HERIOT WATT UNIVERSITY

UK | DUBAI | MALAYSIA

Engineering & Built Environment 2025

Engineering & Built Environment

at Heriot-Watt University Malaysia

As the leading research institution in Scotland, UK and Dubai, we have a reputation for excellence that spans the globe. Our programmes for professionals cover engineering, built environment, renewable energy, oil and gas, and more.

We understand the importance of building future thinkers and leaders who have global perspectives. And we do that by equipping them with the ability to explore international opportunities, engage in our inter-campus transfer programme and gain experience with real-world projects. That means exposure to practical industry-specific problem-solving tasks via collaborations with local and international companies, government agencies and professional bodies.

Our postgraduate programmes offer flexibility where students can study while remaining in full-time employment - ensuring that the learning and advancement process never has to be put on pause.

Discover

the intakes and durations of our undergraduate and postgraduate programmes today.

Undergraduate

MEng Chemical Engineering - 4 Years
Intake: September, January

MEng Civil Engineering - 4 Years
Intake: September

MEng Electrical and Electronic Engineering - 4 Years
Intake: September

MEng Mechanical Engineering - 4 Years
Intake: September, January

BSc (Hons) Quantity Surveying - 3 Years
Intake: September, January

Postgraduate

MSc Advanced Mechanical Engineering - 1 to 2 Years
Intake: September

MSc Petroleum Engineering - 1 to 2 Years
Intake: September, January

MSc Renewable Energy Engineering - 1 Year
Intake: September

MEng Chemical Engineering

MEng: KPT/JPS (R/524/6/0041) (MQA/FA5107) 11/26

Intake: September, January

This degree will allow you to understand the chemical and physical principles underlying chemical engineering concepts, and help you cultivate the ability to apply your skills to real, practical engineering problems. The programme will provide an in-depth knowledge of key features of sustainability management and the relevant legislation and develop students' ability to critically evaluate sustainability and environmental risks. It will also develop your transferrable skills in communication, team-working, industrial and commercial awareness, and career management.

This programme is accredited by the Malaysian Qualifications Agency (MQA). Our MEng programme is accredited and recognised by the Board of Engineers Malaysia (BEM). MEng is internationally recognised and accredited by the Institute of Chemical Engineers (IChemE). Our MEng qualification is designed to satisfy the academic requirements set by the Engineering Council UK for registration as a Chartered Engineer (CEng) status.

Accredited by:

YEAR 1

- Industrial Chemical Processes
- Fluid Mechanics
- Chemical Thermodynamics & Introductory Chemical Kinetics
- Maths Engineers & Scientists 3
- Thermodynamics
- Heat Transfer
- Process Design A
- Mathematical Modelling for Chemical Engineers

YEAR 2

- Separation Processes A
- Chemical Reaction Engineering
- Process Control
- Sustainable Development and Engineering Management
- Separation Processes B
- Multiphase Thermodynamics
- Process Health and Safety
- Bioprocessing

YEAR 3

- Separation Processes C
- Sustainability Management and Process Economics
- Process Optimisation, Integration and Analysis
- Particle Technology
- Chemical Reaction, Modelling and Control
- Applied Transport Phenomena
- Process Engineering Design Project
- Industrial Training (Min 8 Weeks)

YEAR 4

Optional courses from a range of specialist engineering subjects. Two major projects are taken in this year: an in-depth individual research project; and an enhanced group-based design project, where students can demonstrate their skills in process design and commercial awareness, culminating in a board-style presentation to senior industry leaders.

- Design Project
- Research Project

Plus 4 optional courses related to Oil & Gas Technology, Bioprocessing, Energy Engineering, Environmental Engineering, and Formulation Engineering.

Testimonial

Kevin Lam

MEng Chemical Engineering with Oil and Gas Technology (Class of 2020), Instrumentation and Controls Engineer at BP PLC, Scotland

Throughout my time with the University, I've been exposed to a curriculum geared towards the application of knowledge, giving me a holistic understanding of the underlying theory, whilst appreciating its application in a practical manner.

MEng Civil Engineering

MEng: KPT/JPS (R/526/6/0108) (MQA/FA6195) 08/27

Intake: September

The core curriculum begins with fundamentals in all main subject areas, concentrating on analysis and materials behaviour followed by increasing focus on design and management in the specialisation years. Throughout, there is also an emphasis on the personal development of students within the professional environment. The career prospects for our graduates includes these high demand sectors for civil engineers namely the construction, utilities, energy and transportation sectors.

This programme is internationally accredited by the Joint Board of Moderators (JBM) comprising the Institution of Civil Engineers (ICE), the Institution of Structural Engineers (IStructE), the Institute of Highway Engineers (IHE), the Chartered Institution of Highways and Transportation (CIHT) and the Permanent Way Institution (PWI) on behalf of the Engineering Council for the purposes of fully meeting the academic requirement for registration as a Chartered Engineer (CEng). Our MEng programme is also recognised by the Board of Engineers Malaysia (BEM) and fully accredited by the Malaysian Engineering Accreditation Council (EAC) and Malaysian Qualifications Agency (MQA).

Accredited by:

YEAR 1

- Analysis of Determinate Structures
- Hydraulics and Hydrology A
- Surveying and GIS
- Mathematics for Engineers and Scientists 3
- Civil Engineering Materials
- Stress Analysis and Element Strength
- Design Studies A - Problem Solving
- Statistics for Science

YEAR 2

- Indeterminate Structures
- Geology and Soil Properties
- Design of Steel Elements
- Transport Design, Infrastructure and Society
- Hydraulics and Hydrology B
- Geotechnics A - Intro to Soil Mechanics
- Design of Concrete Elements
- Environmental Technology and Management

YEAR 3

- Geotechnics B - Geotechnical Applications
- Highway Engineering
- Structural Element Design
- Finite Element Method Linear Analysis
- Foundation Engineering
- Plastic Analysis of Structures
- Urban Drainage and Water Supply
- Civil Engineering Design Project
- Industrial Training (Min 8 Weeks)

YEAR 4

- Civil Engineering Professional Design Project
- Dissertation 1 & 2 Civil Engineering Discipline
- Project Management Theory and Practice
- Construction Financial Management
- Project Management Strategic Issues

Optional courses:

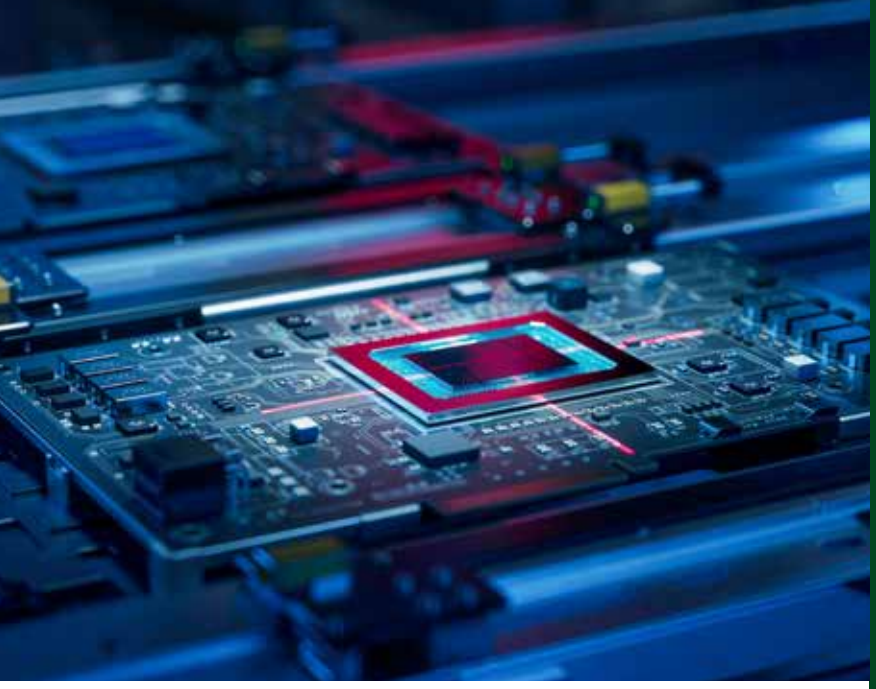
- Finite Element Method Nonlinear Analysis
- Machine Learning and Programming

Testimonial

Valentina Nicson

MEng Civil Engineering (Class of 2022), Sales Engineer cum Director Assistant at JOE Green Pte Ltd, Singapore

At Heriot-Watt University Malaysia, what stood out to me the most was the amicability and willingness of the lecturers to help, as they were always available for tutorials and provided ample advice and guidance, which enabled us to gain a better insight into the subject matter.



MEng Electrical and Electronic Engineering

MEng: KPT/JPS (R/523/6/0265) (MQA/FA6194) 08/27

Intake: September

From the electricity that powers our lives to the mobile phones that enable communication and provide entertainment, the technologies around us inspire wonder. Highly trained engineers are needed to specify and design such systems and devise electronic engineering solutions for future challenges such as electric transportation, renewable energy generation, robot systems and medical diagnostics.

This programme is accredited by the Malaysian Qualifications Agency (MQA). Our MEng qualification is designed to satisfy the academic requirements set by the Engineering Council UK for registration as a Chartered Engineer (CEng) status.

Chartered engineers enjoy excellent prospects, enhanced employability and high salaries.

Our MEng programme is accredited and recognised by the Board of Engineers Malaysia (BEM). Graduates from this programme are eligible for registration with BEM under the Electrical Discipline.

Accredited by:

Engineering Council accredited degree

IET The Institution of Engineering and Technology

YEAR 1

- Circuits and Analysis
- Digital Design and Programming
- Mathematics for Engineers and Scientists 3
- Sustainable Development and Engineering Management
- Mathematics for Engineers and Scientists 4
- Intro Electricity and Magnetism
- Electrical Power and Machines
- Computer Architecture and Embedded Systems

YEAR 2

- Semiconductor Electronics
- System Project
- Engineering Mathematics and Statistics
- Time Frequency and Signal Analysis
- Signals and Systems
- Electrical Energy Systems
- Electromagnetism

YEAR 3

- MEng Group Project 1
- Professional and Industrial Studies
- MEng Group Project 2
- Industrial Training

Students undertake a compulsory industrial training placement after completing Year 3.

Optional and elective courses available for Year 3 include:

- Linear Control
- Digital Signal Processing
- Advanced Analogue Electronics
- Sustainable Energy and Power Systems
- Communication Devices and Systems

YEAR 4

MEng students do Project 1 and Project 2 plus four optional courses.

Optional and elective courses available include:

- Electrical Power System
- Digital Signal Processing
- Distributed Generation
- Renewable Generation and Conversion

Students take a total of eight core and optional courses as well as projects each year.

MEng Mechanical Engineering

MEng: KPT/JPS (R/521/6/0092) (MQA/FA5108) 11/26

Intake: September, January

The degree aims to produce graduate engineers who are able to meet the challenging needs of todays and tomorrow's industries and society. The curriculum is rigorous to ensure solid foundation in current mechanical engineering principles enriched with industrial relevance and group work.

This programme is accredited by the Malaysian Qualifications Agency (MQA). MEng are internationally recognised by the Institute of Mechanical Engineers (IMechE). Our MEng qualification is designed to satisfy the academic requirements set by the Engineering Council UK for registration as a Chartered Engineer (CEng) status.

Our MEng programme is accredited and recognised by the Board of Engineers Malaysia (BEM) and fully accredited by the Malaysian Engineering Accreditation Council (EAC).

Accredited by:

YEAR 1

- Design and Manufacture 2
- Electrical Power and Machines
- Mathematics for Engineers and Scientists 3 & 4
- Mechanics of Materials A
- Dynamics
- Fluid Mechanics A
- Thermodynamics A

YEAR 2

- Sustainable Development and Engineering Management
- Design and Manufacture 3 and 4
- Mechanics of Materials B
- Fluids Mechanics B
- Vibration Analysis & Control Engineering
- Thermodynamics B
- Automotive Technologies 1 (Optional)
- Energy Studies (Optional)

YEAR 3

- Engineering Design
- Engineering Manufacture
- Group Project 1

Optional courses:

- Fluids 1
- Heat Exchangers and Heat Transfer
- Dynamics 1
- Advanced Mechanics of Materials 1
- Fluids 2
- Advanced Thermodynamics Application
- Dynamics 2

Students undertake a compulsory industrial training placement.

YEAR 4

- Failure Accident Analysis
- Group Project 2 and 3
- Professional and Industrial Studies
- Computational Fluid Dynamics with Heat Transfer
- Specialist Engineering Technologies 2
- Individual Project

Students take a total of eight courses per year including core and optional courses/projects.

Testimonial

Peter Rattray

MEng Mechanical Engineering (Class of 2021), Data Engineer at Experian, Nottingham, UK
1 year in Edinburgh + 3 years in Malaysia

The option to seamlessly transfer between the UK and Malaysia campuses at any point during my engineering degree has allowed me to develop my soft skills by working with students on the other side of the world. I was able to do my first year at the Edinburgh campus before doing the rest of my degree at the Malaysia campus in Putrajaya.

BSc (Hons) Quantity Surveying

KPT/JPS (R2/0734/6/0001) (MQA/FA4369) 06/29

Intake: September, January

Quantity surveying today extends beyond traditional roles, integrating sustainability principles and leveraging construction digitalisation for cutting-edge project management. In addition to offering financial, contractual, management and technical advice, quantity surveyors now champion sustainable practices, ensuring that construction projects in multiple industries meet immediate needs and contribute to long-term environmental and societal well-being.

Furthermore, in the era of construction digitalisation, quantity surveyors harness innovative technologies to streamline processes, enhance efficiency, and optimize project outcomes. From utilizing Building Information Modelling (BIM) for seamless collaboration to implementing advanced cost estimation software for accurate budgeting, they leverage digital tools to revolutionise project delivery.

Our accredited programme, recognised by esteemed institutions such as the Royal Institution of Chartered Surveyors (RICS), Chartered Institution of Civil Engineering Surveyors (ICES), and Board of Quantity Surveyors Malaysia (BQSM), as well as endorsed by the Malaysian Qualifications Agency (MQA), prepares aspiring quantity surveyors to excel in this dynamic and forward-thinking industry landscape.

IN EMPLOYABILITY TALENTBANK

Accredited by:

YEAR 1

- Construction Technology: Structure and Fabric
- Commercial Law
- Surveying and Geographic Information System (GIS)
- Cost Modelling and Measurement
- eConstruction
- Building Services Technology
- Principles of Property Valuation
- The Economy

YEAR 2

- Safety Management and Site Establishment
- Construction Technology for Commercial Building
- Procurement and Contracts
- Design Cost Planning and Control
- Measurement and Cost Evaluation
- Design Issues
- Design for Construction
- Innovation in Construction Practice

YEAR 3

- Cost and Value Management
- QS Practice
- Design Project
- Dissertation
- Construction Information Management
- Business Management in the Built Environment

Students take a total of eight courses per year including core, optional and elective courses/projects.

Testimonial

Komalah Selva

BSc (Hons) Quantity Surveying (Class of 2021), Business Developer (Power) at Hilti Malaysia

The four years I spent at Heriot-Watt University Malaysia gave me a headstart in my career path. The freedom of thought, easy and friendly access to top management, and links to industry stakeholders provided both, academic and soft skills to me.

CORE COURSES

- Professional and Industrial Studies
- Computational Fluid Dynamics with Heat Transfer
- Failure and Accident Analysis
- Specialist Engineering Technologies 2
- Critical Analysis and Research Preparation
- Master's Dissertation

OPTIONAL COURSES (SELECT 3)

- Fluids 1
- Advanced Mechanics of Materials
- Dynamics 1
- Heat Transfer and Heat Exchangers
- Renewable Energy Technologies
- Fluids 2
- Dynamics 2
- Advanced Thermodynamic Applications

MSc Advanced Mechanical Engineering

KPT/JPS (N/521/7/0182) (MQA/FA14181) 01/26

Intake: September

This programme aims to develop the knowledge and skills of a bachelor's-level graduate mechanical engineering degree to master's level through advanced teaching, design work and research. It provides an opportunity for candidates from a different engineering background to develop key mechanical engineering knowledge and skills required for their professional development. A key objective of the programme is to be an accredited route to becoming a chartered engineer.

This programme makes use of master's-level courses in the Energy Sciences and Manufacture and Design field, complemented with specialist courses from relevant MSc courses offered by the Institute.

Accredited by:

MQA Agensi Kelayakan Malaysia Malaysian Qualifications Agency

Institution of MECHANICAL ENGINEERS

MSc Petroleum Engineering

KPT/JPS (R2/0711/7/0001) (MQA/FA3474) 06/28

Intake: September, January

Petroleum Engineering at Heriot-Watt University is globally ranked 12th and 3rd in the UK. It holds the top position in the UK for employer reputation, as per the QS World University Rankings by subject for 2023.

Petroleum engineering is central to safe, efficient and sustainable development of oil and gas assets to meet global energy and resource demands. Heriot-Watt University has delivered its internationally renowned petroleum engineering MSc programme for decades, providing thousands of graduates with the knowledge and skills to tackle the oil and gas industry's most challenging problems across the globe. The programme offers an interdisciplinary approach to exploration and extraction of petroleum resources.

The programme includes lectures, project work, and field trips, covering a wide range of petroleum engineering fundamentals that are highly relevant to the modern petroleum industry.

Accredited by:

MQA
Agensi Kelayakan Malaysia
Malaysian Qualifications Agency

COURSES

- Geoscience for Petroleum Engineering
- Reservoir Engineering
- Drilling Engineering
- Formation Evaluation
- Petroleum Economics
- Production Technology
- Reservoir Simulation
- Reservoir Engineering - Well Test Analysis
- Field Development Project
- Individual Project

Testimonial

Siti Sarah Binti Masrun

MSc Petroleum Engineering (Class of 2020), CSWIP 3.4U Subsea Inspection Data Recorder at Subsea Worldwide Solutions Sdn Bhd

As the sole female postgraduate (December 2020) in the MSc Petroleum Engineering programme at Heriot-Watt University Malaysia, I am proud to have pursued my dream of working offshore in the oil and gas industry. This programme opened doors to exciting career opportunities. While studying, I grew both intellectually and personally, becoming one of the few female professionals in the field. I am grateful for the eye-opening learning experiences, connections made, and the inspiring lecturers with their remarkable industry expertise. Their support and dedication inspired me to keep chasing my dreams.

MSc Renewable Energy Engineering

KPT/JPS (R2/522/7/0030) (MQA/FA2721) 02/28

Intake: September

This programme is a specialist programme with a clear Engineering focus. It aims to equip students with a widespanning, yet detailed overview of renewable energy resources and their exploitation, as well as the socio-economic and environmental impacts of related activities.

The programme is an advanced MSc in the rapidly expanding area of renewable energy engineering, and as an accredited route to becoming a chartered engineer.

To do this, the programme provides a broad introduction to current energy issues and specialist knowledge and skills to analyse, appraise or design renewable energy systems or equipment.

Note: This programme will be refreshed after September 2025 intake. Do speak to your education consultant on options available.

Accredited by:

MQA Agensi Kelayakan Malaysia Malaysian Qualifications Agency

energy institute

Engineering Council accredited degree

CORE COURSES

- Foundations of Energy
- Renewable Energy Technologies
- Economics of Renewable Energy
- Advanced Renewable Energy Engineering
- Demand Management and Energy Storage
- Environmental Impact Assessment
- Critical Analysis and Research Preparation
- Master's Dissertation

OPTIONAL COURSES (SELECT 1)

- Electrical Power Systems
- Heat Transfer and Heat Exchangers

About Our GO GLOBAL

At Heriot-Watt University, the world is your classroom. Immerse yourself in a truly international learning experience with students from diverse backgrounds. Unlock the world's possibilities through our seamless inter-campus transfer programme to the **Edinburgh** or **Dubai campuses** and enjoy a **20% discount***.

** Only available for Undergraduate programmes*

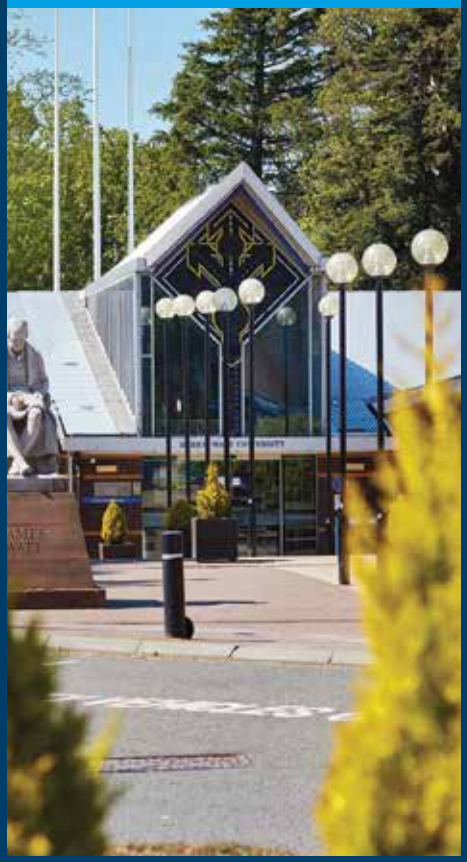
20%

tuition fee discount when you transfer to our Edinburgh or Dubai campuses

99%

of Go Global students said they would recommend it

Heriot-Watt University Student Survey 2020



80%

of surveyed employers actively seek out graduates with international experience

QS Global Employer Survey Report

HOW TO APPLY

Heriot-Watt University Malaysia accepts applications all year round.

APPLY ONLINE

You can apply online for our programmes at **https://bit.ly/HWApply** You must create an account to use the online application form. You don't have to complete the application in one session; you can save the information you have already entered and return to complete it at a later date. There is a help facility on each page of the online form.

SUPPORTING DOCUMENTS

Please remember to upload supporting documents so that we can make a decision on your application. This includes proof of English language proficiency and original or certified copies of academic transcripts.

Please refer to the supplemental item checklist on the Online Application form:
▶ **http://bit.ly/hwumaccount**

See website for details of fees:
▶ **http://bit.ly/hwum_fees**

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Open for consultation:
Weekdays 9am - 5pm
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Heriot-Watt University Malaysia (DULN007(WP))
No. 1, Jalan Venna P5/2, Precinct 5, 62200 Putrajaya, Malaysia

+603-8894 3888 +6012-651 2599 HWUM@hw.ac.uk

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As of May 2025