

2026 -2027 BE Mechanical Engineering Syllabus

<i>Requisite Type:</i>	<i>Module Code</i>	<i>Module Name</i>	<i>ECTS Credits</i>	<i>Taught in Semester 1, 2, or Full Year</i>	<i>Examined/ Submitted in Semester(s)</i>	<i>Duration of exam (hours)</i>	<i>Lectures Shared With:</i>	<i>Bonded with:</i>
(1BM1) First University Examination in Engineering (Mechanical)								
	CH140	Engineering Chemistry	5	1	1	2 + c/a	All BE Programmes	
	CT1110	Engineering Computing I	5	1	1	2 + c/a	All BE Programmes, BCM	
	EI160	Engineering Graphics	5	1	1	2 + c/a	All BE Programmes, BCM	
	MA140	Engineering Calculus	5	1	1	2 + c/a	All BE Programmes	
	MP120	Engineering Mechanics	5	1	1	2 + c/a	All BE Programmes	
	EI140	Fundamentals of Engineering	10	1 & 2	1 + 2	2 + c/a	All BE Programmes	
	CT1111	Engineering Computing II	5	2	2	2 + c/a	All BE Programmes	
	EI150	Engineering Design	10	2	2	c/a	All BE Programmes, BCM	
	MM140	Engineering Mathematical Methods	5	2	2	2 + c/a	All BE Programmes	
	PH140	Engineering Physics	5	2	2	2 + c/a	All BE Programmes	
<i>TOTAL FOR THE COMPUTATION OF HONOURS = 60 ECTS c/a indicates continuous assessment</i> <i>*This module is a course requirement: Students must achieve a minimum of 40% in this module. It cannot be passed by compensation.</i>								

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(2BM1) Second University Examination in Engineering (Mechanical)									
	EE231	Electronic Instrumentation and Sensors	5	1	1	2 + c/a	All BE Progs		
	MA2101	Mathematics and Applied Mathematics I	5	1	1	2 + c/a	All BE Progs		
	ME223	Thermodynamics & Fluid Mechanics	5	1	1	2 + c/a	2BM, 2BSE, 2BE		
	ME2106	Theory of Machines & CADD	5	1	1	2 + c/a	2BG, 3BSE		
	ST1100	Engineering Statistics	5	1	1	2 + c/a	All 2 nd Eng		
	ME2105	Manufacturing Technology & CAIRDE	5	1&2	2	2 + c/a	2BG		
	CE227	Strength of Materials	10	1 & 2	2	2 × 2 + c/a	2BG, 2BE, 2BCM, 2BSE		
	BME2100	Materials I	5	2	2	2 + c/a	2BG		
	EE230	Electrical Circuits and Systems	5	2	2	2 + c/a	2BP, 2BLE, 3BEE, 2BSE		
	MA2102	Mathematics and Applied Mathematics II	5	2	2	2 + c/a	All BE Progs		
	ME5105	Fundamentals of Operations Engineering	5	2	2	2 + c/a	2HF1, 1AP, 2BCM	IE228, ME522	
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(3BM1) Third University Examination in Engineering (Mechanical) <i>Integrated 5-Year BE & ME Programme</i>								
Core Modules								
	EE3101	Electromechanical Power Conversion	5	1	1	2 + c/a	3BLE, 3BSE	
	ME301	Fluid Dynamics	5	1	1	2 + c/a	3BG, 3BSE	
	ME304	Mechanical Analysis and Design	5	1	1	2 + c/a	3BG, 3BSE, 4BEE	
	ME322	Thermodynamics & Heat Transfer	5	1	1	2 + c/a	3BSE, 4BG	
	EE352	Linear Control Systems	5	1	1	2 + c/a	3BLE	
	BME3132	Finite Element Methods in Eng 1	5	1	1	2 + c/a	2BG	
	ME3107	Machine Design Project	10	2	2	c/a		
	ME312	Automated Systems	5	2	2	2 + c/a	3BG1, 4BG4, 4BM4,	
	ME352	Mechanical Vibrations	5	2	2	2 + c/a	4BM4	
	ME431	Systems Reliability	5	2	2	2 + c/a	3BM1, 4HF2, 4BSE, 1APE1	IE444
	ME353	Quality Systems	5	2	2	2 + c/a	4BM4	
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(3BM4) Third University Examination in Engineering (Mechanical) 4-Year BE Programme only								
Core Modules								
	EE3101	Electromechanical Power Conversion	5	1	1	2 + c/a	3BLE, 3BSE	
	ME301	Fluid Dynamics	5	1	1	2 + c/a	3BG, 3BSE	
	ME304	Mechanical Analysis and Design	5	1	1	2 + c/a	3BG, 3BSE, 4BEE	
	ME322	Thermodynamics & Heat Transfer	5	1	1	2 + c/a	3BSE, 4BG	
	EE352	Linear Control Systems	5	1	1	2 + c/a	3BLE	
	BME3132	Finite Element Methods in Eng I	5	1	1	2 + c/a	2BG	
	CT3112	Professional Skills (<i>online module</i>)	5	2	2	c/a	4BM1, 3BCT, 3BLE1	
	ME3109	Mechanical Professional Experience Programme*	20	2	2	c/a		
Choose 5 ECTS from the following :								
	ME3104	Intro to Regulatory Affairs in Manufacturing (<i>online module</i>)	5	2	2	c/a	4BM1, 3BG	
	ME3102	Project Management for Engineers (<i>online module</i>)	5	2	2	c/a	4BM1, 3BG, 3BP, 3BSE	
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(4BM1) Fourth University Examination in Engineering (Mechanical) <i>Integrated 5-Year BE & ME Programme</i>								
Core Modules								
	ME4109	Materials II	5	1	1	2 + c/a	4BG, 4BSE, SPE	
	ME4112	Computational Fluid Dynamics	5	1	1	2 + c/a	4BG, SPE, MEB, MEME, MEES	
	BME5104	Finite Element Methods 2	5	1	1	2 + c/a	4BG, SPE, MEB, MEME, MEES	
	ME424	Energy Conversion	5	1	1	2 + c/a	4BSE	
	ME402	Adv Mechanical Analysis and Design	5	1	1	2 + c/a	SPE, MEES	
	ME4111	Mechanical Professional Experience Programme*	20	2	2	c/a		
	CT3112	Professional Skills (<i>online module</i>)	5	2	2	c/a	3BCT, 3BLE1	
Choose 5 ECTS from the following Semester 1 Options**								
	CT4105	Essentials of Artificial Intelligence	5	1	1	2 + c/a		
	EE450	Power Systems (<i>Rotates annually with EE4103</i>)	5	1	1	2 + c/a	MEEE	
	BME400	Biomechanics	5	1	1	2 + c/a	4BG, MBM	
Choose 5 ECTS from the following Semester 2 Options**								
	ME3104	Intro to Regulatory Affairs in Manufacturing (<i>online module</i>)	5	2	2	c/a	4BM1, 3BG	
	ME3102	Project Management for Engineers (<i>online module</i>)	5	2	2	c/a	4BM1, 3BG, 3BP, 3BSE	
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(4BM4) Fourth University Examination in Engineering (Mechanical) 4-Year BE Programme only								
Core Modules								
	ME4103	Mechanical Engineering Fourth Year Project *	10	1 & 2	2	c/a		
	ME4109	Materials II	5	1	1	2 + c/a	4BG, 4BSE, SPE	
	ME4112	Computational Fluid Dynamics	5	1	1	2 + c/a	4BG, SPE, MEB, MEME, MEES	
	BME5104	Finite Element Methods 2	5	1	1	2 + c/a	4BG, SPE, MEB, MEME, MEES	
	ME424	Energy Conversion	5	1	1	2 + c/a	4BSE	
	ME402	Adv Mechanical Analysis and Design	5	1	1	2 + c/a	SPE, MEES	
	EE450	Power Systems (Rotates annually with EE4103)	5	1	1	2 + c/a	MEEE	
	ME4106	Machine Design Project	5	2	2	c/a		
	ME312	Automated Systems	5	2	2	2 + c/a	3BG1, 4BG4, 3BM1,	
	ME352	Mechanical Vibrations	5	2	2	2 + c/a	4BM4	
Choose 5 ECTS from the following Industrial Systems Semester 2 Options**								
	ME431	Systems Reliability	5	2	2	2 + c/a	3BM1, 4HF2, 4BSE, 1APE1	IE444
	ME353	Quality Systems	5	2	2	2 + c/a	4BM4	
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