

MATERIALS ENGINEERING



Materials Engineers are the vanguards of discovering the best material solutions for products. From designing the perfect combination of components for an aeroplane wing to developing materials for medical implants, they build the foundations of new technology and groundbreaking progress.

CAREER OPPORTUNITIES

- Materials Engineer
- Polymer Engineer
- Composite Engineer
- Materials Processing Engineer
- Failure Analysis Engineer
- Corrosion Engineer
- Materials Performance Engineer
- Metallurgist
- Ceramic Engineer
- Materials Development Engineer
- Research and Development Engineer
- Quality Assurance Engineer
- Semiconductor Processing Engineer

STUDENTS MAY ALSO USE THE FINAL YEAR TO PURSUE SPECIALISED OPTIONS IN:

- Advanced Engineering Materials
- Magnetic Materials
- Energy Materials
- Electronic Materials
- High Temperature Materials
- Bio – Materials

Students undergo a compulsory industrial training programme of 6-month duration at the end of their 2nd & 3rd years respectively, split into 3 months each.

ENTRY REQUIREMENTS

Minimum of two “C” passes and one “S” pass in GCE Advanced Level (Sri Lanka) in the Physical Science Stream (Combined Mathematics, Physics and Chemistry) in one and the same sitting and a pass at the Aptitude test conducted by SLIIT OR Minimum of two “B” passes and one “C” pass in GCE Advanced Level (Cambridge or Edexcel) covering Combined Mathematics, Physics and Chemistry in one and the same sitting and a pass at the Aptitude test conducted by SLIIT

YEAR ONE
SEMESTER 01

CE1011	Engineering Mechanics	04
ME1010	Engineering Design & Processes	04
EC1021	Electrical Systems	03
MA1302	Engineering Mathematics I	03
EL1202	English Language Skills I	03
CE1912	Introduction to Sustainable Engineering	02

SEMESTER 02

ME1030	Engineering Skills Development	03
ME1040	Engineering Principles & Communication	04
MT1010	Engineering Materials	04
MA1312	Engineering Mathematics II	03
EC1441	Engineering Programming	03
EL1212	English Language Skills II	02

YEAR TWO

SEMESTER 01

CE2721	Fluid Mechanics and Thermodynamics	04
ME2011	Mechanics of Solids I	03
MT2020	Metals & Alloys	03
MA2302	Engineering Mathematics III	03
ME2021	Mechanics of Machines I	04
MT2010	Material structure and defects	04

SEMESTER 02

ME2030	Manufacturing Processes I	03
MT2040	Ceramics Engineering	03
MT2060	Material Processing	03
MT2070	Material Characterisation Techniques	03
ME2051	Mechanical Design I	03
MT2050	Chemical thermodynamics and phase equilibria	04
CE3910	Humanities I	
MT2080	Industrial Training I	

YEAR THREE

SEMESTER 01

ME3031	Mechanics of Solids II	04
MT3010	Plastics & Rubber	03
ME3100	Manufacturing Processes II	03
MT3030	Construction & Building Materials	03
ME3041	Mechanics of Machines II	04
MT3020	Phase transformation and Kinetics	04
CE3910	Humanities II	

SEMESTER 02

MT3040	Corrosion Engineering	03
MT3050	Nanomaterials & Nanotechnology	03
ME3081	Engineering Management	03
ME3091	Law for Engineers	03
MT3070	Welding & Joining Processes	03
ME3052	Mechanical Design II	03
MT3060	Composite Materials	04
MT3080	Industrial Training II	

YEAR FOUR

SEMESTER 01

MT4010	Materials Engineering Project I	04
ME4111	Industrial Management & Marketing	03
3 Elective Modules from following:		
MT4030	Advanced Engineering Materials	03
MT4050	Materials Modelling	03
MT4060	Surface Engineering	03
MT4070	Magnetic Materials	03
ME4091	Energy Technology and Sustainability	03
ME 4081	Computer-aided design and manufacture	03
ME 4050	Computer-aided engineering	03

SEMESTER 02

MT4080	Materials Engineering Project II	04
MT4090	Material Application & Design	03
MT4100	Recycling & Sustainable Materials	03
2 Elective Modules from following:		
MT4110	High Temperature Materials	03
MT4120	Advanced Manufacturing Processes	03
MT4130	Energy Materials	03
MT4140	Bio-Materials	03
MT4150	Electronic Materials	03
ME4160	Product Design	03
ME4140	Design for Manufacture	03

•Electives to be chosen with the prior approval of the Academic Department

•Available only for Materials Engineering with Mechanical Design option

•Not available for Materials Engineering with Mechanical Design option