Module code	TM-3302			
Module Title	Manufacturing Technologies			
Degree/Diploma	Bachelor of Engineering Degree			
Type of Module	Major Option			
Modular Credits	4	**Total student Workload**	8	hours/week
		Contact hours	4	hours/week
Prerequisite	None			
Anti-requisite	None			

Aims

The module exposes students to manufacturing technologies. The module examines manufacturing engineering and technology that is currently used in industry, including fundamentals of materials, metal-casting processes and equipment, forming and shaping processes, machining processes and machine tools, micro-manufacturing and fabrication of microelectronics devices, joining processes and the equipment and surface technology.

Learning Outcomes

On successful completion of this module, a student will be expected to be able to:

Lower order :	30%	- describe the history and current trends in manufacturing engineering and technology - understand the fundamentals of materials including behaviour and manufacturing properties
Middle order :	30%	- apply engineering concepts of manufacturing technologies to real world applications - analyse the materials and select suitable manufacturing processes
Higher order:	40%	- justify the process of selection of materials for manufacturing engineering and technology - solve complex engineering problems through the selection of manufacturing technologies for certain materials and products - form arguments for suitable manufacturing technologies potential benefits to society based on the environmental and economic perspectives - work cooperatively in groups when reviewing case studies

Module Contents

- Fundamentals of materials
- Metal-casting processes and equipment
- Forming and shaping processes
- Machining processes and machine tools
- Micro-manufacturing and fabrication of microelectronics devices
- Joining processes and the equipment
- Surface technology

Assessment	Formative assessment	Online quizzes will be used to test and to give feedback for their learning
	Summative assessment	Examination: 50%
		Coursework: 50% - 1 class test (20%) - 2 laboratory report: (15% each)