Materials Science and Engineering	5
					Professional Communication Techniques	2
				2	Linear Algebra, Analytic and Differential Geometry	4
					Technical Drawing	4
					Sports	2
					Computer Programming and Programming Languages	4
					English	2
					Dimensional Control and Tolerances	5
					Materials Technology	4
			2	1	Electrotechnics	3
					Computer Aided Graphics	4
					Mechanisms I	5
					Numerical Methods	5
					Materials Strength I	5
					Mecanics II	4
					Languages	2
					Sports	2

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Mechanical Engineering	BA	Thermal Systems and Equipment	2	2	Mechanisms	4
					Applied Informatics II	3
			Mechanical Processing	3		
			Fluid Mechanics	3		
			Machine Parts I	4		
			Sports	2		
			Languages	2		
			Practical Training / Internship	3		
			Materials Strength II	3		
			Thermo-Technics I	3		
			3	1	Hydraulic and Pneumatic Drives	4
					Internal Combustion Engine I	6
			Machine-parts Design II and Tribology	6		
				Thermo-Technics II	5	
			Heat and Mass Transfer	5		
			Mechanical Vibrations	4		
			3	2	Multi-Phase Fluids Dynamic	4
					Applied Electronics	3
			Steam Generators	5		
			Compressors, Fans and Pumps	5		
			Heat Pumps and Refrigeration Systems I	5		
			Internal Combustion Engine I, II	5		
			Practical Training / Internship	3		
			4	1	Thermal Electric Power Plants	5
					Manufacturing and Operating Thermal Machines	3
			Refrigerating Systems and Heat Pumps II	6		
			Techniques of Using Artificial Cold	4		
			Steam and Gas Turbines	6		
			Thermo Energy Audit	2		
			Management and Marketing	3		
			2	2	Renewable Energy	4
					Drive by Internal Combustion Engines	3
Essentials of Experimental Research on Thermal Machines	4					
Use and Management of Heat Energy	4					
Controlling Pollution Generated by Internal Combustion Engines	4					
Cryogenic Engineering	4					
Quality Management	2					

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Mechanical Engineering	BA	Thermal Systems and Equipment	4	2	Adjustment and Automatic Control of Heat Machines	4	
					Tutorial on graduation paper work	2	
Automotive Engineering	BA	Automotive Vehicles	1	1	Mathematical Analysis	4	
					Chemistry	5	
					Physics	5	
					Descriptive Geometry	5	
					English	2	
					Mechanics I	5	
					Materials Science and Engineering	5	
					Professional Communication Techniques	2	
					Sports	2	
					2	Linear Algebra, Analytic and Differential Geometry	4
						Technical Drawing	4
						Sports	2
						Computer Programming and Programming Languages	4
						English	2
						Dimensional Control and Tolerances	5
						Materials Technology	4
			Electrotechnics	3			
			2	Computer Aided Graphics	4		
				Mechanisms I	4		
				Mechanics II	4		
				Numerical Methods	4		
				Materials Strength I	4		
				Automotive Fundamentals	3		
				English	2		
				Sports	2		
				Applied Informatics	3		
				Mechanical Processing	3		
				Fluid Mechanics	3		
				Mechanisms II	4		
				Machine Parts I	4		
				Materials Strength I, II	3		
				Thermo-Technics I	3		
English	2						
Sports	2						
Practical Training / Internship	3						
3	1	Hydraulic and Pneumatic Drives	4				
		Vehicle System Dynamics I	4				
		Internal Combustion Engine I	5				

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Automotive Engineering	BA	Automotive Vehicles	3	1	Machine Parts and Tribology	6			
					Traffic and Traffic Safety	4			
					Thermo-Technics II	4			
				2	Mechanical Vibrations	3			
					Fundamentals of Automation Systems	3			
					Construction and Calculation of Motor Vehicles I	6			
					Vehicle System Dynamics II	6			
					Internal Combustion Engine II	5			
					Fuels, Lubricants, Special Materials and Maintenance Materials	3			
					Applied Electronics	4			
					Practical Training / Internship	3			
					4	1	Construction and Calculation of Motor Vehicles II	6	
							Controlling Pollution Generated by Internal Combustion Engines	4	
							2	Construction and Calculation of Motor Vehicle Auxiliary Installations	4
						1		Motor Vehicle Diagnosis	4
								Electrical and Electronic Equipment for Motor Vehicle	4
						2	Manufacture and Repairing of Motor Vehicles	5	
							Motor Vehicles Mechatronics	4	
				Computer Aided Design			4		
				1		Motor Vehicle Chassis and Driving Structures	4		
						Reliability and Terotechnique	3		
						Management and marketing	3		
						2	Ttechnical Expertise in Automotive	2	
							Maintenance of Motor Vehicles	4	
							Quality Management	3	
				1		Electric and Hybrid Propulsion Systems	4		
					Tutorial on graduation paper work	2			

Engineering and Management	BA	Industrial Economic Engineering	1	1	Mathematical Analysis	4
					Chemistry	5
					Sports	2
					Physics	5

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Engineering and Management	BA	Industrial Economic Engineering	1	1	Descriptive Geometry	5
					English	2
					Mechanics I	5
					Materials Science and Engineering	5
					Professional Communication Techniques	2
					Linear Algebra, Analytic and Differential Geometry	4
			2	Technical Drawing	4	
				Sports	2	
				Computer Programming and Programming Languages	4	
				English	2	
				Dimensional Control and Tolerances	5	
				Materials Technology	4	
			2	1	Fundamentals of Accounting	5
					Electrotechnics	4
					Computer Aided Graphics	4
					Numerical Methods	4
					Materials Strength	5
					Mechanics II	4
			2	2	Languages	2
					Sports	2
					Quality Management	3
					General Economics	3
					Prices and Costs Calculus	3
					Fluid Mechanics	3
			3	1	Machine Parts I	5
					Practical Training / Internship	3
					Experimental Data Processing	3
					Thermotechnics I	3
					Languages	2
					Sports	2
			3	1	Marketing	4
					Machine Parts II	7
					Cutting-Tools Design	7
					Operational Research	3
					Elements of Civil Law	3
					<i>Assembling Process Management</i>	3
			2	2	Product Manufacturing Technology	3
					Financial Accounting	3
					Fiscal and Financial Law	3
					Fundamentals of Surface Generation	3

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Engineering and Management	BA	Industrial Economic Engineering	3	2	Competitive Engineering	3				
					Industrial Logistics	3				
					Practical Training / Internship	4				
					Computer-aided Design	3				
					Product Manufacturing Technology	5				
					Equipment for Machining	3				
					4	2	Economic Systems Analysis	5		
							1	Plastics Processing	6	
								Machining Devices	6	
								Financial Accounting	4	
								Management	4	
								Plastic Deformation Technologies	6	
								Aided Manufacturing Management	4	
								2	Labor Legislation	3
									Management	5
									Management of Research and Development	4
									Environmental Management	4
									Enterprise Resource Planning (ERP)	4
									Rapid Prototyping Technologies	4
									Tutorial on graduation paper work	1

Materials Engineering	BA	Materials Science	1	1	Mathematical Analysis	5	
					Chemistry I	5	
					Sports	2	
					Physics	4	
					Descriptive Geometry	5	
					English	2	
					Chemistry I	5	
					Materials Science and Engineering	5	
					Professional Communication Techniques	2	
					2	Linear Algebra, Analytic and Differential Geometry	5
						Technical drawing and infographics	4
						Sports	2
						Computer Programming and Programming Languages	4
						English	2

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Domain of study	Level (BA/MA)	Study programme	Year of study	Semester	Course title	Credit units			
Materials Engineering	BA	Materials Science	1	2	Ecology and Environmental Protection	4			
					Materials Technology	4			
			2	1	Mechanical Equipment and plants	5			
					Computer Graphics Design	4			
					Materials Strength and Machine Parts	5			
					Electrotechnics	3			
					Numerical Methods	5			
					Languages	2			
					Sports	2			
					2	Thermal equipment and plants	4		
						Fluid Mechanics	3		
						Thermotechnics I	4		
						Materials Strength and Machine Parts	4		
						Essentials of Electrochemistry and Corrosion	4		
						Nanomaterials and Nanotechnologies	4		
						Properties of materials and Methods of Control	4		
						Sports	2		
						Languages	2		
						Practical Training / Internship	3		
					3	1	Crystallography	3	
							Metals and non-ferrous alloys casting	5	
							Biocompatible Materials	5	
							Ceramids and Refractory Materials	5	
							Composite Materials	4	
							Physical Metallurgy	5	
							Processing of Macromolecular Compounds	3	
							2	Ferrous Alloys Melting	5
								Mass and Energy Transfer Fenomena	4
								Material Testing	5

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Materials Engineering	BA	Materials Science	3	2	Composites Materials	4			
					Physical Metallurgy	4			
					Practical Training / Internship	3			
					Casting Processing	5			
					4	1	Surface Engineering	5	
							Management and Marketing	4	
							Plastic Processing of materials	4	
							Computer Aided Design	3	
							Recovery and Utilization of Waste	4	
							Powders Processing Technologies	5	
							Heat and Thermochemical Treatments	5	
							2	Process Informatics in Material Engineering	4
								Quality Management	3
								Advanced Materials	4
					Powders Processing Technologies	4			
					Processes Modelling and Optimisation	3			
					Special Methods for Material Processing	4			
					Material Design and Use	5			
					Tutorial on graduation paper work	3			

Environmental Engineering	BA	Environmental Engineering & Protection in Industry	2	1	Environmental Chemistry	5	
					Ecotoxicology	5	
					Electrotechnics	3	
					Computer Aided Graphics	4	
					Numerical Methods	5	
					2	Materials Strength and Machine Parts	4
						Languages	2
						Sports	2
					Analysis and Synthesis of Technological Processes with Environmental Impact	4	
					Electronics	3	
					Essentials of Electrochemistry	4	

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					and Corrosion	
Environmental Engineering	BA	Environmental Engineering & Protection in Industry	2	2	Fluid Mechanics	4
					Materials Strength and Machine Parts	4
					Termotechnics I	4
					Languages	2
					Sports	2
					Practical Training / Internship	3
			3	1	Essentials of Residues Processing and Disposal	5
					Ecological Management	4
					Air Pollution	5
					Sensors and Actuators	3
					Technologies and Equipment for Wastewater Treatment	5
					Termotechnics II	4
					Heat and Mass Transfer	4
				2	Atmospheric Physics and Hydrology	4
					Air Pollution	4
					Sources of Radiation and Protective Techniques	4
					Acquisition, Monitoring and Diagnosis of Environment Quality	4
					Technologies and Equipment for Wastewater Treatment	5
					Toxic and hazardous Residues Treatment	3
					Specific Equipment in Environmental Engineering	4
					Practical Training / Internship	2
			4	1	Renewable Energy	5
					Exergo-Economy of Environmental Impact Systems	5
					Environmental protection legislation	3
					Noise Pollution	4
					Green Technologies	4
					Technologies for waste processing and disposal	5
					Topography	4
				2	Automation of Technological and Biotechnological Processes	4
					Sustainable Development	3
					Environmental Economics	3

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Domain of study	Level (BA/MA)	Study programme	Year of study	Semester	Course title	Credit units
Environmental Engineering	BA	Environmental Engineering & Protection in Industry	4	2	Energetic Management	4
					Quality Management	3
					Information Systems in Environmental Engineering	3
					Technologies for waste processing and disposal	4
					Technologies and Equipment for Contaminated Soils Treatment	4
					Tutorial on graduation paper work	2