

BE(Hons) Mechanical Engineering - 2024

With Minor in Biomedical Engineering

1st Year Engineering

S1	ENGR101 Foundations of Engineering	EMTH118 Engineering Mathematics 1A	PHYS101 Engineering Physics A	CHEM111 Chemical Principles and Processes
S2	ENGR102 Engineering Mechanics	EMTH119 Engineering Mathematics 1B	COSC 131 Introduction to Programming for Engineers	Recommended Elective BIOL111 Cellular Biology and Biochemistry
ENGR100 Academic Writing Assessment				

2nd Year Engineering

S1	ENME201 Design Communication	ENME202 Stress, Strain and Deformation in Machine Elements	ENME215 Engineering Thermodynamics	EMTH210 Engineering Mathematics 2
S2	ENME203 Dynamics and Vibrations	ENME207 Materials Science and Engineering	ENME221 Engineering Design and Manufacture	EMTH271 Mathematical Modelling and Computation 2
ENME199 Workshop Training Course for Mechanical and Mechatronics Engineering				

3rd Year Engineering

S1	ENME301 Engineering Design and Production Quality	ENME303 Controls and Vibrations	ENME307 Performance of Engineering Materials	ENME314 Fluid Mechanics
S2	ENME302 Computational and Applied Mechanical Analysis	ENME351 (in lieu of ENME311) Biomedical Engineering Design	ENME315 Heat Transfer	ENME313 Electro Technology for Mechanical Engineers

4th Year Engineering

S1	ENME 408 Honours R&D Project with Biomedical Topic	ENME 401 Mechanical Systems Design with Biomedical Focus	MDPH401 Anatomy and Physiology	ELECTIVE
S2		ENME 418 Engineering Management and Professional Practice for Mechanical Engineers	Biomedical Elective from list below (either semester)	ELECTIVE

CONTROLS AND ROBOTICS

ENME403 Linear Systems Control and System Identification (S1)
ENMT482 Robotics (S2)

SPECIAL TOPICS - 2024

ENME452 Computational Materials Engineering(S1)
ENME422 Aerospace Structures (S1)
ENME488 Mechanics of Flight and Spaceflight (S2)

MATERIALS ENGINEERING

ENME407 Advanced Materials Science and Engineering (S1)
ENME417 Adv Composite, Polymeric and Ceramic Materials S2
ENME405 Energy Systems Engineering (**)

Final Year Electives

DYNAMICS, VIBRATIONS AND ACOUSTICS

ENME402 Acoustics and Vibrations (**)
ENME412 Advanced Vibrations (S1)

THERMO-FLUIDS-ENERGY

ENGR401 Computational Fluid Mechanics (S1)
ENME465 HVAC Engineering (S1)
ENME404 Aero and Ground Vehicle Dynamics (S2)
ENME460 Propulsion (S2)

DESIGN AND MANUFACTURING

ENME492 Industry 4.0 Intelligent Manufacturing (S1)
ENME406 Eng Product Design & Analysis (S2)
ENME411 Advanced Mech System Design (S2)

MINOR IN BIOMEDICAL ENGINEERING

ENME423 Instrumentation & Sensors (S1)
MDPH406 Medical Imaging (S2)
ENME451 Biomechanics (S2)