Bachelor of Chemical Engineering

Introduction

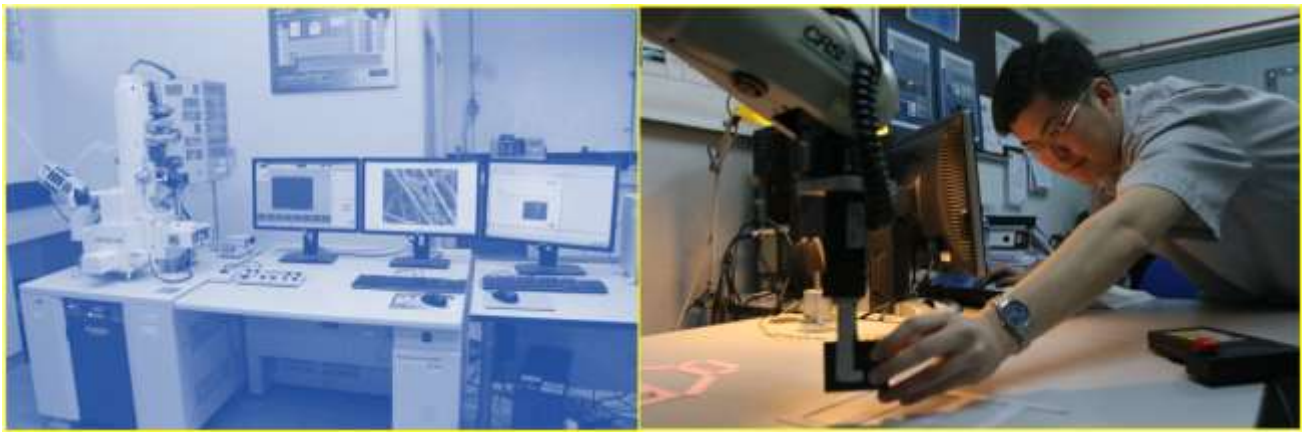
Chemical Engineering is a discipline that works collaboratively with people from all walks of life to develop processes and systems that keep modern society running efficiently and sustainably. Chemical engineers design, develop, and operate equipment and large-scale industrial processes, ensuring they are safe, economical, and environmentally responsible. The field focuses on transforming raw materials into valuable products through chemical and biochemical processes on an industrial scale. This includes refining crude oil into fuels such as petrol, kerosene, and diesel; producing plastics and biodegradable materials; and manufacturing essential products such as fertilizers, drinking water, cooking oils, processed foods, pharmaceuticals, and vaccines.

Chemical engineers also play a key role in advanced manufacturing, including the large-scale production of materials used in electronics and other high-tech industries. Increasingly, the discipline integrates biological systems, working with microorganisms and plants to develop sustainable and renewable products. In addition to production and innovation, chemical engineers are committed to protecting human health and the environment. Through responsible design and operation of industrial processes, they help minimize environmental impact and ensure safe, sustainable development for society.

Entry Requirements for YMI Students (Chemical Engineering Program)

Passed with a minimum Gaokao score of 70%	
AND Obtained the following Grades in	
Subject	**Score / Grade**
Mathematics	**65% / B**
Physics	**65% / B**

Bachelor of Science (Materials Sciences)



Introduction

The Materials Science programme equips graduates with a strong foundation in the structure, properties, processing, selection, and performance of engineering materials such as metals, ceramics, polymers, composites, and advanced functional materials. Students develop analytical, laboratory, and problem-solving skills to support material selection, design, testing, and innovation across industries including manufacturing, electronics, energy, aerospace, biomedical, nanotechnology, and oil and gas.

The programme emphasizes materials characterization, processing technologies, failure analysis, quality assurance, and sustainable material solutions to improve performance, reliability, and environmental sustainability. Graduates are prepared for careers in research and development, materials engineering, quality control, product development, technical consultancy, and industrial operations, as well as for further studies in related fields.

Entry Requirements for YMI Students (Material Sciences Program)

Passed with a minimum Gaokao score of 70%	
AND Obtained the following Grades in	
Subject	**Score / Grade**
Mathematics	**60% / B-**
Physics	**60% / B-**

UNIVERSITI MALAYA

Bachelor of Computer Science (Artificial Intelligence)

Introduction

This programme equips students with the knowledge and skills to design and develop intelligent computer systems that emulate and exhibit human intelligence. Students will gain both theoretical understanding and practical experience in key areas of Artificial Intelligence (AI), including Robotics, Cognitive Science, Image Processing, Natural Language Processing, Machine Learning, Artificial Neural Networks, Fuzzy Logic, Expert Systems, and Logic Programming. The programme also emphasizes problem-solving, critical thinking, programming, and data-driven decision-making skills essential for the rapidly evolving digital economy. Through laboratory work, industry-oriented training, and final year projects, students will apply AI techniques to develop innovative real-world applications across various domains. The curriculum prepares graduates to analyse complex datasets, automate intelligent processes, develop predictive models, and design smart systems capable of supporting decision-making and operational efficiency.

Graduates of this programme are well-positioned for careers in a wide range of industries, including banking and finance, manufacturing, healthcare, telecommunications, logistics, retail, cybersecurity, and smart technologies. Potential career opportunities include AI Engineer, Machine Learning Engineer, Data Analyst, Data Scientist, Robotics Engineer, Automation Engineer, Business Intelligence Analyst, Software Developer, AI Researcher, Intelligent Systems Consultant, and Digital Transformation Specialist.

Entry Requirements for YMI Students (Artificial Intelligence Program)

Passed with a minimum Gaokao score of 70%	
AND **Obtained the following Grades in**	
Subject	**Score / Grade**
Mathematics	**60% / B-**
AND **any ONE (1)**	
Physics/Computing/Biology/Chemistry	**60% / B-**
AND	
Senior Secondary High School Certificate **Passed with a minimum average of 65%**	
Mathematics / Additional Mathematic	**65% / B**
Any ONE (1)	
Subject	**Score / Grade**
Physics	**65% / B**
Computing	**65% / B**
Chemistry	**65% / B**
Biology	**65% / B**
ICT	**65% / B**

Contact Person:

For further information on the YMI programs, students may contact:

Marketing and Recruitment Department

Email: study@um.edu.my

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