

UR6521004

Bachelor of Mechanical Engineering Technology (Product Design) with Honours

Programme Educational Objective (PEO)

- PEO 1** Engineering technology graduates engaged in the field of mechanical engineering technology as demonstrated through career advancement.
- PEO 2** Engineering technology graduates who are members and contribute to professional society.
- PEO 3** Engineering technology graduates embracing in life-long learning or pursuing continuing education opportunities.
- PEO 4** Engineering technology graduates who are technopreneurs.

Programme Outcomes (PO)

- PO1 Knowledge:** Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialisation to defined and applied engineering procedures, processes, systems or methodologies. (SK1 to SK4)
- PO2 Problem Analysis:** Identify, formulate, research literature and analyse broadly-defined engineering problems reaching substantiated conclusions using analytical tools appropriate to their discipline or area of specialisation. (SK1 to SK4)
- PO3 Design/ development of solutions:** Design solutions for broadly-defined engineering technology problems and contribute to the design of systems, components or processes to meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations. (SK5)
- PO4 Investigation:** Conduct investigations of broadly-defined problems; locate, search and select relevant data from codes, data bases and literature, design and conduct experiments to provide valid conclusions. (SK8)

- PO5 **Modern Tool Usage:** Select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to broadly-defined engineering problems, with an understanding of the limitations. (SK6)
- PO6 **The Engineer and Society:** Demonstrate understanding of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering technology practice and solutions to broadly-defined engineering problems. (SK7)
- PO7 **Environment and Sustainability:** Understand the impact of engineering technology solutions of broadly-defined engineering problems in societal and environmental context and demonstrate knowledge of and need for sustainable development. (SK7)
- PO8 **Ethics:** Understand and commit to professional ethics and responsibilities and norms of engineering technology practice. (SK7)
- PO9 **Individual and Teamwork:** Function effectively as an individual, and as a member or leader in diverse technical teams.
- PO10 **Communication:** Communicate effectively on broadly-defined engineering activities with the engineering community and with society at large, by being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- PO11 **Project Management and Finance:** Demonstrate knowledge and understanding of engineering management principles and apply these to one's own work, as a member and leader in a team and to manage projects in multidisciplinary environments.
- PO12 **Lifelong learning:** Recognize the need for, and have the ability to engage in independent and life-long learning in specialist technologies.

CURRICULUM STRUCTURE

UR6521004 BACHELOR OF MECHANICAL ENGINEERING TECHNOLOGY (PRODUCT DESIGN) WITH HONOURS SESSION 2022/2023

BACHELOR OF MECHANICAL ENGINEERING TECHNOLOGY (PRODUCT DESIGN) WITH HONOURS				
YEAR	FIRST	SECOND	THIRD	FOURTH

SEM	1	2	3	4	5	6	7	8
DISCIPLINE CORE (108)	MMK10203 STATICS AND DYNAMICS	MMK10103 MATERIALS SCIENCE	MMK20203 STRENGTH OF MATERIALS	MMK21203 HEAT TRANSFER	MMK11403 PROJECT MANAGEMENT	MMK31204 FINAL YEAR PROJECT I	MMK41206 FINAL YEAR PROJECT II	MMK499 12 INDUSTRIAL TRAINING
	MMK10403 ENGINEERING GRAPHICS	MMK11603 COMPUTER AIDED DESIGN (CAD)	MMK26003 COMPUTER AIDED DESIGN II (CAD II)	MMK2110 COMPUTER AIDED ENGINEERING (CAE)	MMK36003 COMPUTER AIDED ENGINEERING II (CAE II)	MMK31103 ERGONOMIC AND SAFETY		
	MMK10303 BASIC ELECTRICAL & ELECTRONICS	MMK11203 FLUID MECHANICS	MMK20103 THERMODYNAMICS	MMK11302 COMPUTER PROGRAMMING				
	MMK10502 WORKSHOP TECHNOLOGY	MMK11103 QUALITY CONTROL			MMK37403 INNOVATION MANAGEMENT & PRODUCT DEVELOPMENT	ELECTIVE I-3	MMK47703 DESIGN FOR MANUFACTURE & ASSEMBLY	
	MMK11502 MANUFACTURING TECHNOLOGY		MMK26203 PROTOTYPING AND MODEL MAKING	MMK26103 REVERSE ENGINEERING & ADDITIVE MANUFACTURING	MMK36503 INDUSTRIAL REVOLUTION	ELECTIVE II-3		
	MMK17003 BASIC INDUSTRIAL DESIGN	MMK17103 DESIGN VISUALIZATION	MMK27303 DESIGN STUDIO I	MMK27203 DESIGN INTEGRATION	MMK36403 DESIGN STUDIO II			
COMMON CORE (15)	SMQ11103 MATHEMATICS FOR ENGINEERING TECHNOLOGY I	SMQ11203 MATHEMATICS FOR ENGINEERING TECHNOLOGY II	SMQ21303 MATHEMATICS FOR ENGINEERING TECHNOLOGY III			MMK30103 ENGINEERING TECHNOLOGY MANAGEMENT	MMK31303 ENGINEERING TECHNOLOGIST IN SOCIETY	
UNIVERSITY (16)		*SMB10102 PREPARATORY ENGLISH	**SMB20102 ENGLISH FOR GENERAL COMMUNICATION	SMU22402 ENGINEERING ENTREPRENEURSHIP	SMB31202 ENGLISH FOR TECHNICAL COMMUNICATION	SMU13002 PHILOSOPHY AND CURRENT ISSUES		
			***SMB0XX02 OPTION COURSE (FOREIGN LANGUAGE)	SMU12202 SKILLS & TECHNOLOGY IN COMMUNICATION		SMU13102 APPRECIATION OF ETHICS AND CIVILIZATION		
	SMZXXX01 CO-CURRICULUM 1	SMZXXX01 CO-CURRICULUM 2		SMB41002 UNIVERSITY MALAY LANGUAGE				
UNITS	20	19	20	20	17	20	12	12

TOTAL UNITS FOR GRADUATION =140	
ELECTIVE 1	ELECTIVE 2
A1. MMK37503 PRODUCTION MANAGEMENT FOR DESIGNERS	B1. MMK37703 DIGITAL RENDERING
A2. MMK37603 PRODUCT STUDY & PROFESSIONAL PRACTICE	B2. MMK37803 DESIGN FOR MEDICAL DEVICE