

Bachelor of Technology in Mechanical Engineering

School of Mechanical Engineering

Programme Credit Structure	Credits	Programme Core Courses	40
University Core Courses	60	BAMEE101 Manufacturing Processes	3 0 2 4
Professional Core Courses	60	BAMEE201 Mechanics of Materials	2 1 2 4
Programme Core	40	BAMEE202 Metallurgy and Mechanical Behaviour of Materials	3 0 2 4
Concentration	20	BAMEE203 Thermodynamics and Thermal Systems	3 0 2 4
Open Elective Courses	40	BAMEE204 Fluid Mechanics and Heat Transfer	2 1 2 4
Total Graded Credit Requirement	160	BAMEE205 Engineering Innovation and Modelling	1 1 4 4
University Core Courses	60	BAMEE301 Computer Aided Design and Manufacturing	3 0 2 4
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BAPHY100 Physics*		BAMEE303 Control Systems	2 1 2 4
BACHY100 Chemistry*		BAMEE304 Computational Engineering	2 1 2 4
BAMAT101 Multivariable Calculus and Differential Equations	3 0 2 4	Concentrations	
BAMAT200 Mathematics II*	4	Product Design and Development	20
BAEEEE101 Basic Engineering	3 0 2 4	BAMEE206 Product Design: Realization	3 0 2 4
BACSE101 Problem Solving Using Python	0 0 4 2	BAMEE207 Systems Modeling and Design using Machine Learning	3 0 2 4
BACSE102 Problem Solving Using Java	0 0 4 2	BAMEE305 Design for Additive Manufacturing	3 0 2 4
BAENG101 Technical English Communication	3 0 2 4	BAMEE306 Kinematics and Dynamics of Machines	3 0 2 4
BASTS101 Qualitative and Quantitative Skills Practice I	3 0 0 1	BAMEE401 Material Failure Analysis	3 1 0 4
BASTS102 Qualitative and Quantitative Skills Practice II	3 0 0 1	Digital Manufacturing	20
BAFLC100 Foreign Language	1 0 2 2	BAMEE208 Smart Manufacturing	3 0 2 4
BAHSM100 Humanities, Social Science and Management	3 0 0 3	BAMEE307 Manufacturing Systems Design	2 1 2 4
BAHUM101 India Studies	1 0 0 1	BAMEE308 Industrial Internet of Things	2 1 2 4
BACHY101 Environmental Sciences	2 0 0 2	BAMEE309 Measurements and Instrumentation	3 0 2 4
BAHUM100 Ethics and Values*	2	BAMEE310 Introduction to Cyber Physical Systems	2 1 2 4
BAMGT101 Entrepreneurship	3 0 0 3	Mechatronics, Robotics and Machine Intelligence	20
BAMEE191 Basic Multidisciplinary Project	0 0 4 2	BAMEE311 Mechatronics System Design	3 0 2 4
BAMEE291 Innovative Design Project	0 0 4 2	BAMEE312 Artificial Intelligence	3 1 0 4
BAMEE391 Research / Design Project	0 0 6 3	BAMEE313 Industrial Robotics	3 0 2 4
BAMEE491 Technical Answers for Real World Problems	1 0 4 3	BAMEE314 Autotronics	3 0 2 4
BAMEE399 Internship I	0 0 2 1	BAMEE315 Embedded Systems for Smart Manufacturing	3 0 2 4
BAMEE499 Internship II / Capstone Project	0 0 12 6		
BAENG100 Effective English Communication (NCC)	0 0 4 2		
BAEXC100 Extracurricular Activities (NCCM)	0 0 4 2		
*-Basket Details			
BAPHY101 Applied Physics for Engineers	3 0 2 4		
BACHY109 Applied Chemistry for Engineers	3 0 2 4		
BAMAT206 Linear Algebra and Integral Transforms	3 1 0 4		
BAHUM102 Ethics in Engineering	2 0 0 2		

Green Energy Technologies & Sustainability 20

BAMEE316	Fundamentals of Advanced Energy Conversion	3	0	2	4
BAMEE317	Sustainable Energy Technologies	2	1	2	4
BAMEE318	Energy Storage Technologies	3	0	2	4
BAMEE319	Heating, Ventilation and Air-Conditioning	2	1	2	4
BAMEE402	Energy System Modelling and Analysis	2	1	2	4

Future Transportation 20

BAMEE320	Introduction of Vehicle Systems Engineering	3	0	2	4
BAMEE321	Advanced Drivetrain Systems	3	0	2	4
BAMEE322	Autonomous Vehicles	3	0	2	4
BAMEE323	Fundamentals of Vehicle Dynamics	3	0	2	4
BAMEE324	Automotive Electrical and Electronics Systems	2	1	2	4

Industrial Systems Engineering and Management 20

BAMEE325	Industrial Engineering	3	1	0	4
BAMEE326	Optimization Algorithms	3	0	2	4
BAMEE327	Data Analytics and Decision Intelligence	3	0	2	4
BAMEE328	Sustainable Manufacturing and Circular Economy	3	1	0	4
BAMEE329	Digital Supply Chain Management	3	1	0	4

Open Elective Courses 40

Engineering | Sciences | Humanities | Social Sciences | Liberal Arts | Economics | Finance | Management

Ancillary (20 credits) - Students can opt for "Ancillary" in other disciplines by earning 20 credits from the courses listed in the Ancillary options under Open Elective. Ancillary details will be mentioned only on the transcript.

Additional Concentration (20 credits) - Students can opt for "Additional Concentrations" in their own discipline by earning 20 credits from the courses listed in the Concentration options under Open Elective. Concentration details will be mentioned only on the transcript.

Minor (additional 20 credits) - Students can opt for a "Minor Degree" in other disciplines 20 credits in addition to the minimum credit requirement of the Undergraduate Degree from the courses listed in the Minor options

Honours (additional 20 credits) - Students can opt for an "Honours Degree" in the same discipline by earning 20 credits in addition to the minimum credit requirement of the Undergraduate Degree from the courses listed in the Honours options.

Second Major (additional 40 credits) - Students can opt for a "Second Major" in other disciplines by earning 40 credits in addition to the minimum credit requirement of the Undergraduate Degree from the courses listed in the Second Major options.