UNDERGRADUATE PROGRAMME

MATERIALS ENGINEERING

JPT/BPP(N/527/6/0003)04/26

UNIVERSITI TEKNOLOGI PETRONAS

What is Materials Engineering?

Materials engineering is basically a branch of engineering that probes into the behaviour of materials. Once the materials' behaviour is understood, we can then design the solution to enhance their performance leading to new inventions and innovations.

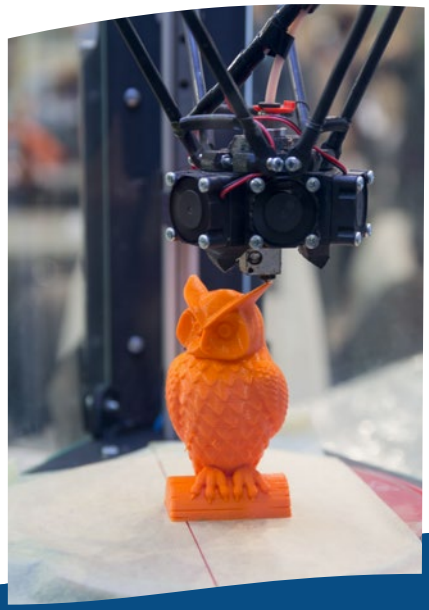
Materials engineers touch our lives on so many levels and areas of science, influencing what we buy or how we use a new device, machine or structure. For example, in the construction of Formula 1 motorsport cars, the materials engineer will find the best materials that are both strong and lightweight to ensure high-performance of the cars for the race.

What does a Materials Engineer do?

The role of a materials engineer is to: .

- create enhanced and new products or systems using existing materials
- develop techniques for processing of materials
- develop, process, and test materials, to provide solutions on their performance
- look into the internal structure of materials, to design their molecular/atomic arrangement
- yield the properties and performance needed, to result in enhanced and new product innovations

These roles allow a materials engineer to meet the technological challenges and innovation that exists in almost all aspects of modern life; including oil and gas, manufacturing, production, medical, pharmaceutical, construction, electrical, healthcare and domestic products.



A peek into a Material Engineer's day

Why Materials Engineering at UTP?

1. Comprehensively designed programme with strong inputs from industry experts
2. Students can choose specialisations that are in demand by the industry during their final year of study
3. World-class teaching and learning, research capabilities as well as state-of-the-art labs and facilities
4. Strong partnership with multinational oil and gas companies such as PETRONAS, Schlumberger, Baker Hughes, Shell and ExxonMobil
5. The UTP Materials Engineering curriculum is strongly focused and selects smart and functional materials to provide the best opportunities for advanced learning
6. The academic staff are highly qualified and experienced, and a high percentage of them are chartered and professional engineers. Thus, undergraduate students can benefit greatly from their knowledge and expertise

What am I going to learn?

National / University

- Management, Social Sciences and Humanities
- Introduction to Oil and Gas
- Scientific Inquiry
- Co-Curriculum

Common Engineering

- Engineering Mathematics
- Engineering Economics
- Health, Safety and Environment
- Data Analytics
- Engineers in Society

Core Discipline by Programme

- Engineering and Smart Materials
- Materials Property and Processing
- Materials Selection and Design
- Materials Modelling

Specialisation

- Advanced Computational and Modelling of Materials
- Degradation and Failure of Materials

Project Based

- Engineering Team Project
- 7 months Structured Industrial Internship Programme
- Community Engagement Project
- Final Year Research Project
- Capstone Project

Minor (Optional)

- Entrepreneurship
- International Relations
- Project Management
- Big Data Analytics

Contact

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