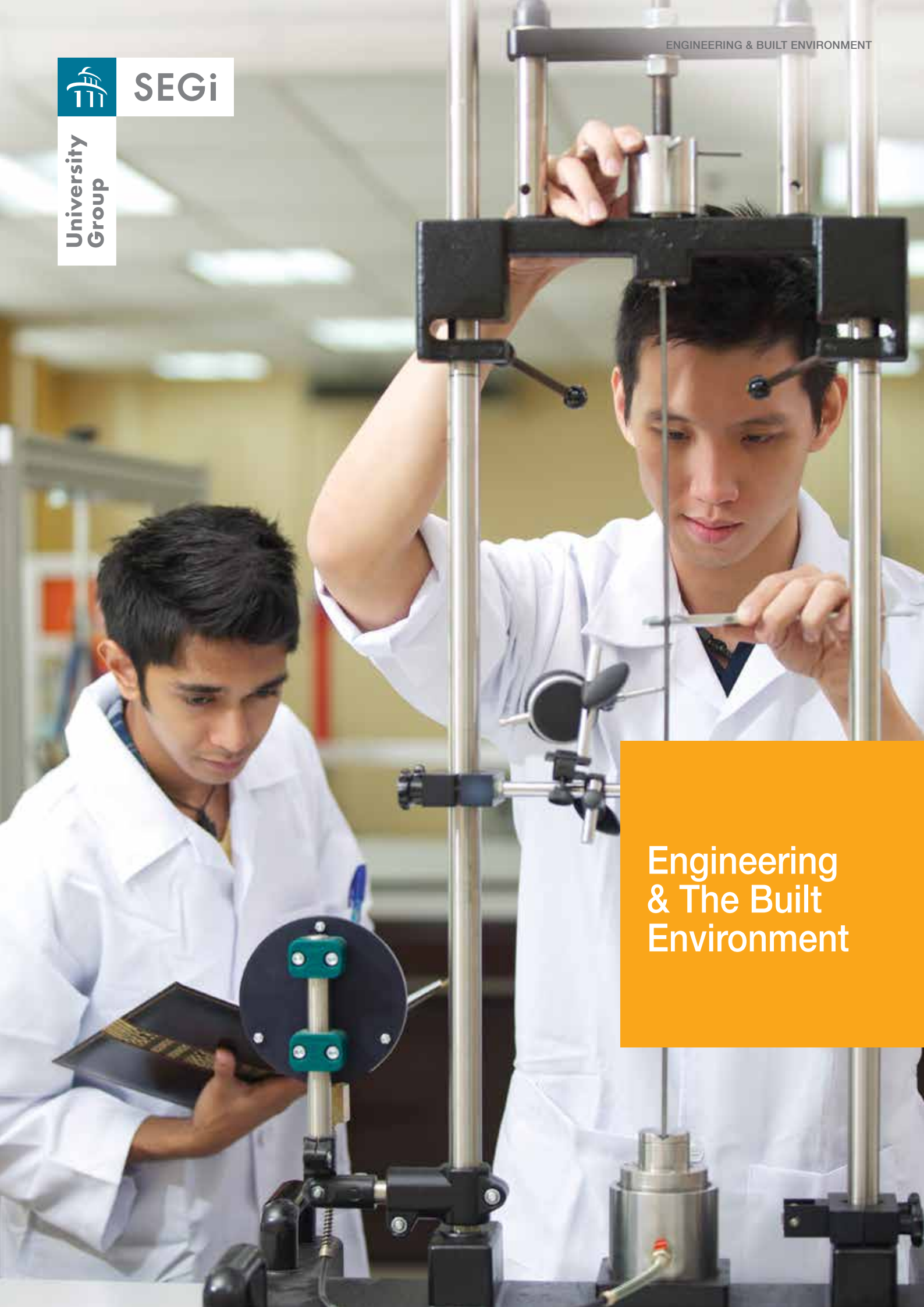
SEGi University Group



Engineering & The Built Environment

What is Engineering and The Built Environment?

Engineering and The Built Environment is a combination of Science, Mathematics and Art to creatively design, build, and maintain machines, structures, devices, systems, materials and processes.

The field of engineering and built environment has become so diverse in recent years that there is no single definition. Yet, modern life will not be possible without these engineering feats.

With engineering and built environment, you get to play a vital role in society and leave your mark in history, like Thomas Edison, Gustave Eiffel and Steve Jobs.

SEGi offers a wide range of engineering and built environment programmes that aim to bring out the best in you and prepare you for the exciting world of engineering and built environment.

Consortium of Global Partners

University of Sunderland

University of Sunderland (UOS), UK

The University of Sunderland is a dynamic, modern university with high standards of teaching and research and a growing reputation as the university of enterprise, employment and opportunity.

Sunderland, located at the heart of the bustling North East of England, is acknowledged as one of Britain's foremost attractions for its surviving historic and cultural heritage. The University of Sunderland founded its Business School in the early 1990s and within five years built on a solid reputation resulting in rapid growth and physical expansion. Its teaching has been recognised for excellence by the Quality Assurance Agency in the UK.

In the field of engineering, SEGi College offers the UOS BEng (Hons) Mechanical Engineering (3+0) and the UOS BEng (Hons) Electronic & Electrical Engineering (3+0) in collaboration with the University of Sunderland.

UNIVERSITY of GREENWICH

The University of Greenwich (UOG), UK

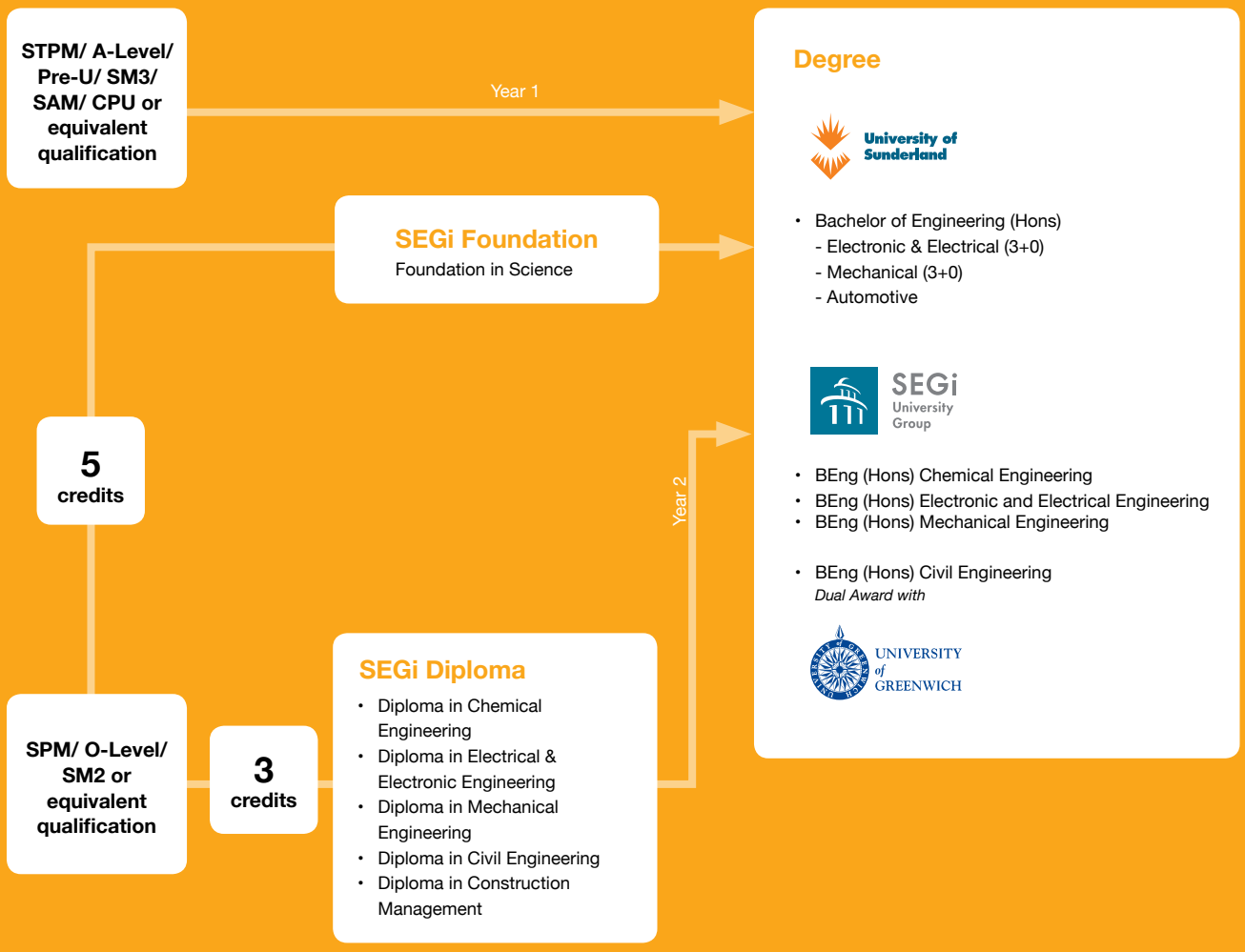
An award-winning university with research affiliations and partnerships in more than 80 countries worldwide, UOG has delivered international education excellence in the vibrant and challenging technology-based world.

The university traces its roots to 1890, when Britain's second polytechnic was opened near the Thames at Woolwich to teach practical and commercial skills to London workers. The name Thames Polytechnic was adopted in 1970 and university status awarded in 1992.

Over the years a range of specialist organisations have joined the institution, giving it the diverse strengths it has today in subjects such as teacher training, architecture, engineering and history.

UOG is accredited by the Institute of Management of Information Systems (IMIS). It is also a past recipient of prestigious awards from the British Computing Society (BCS), and the Queen's Anniversary Prize.

Study Route


STPM/ A-Level/ Pre-U/ SM3/ SAM/ CPU or equivalent qualification
Year 1
Degree
University of Sunderland
• Bachelor of Engineering (Hons)
- Electronic & Electrical (3+0)
- Mechanical (3+0)
- Automotive
SEGi Foundation
Foundation in Science
5 credits
SEGi University Group
• BEng (Hons) Chemical Engineering
• BEng (Hons) Electronic and Electrical Engineering
• BEng (Hons) Mechanical Engineering
• BEng (Hons) Civil Engineering
Dual Award with
UNIVERSITY of GREENWICH
Year 2
SPM/ O-Level/ SM2 or equivalent qualification
3 credits
SEGi Diploma
• Diploma in Chemical Engineering
• Diploma in Electrical & Electronic Engineering
• Diploma in Mechanical Engineering
• Diploma in Civil Engineering
• Diploma in Construction Management

Course Matrix

Programme	Type	Entry Requirements	Duration	Campus
Bachelor of Engineering (Hons) Chemical Engineering	Degree Programme awarded by **SEGi**	• A-Level - 3 Passes with minimum 240 UCAS points (include Mathematics and Physics / Chemistry / Biology) • STPM - 3 Principal passes with Grade C/grade point of 2.0 and above (include Mathematics & Physics / Chemistry / Biology) • UEC - 5 Bs (include Mathematics & Physics / Chemistry / Biology) • SAM - 60% (include Mathematics & Physics) • CPU - 60% (include Advan ced Functions, Calculus & Vectors and Physics / Chemistry / Biology) • Foundation in Science / Engineering - CGPA 2.00 or Pass (include Mathematics & Physics / Chemistry / Biology)	4 years	Kota Damansara
Bachelor of Engineering (Hons) Electronic and Electrical Engineering *Dual Award with* University of Sunderland	Dual Award Degree Programme awarded by **SEGi & University of Sunderland, UK**	• A-Level - 3 Passes with minimum 240 UCAS points (include Mathematics & Physics) • STPM - 3 Principal passes with Grade C/grade point of 2.0 and above (include Mathematics & Physics) • UEC - 5 Bs (include Mathematics & Physics) • SAM - 60% (include Mathematics & Physics) • CPU - 60% (include Advanced Functions, Calculus & Vectors & Physics) • Foundation in Science / Engineering - CGPA 2.00 or Pass (include Mathematics & Physics) • Other equivalent qualification recognised by the Malaysian Government (CGPA 2.0 or Pass) • Other equivalent foreign qualification (Pre-University / Year 12) recognised by the Malaysian Government. • Additional requirement for dual award	4 years	Kota Damansara
Bachelor of Engineering (Hons) Mechanical Engineering *Dual Award with* University of Sunderland	Dual Award Degree Programme awarded by **SEGi & University of Sunderland, UK**	• A-Level (2 Passes in Mathematics & Physics) • STPM (2 Principal Passes in Mathematics & Physics) • UEC / SM3 (5Bs include Mathematics & Physics) • SAM (65% including a Pass in Mathematics & Physics) • CPU (65% overall include Mathematics & Physics) • Foundation in Science / Engineering (CGPA 2.00 or pass overall include Mathematics & Physics) • Related certificate from IPT with approval from Sektor Pengurusan IPTS and MOHE (CGPA 2.00 or pass) • Other equivalent qualification recognised by the Malaysian Government (CGPA 2.00 or pass) • Other equivalent foreign qualification (pre-university, Year 12) recognised by the Malaysian Government (CGPA 2.00 or pass) • Additional requirement for dual award	4 years	Kota Damansara
Bachelor of Engineering (Hons) Quantity Surveying	Degree Programme awarded by **SEGi**	• A-Level - 2 Passes (include Mathematics) • STPM - 2 Principal passes with Grade C/grade point of 2.0 and above (include Mathematics) • UEC SM3 - 5Bs (include Mathematics) • South Australian Certificate of Education (SACE) - 2 Passes with Grade C (include Mathematics) • Canadian Pre-U (CPU) - 60% (include Mathematics) • International Baccalaureate (IB) - 24 points (include Mathematics) Foundation in relevant field - CGPA 2.00 • Other equivalent qualification recognised by Malaysian Government - CGPA 2.00 • Other equivalent foreign qualification (pre-university, Year 12) recognised by Malaysian Government.	3 years	Kota Damansara

Programme	Type	Entry Requirements	Duration	Campus
Bachelor of Engineering (Hons) Electronic & Electrical Engineering Bachelor of Engineering (Hons) Mechanical Engineering	3+0 Degree Programme awarded by the **University of Sunderland, UK**	• Foundation in Science - Pass • STPM - 2 Principal Passes (Mathematics & Physics) • A-Level - 2 Passes (Mathematics & Physics) • UEC - 5 Bs (Mathematics & Physics) • SAM / CPU - 60%	3 years	Kota Damansara Subang Jaya Penang
Bachelor of Engineering (Hons) Automotive Engineering 3+0	3+0 Degree Programme awarded by the **University of Sunderland, UK**	• STPM: 2 Principal passes (Must include Mathematics and physics) • A-Level: 2 passes (Must include Mathematics and physics) • UEC: 5 Bs (Must include Mathematics and Analytical Science subjects) • Pass in relevant Foundation or Pre-U or other equivalent qualifications.	3 years	Subang Jaya
Bachelor of Engineering (Hons) Civil Engineering *Dual Award with* UNIVERSITY of GREENWICH	Dual award Degree Programme by **SEGi & University of Greenwich, UK**	• STPM: 2 Principal passes (Must include Mathematics and Physics) • A-Level: 2 passes (Must include Mathematics and Physics) • UEC: 5 Bs (Must include Mathematics and Analytical Science subjects) • Pass in relevant Foundation or Pre-U or other equivalent qualifications.	4 years	Kota Damansara
Diploma in Chemical Engineering	SEGi Diploma	• SPM/SPMV/UEC with a minimum of 3 credits include 1 credit in Mathematics and 1 credit in a Science subject or other equivalent qualifications	2 to 2½ years	Kota Damansara
Diploma in Electrical & Electronic Engineering	SEGi Diploma	• SPM/SPMV/UEC with a minimum of 3 credits include 1 credit in Mathematics and 1 credit in any Science subject or other equivalent qualifications	2 to 2½ years	Kuala Lumpur Subang Jaya
Diploma in Mechanical Engineering	SEGi Diploma	• SPM/SPMV/UEC with a minimum of 3 credits include 1 credit in Mathematics and 1 credit in any Science subject or other equivalent qualifications	2 to 2½ years	Subang Jaya
Diploma in Civil Engineering	SEGi Diploma	• SPM/SPMV/UEC with a minimum of 3 credits include 1 credit in Mathematics and 1 credit in any Science subject or other equivalent qualifications	2 to 2½ years	Kota Damansara
Diploma in Construction Management	SEGi Diploma	• SPM/SPMV/O-Level/UEC with a minimum of 3 credits include Mathematics and pass in a Science subject or other equivalent qualifications	2 to 2½ years	Kota Damansara

The following is an indication of current programme content. However, the rapidly changing nature of the subject area means that the courses offered and individual course content are continuously updated to meet industry needs. Also, please note that certain combinations of options may not be available.

BACHELOR OF ENGINEERING (HONS) CHEMICAL ENGINEERING

The SEGi BEng (Hons) in Chemical Engineering programme is crafted to produce Chemical Engineers who are ready to meet the challenges in industries related to chemical engineering in the global market.

Graduates will be able to demonstrate the necessary technical competency after graduated from this program. Graduates will be trained to formulate solutions and solve the chemical engineering related problems based on the systematic approaches. Graduates will be trained to conduct the research related to chemical engineering throughout the degree programme.

Programme Modules

Year 1
- Mass & Energy Balance
- Physical & Organic Chemistry
- Engineering Mathematics I
- Engineering Drawing
- Material Science
- Chemical Engineering Laboratory 1
- Fluid Mechanics
- Thermodynamics
- Strength of material
- Engineering Mathematics 2
- Project Year 1
- Chemical Engineering Laboratory 2

Year 2
- Heat and Mass Transfer
- Separation Processes 1
- Engineering Statistic
- Computer Aided Chemical Engineering
- Electrical Technology
- Chemical Engineering Laboratory 3
- Chemical Engineering Thermodynamics
- Particle Technology
- Separation Processes 2
- Engineers and Society
- Chemical Engineering Laboratory 4
- Project Year 2

Year 3
- Process Control and Instrumentation
- Separation Processes 3
- Chemical Reaction Engineering
- Environmental Management and Technology
- Chemical Engineering Laboratory 5
- Biochemical Engineering Principle
- Chemical Process Safety
- Project Management & Economics
- Computational Numerical Analysis
- Project Year 3
- Industrial Training

Year 4
- Process and Plant Design
- Transport Phenomena
- Design Project 1
- Research Methodology
- Fuel and Energy Utilization
- Research Project 2
- Design Project 2
- Two Elective Subjects:
  One subject in Environmental Engineering and one subject in Biochemical Engineering

Career Opportunities

Career opportunities for chemical Engineers are vast and varied depending on their area of specialisation or interest. Potential employers include local and international consulting companies, oil and gas industries, petrochemical industries, palm oil industries, pharmaceuticals industries, food and beverage industries, plastic or polymer industries, energy, water and environmental engineering industries.

As part of the curriculum, students will be required to take 4 general subjects (Mata Pelajaran Umum), as required by the Ministry of Education, Malaysia

JPT/BPP(N/524/6/0011)(PA1275)(12/16)
KD CAMPUS

BACHELOR OF ENGINEERING (HONS) ELECTRONIC & ELECTRICAL ENGINEERING

Electronic and electrical engineers are responsible for the design and development of electronic and electrical aids to modern living. The area of electronic and electrical engineering is very wide and, after two years of common study, the SEGi BEng (Hons) Electronic & Electrical Engineering allows students to focus on one of the following major areas:

- **Electronic Engineering**
  concerned primarily with the design of components circuits and systems that can acquire, condition and process signals representing physical variables and code and transmit information in both electronic form.

- **Electrical Engineering**
  concerned mainly with the generation, distribution, application and control of electrical energy.

  Students will decide on the major by doing an electrical engineering research project in Year 3 and choose the relevant optional courses in Year 4. The final year project is therefore to be in the same major.

  Students will obtain the necessary academic qualifications to enable them to register as members of professional bodies. They will be well prepared for a career not only in the engineering sector but also in a wide variety of other areas, and may choose to embark on a programme of graduate study.

Programme Modules

Year 1
- Engineering Mathematics I
- Circuits and Signals I
- Electronic Devices
- Electromagnetic I
- Programming in C ++
- Laboratory Investigations I
- Engineering Mathematics II
- Circuits and Signals II
- Analogue Electronics I
- Communication System I
- Digital Electronics I
- Laboratory Investigations II

Year 2
- Engineering Statistics
- Analogue Electronics II
- Digital Electronics II
- Electromagnetic II
- Measurement and Instrumentation
- Laboratory Investigations III
- Computational and Numerical Analysis
- Communication System II
- Control Systems
- Electrical Machines
- Microprocessor
- Laboratory Investigations IV

Year 3
- Digital Signal Processing
- Computer Architecture
- Electrical Power System
- Environmental Management & Technology
- Research Methodology
- Embedded System
- Engineers and Society
- Project Management, Planning and Control
- Research Project
- Industrial Training

Year 4
- Final Year Project I
- Power Electronics and Drives
- PLC and SCADA
- Energy Conversion
- Advanced Microprocessor (Elective - Electronic)
- Advanced Electrical Power (Elective - Electrical)
- Electronics Systems and VLSI Design (Elective - Electronic)
- Design of Electrical and Protection Systems (Elective - Electrical)

Career Opportunities

Graduates of the BEng (Hons) Electronic & Electrical Engineering programme will have a wide choice of careers open to them in sectors as diverse as the automotive industry, aerospace, power generation and communications. Within these various industries, students can contribute to design, project management, and even sales and marketing. Graduates are able to register themselves as Graduate Member with the Board of Engineer Malaysia (BEM), and gain professional Engineer (IR) title in the future of their career path.

As part of the curriculum, students will be required to take 4 general subjects (Mata Pelajaran Umum), as required by the Ministry of Education, Malaysia

JPT/BPP(PA 11507)(10/16) **KD CAMPUS**

BACHELOR OF ENGINEERING (HONS) MECHANICAL ENGINEERING

The SEGi BEng (Hons) Mechanical Engineering is developed to produce graduates who are able to address both technological and societal challenges in the field of mechanical engineering. It is a broad-based industrial driven degree programme which equips students with the fundamentals of engineering and science, as well as the technical skills and knowledge required.

Graduates of this programme are train to be literate, highly numerate and competent in all aspects of mechanical engineering while being able to develop critical thinking as well as analytical skill.

Programme Modules

Year 1
- Engineering Mechanics: Static
- Design I – Basic Skills
- Engineering Materials
- Engineering Mathematics 1
- Solids, Liquids & Gases
- Laboratory Investigations 1
- Materials under Stress
- Thermo-Fluids
- Design II – Advanced Drawing Techniques
- Engineering Mechanics: Dynamics
- Engineering Mathematics 2
- Laboratory Investigations 2

Year 2
- Engineering Statistics
- Fluids Engineering
- Measurement and Instrumentation
- Mechanics of Deformable Solids
- Electrical and Electronic Circuits and Applications
- Laboratory Investigations 3
- Computational and Numerical Analysis
- Thermodynamics & Heat Transfer
- Dynamics of Machine and Structures
- Design of Machine Elements
- Manufacturing Processing & Technology
- Laboratory Investigations 4

Year 3
- Advanced Dynamics
- Manufacturing Systems Design
- Advanced Fluid Mechanics
- Research Methodology
- Engineering Design Project
- Project Management, Planning and Control
- Advanced Thermodynamics
- Electrical Machines and Motors
- Advanced Engineering Materials
- Research Project
- Industrial Training

Year 4
- Final Year Project
- Finite Element Analysis
- Engineers and Society
- Environmental Management and Technology
- Entrepreneurship Development
- ** Elective courses (choose ANY 2):
  - Advance Manufacturing Technology
  - Computational Fluid Dynamics
  - Control and System Engineering
  - Thermal Management in Product Design

Career Opportunities

Graduates of the Bachelor of Engineering (Hons) Mechanical Engineering will have the necessary skills and knowledge to play a major role in design, management and manufacturing in a wide range of industries.

As part of the curriculum, students will be required to take 4 general subjects (Mata Pelajaran Umum), as required by the Ministry of Education, Malaysia

KPT/JPS(KA11508)(10/15) **KD CAMPUS**

BACHELOR OF ENGINEERING (HONS) QUANTITY SURVEYING

The Bachelor of Science (Hons) Quantity Surveying programme gives students a thorough understanding of the roles of a Quantity Surveyor which requires a combination of technical, economic, legal and managerial skills in every stage of the construction and development process. These processes include project brief issued to the lead consultant through all the design and planning stages to the construction, completion, occupation and maintenance of the facilities. The aim of this programme is to empower undergraduates with adequate academic and practical knowledge including relevant soft skills in Quantity Surveying while also responding to the high demand for qualified and competent quantity surveyors by the local as well as international construction industry.

Graduates of this programme will be able to demonstrate accurate techniques and skills of measurement, quantification and cost estimation in construction projects. They will also be trained to apply knowledge of economics, building constructions, maintenance and services related to quantity surveying areas and practise professional and ethical responsibilities in quantity surveying.

Programme Modules

Year 1
- Building Construction I
- Construction Materials
- Management of Built Environment
- Basic Architectural and Engineering Design
- Building Services I
- Engineering Drawing
- Building Construction II
- Building Services II
- Introduction to Measurement of Building Works
- Construction Law
- Geomatic Engineering
- Principle of Economics

Year 2
- Quantity Surveying Practice I
- Measurement of Building Works I
- Construction Contract Law
- Construction and Project Management
- Tendering and Estimating
- Measurement of Building Works II
- Quantity Surveying Practice II
- Construction Contract Administration
- Building Economics
- Civil and Infrastructures Construction Works
- Industrial Training

Year 3
- Measurement of Civil Engineering Works
- Information Computer Technology (ICT)
- Data Analysis and Statistic
- Dissertation I
- Academic Research
- Integrated Project
- Development Economics
- Value Engineering and Management
- Dissertation II
- Project Financial Management
- Business and Professional Ethics
- Entrepreneurship
- Environmental Management & Technology

As part of the curriculum, students will be required to take 4 general subjects (Mata Pelajaran Umum), as required by the Ministry of Education, Malaysia

Career Opportunities

The career opportunities for this programme include being a Quantity Surveyor, Contract and Cost Administrator, Property and Commercial Executive, Procurement Advisor or Contract Executive.

UNIVERSITY OF SUNDERLAND, UK

BACHELOR OF ENGINEERING (HONS) ELECTRONIC & ELECTRICAL ENGINEERING (3+0)

The BEng (Hons) Electronic & Electrical programme aims to provide graduates with the skills and knowledge that will enable them to influence the direction of electronic and electrical engineering.

The University of Sunderland BEng (Hons) Electronic & Electrical Engineering (3+0) programme is designed to provide students with a wide range of engineering and management skills. This is achieved by working either individually or as part of a team to solve technical problems and implement appropriate solutions. Students will start by learning the fundamental skills required to understand basic engineering principles. Then, as students progress through the course, the emphasis will be on a number of electrical and electronic subject areas.

Programme Modules

Year 1
- Electronic Principles
- Electrical Principles
- Design, Drawing and Practical Skills
- Applied Mechanics
- Manufacturing and Materials
- Engineering Applications of Information Technology
- Engineering Mathematics
- Electromagnetic Theory
- Communication System

Year 2
- Electronics
- Electrical Power Systems and Machines
- Measurement and Instrumentation
- Control
- Simulation
- Microprocessor Systems
- Industrial Studies
- Manufacturing Processes
- Engineering Mathematics and Statistics
- Programming Methodology and Problem Solving
- Magnetism Theory

Year 3
- Electrical Power
- Electronic Systems Design
- Manufacturing Systems Design
- Project Management Planning and Control
- SCADA and PLCs
- Final Year Project

Career Opportunities

Graduates of the BEng (Hons) Electronic & Electrical programme will have a wide choice of careers in sectors as diverse as the automotive industry, aerospace, power generation and communications. Within these various industries, students can contribute to design, project management, and even sales and marketing.

As part of the curriculum, students will be required to take 4 general subjects (Mata Pelajaran Umum), as required by the Ministry of Education, Malaysia

JPT/BPP(A7452)(R/522/6/0012)(3/17) • JPT/BPP(A7813)(5/17) • KPT/JPS(KA8502) (2/13) **KD, SJ & PG CAMPUSES**

UNIVERSITY OF SUNDERLAND, UK

BACHELOR OF ENGINEERING (HONS) MECHANICAL ENGINEERING (3+0)

The BEng (Hons) Mechanical Engineering is an ideal programme for students who are interested in technology and its use in creative design, providing graduates with the skills and knowledge to become a modern mechanical engineer.

Throughout their studies, students will encounter numerous problems which need to be solved either individually or in a group. Students will need to design and construct new equipment for novel and challenging applications as well as tackle problems using the tools and computer systems available to today's engineers. As the course progresses, students will also learn about management, and the business context of engineering projects, thus gaining the confidence to tackle the varied and demanding work of an engineer.

Programme Modules

Year 1
- Electrical Principals
- Design, Drawing and Practical Skills
- Applied Mechanics
- Manufacturing and Materials
- Thermodynamics
- Engineering Applications of Information Technology
- Engineering Mathematics
- Programming Methodology

Year 2
- Engineering Mechanics
- Thermofluids & Engines
- Measurement and Instrumentation Simulation
- Computer Aided Engineering
- Design Methods & Application
- Industrial Studies
- Manufacturing Processes
- Numerical Analysis
- Engineers & Society

Year 3
- Engineering Dynamics & Strength of Materials
- Materials Selection
- Design
- Thermodynamics & Fluid Mechanics
- Project Management Planning and Control
- Manufacturing Systems Design
- Final Year Project

Career Opportunities

Graduates of the BEng (Hons) Mechanical Engineering will have the necessary skills and knowledge to play a major role in design, management and manufacturing in a wide range of industries.

As part of the curriculum, students will be required to take 4 general subjects (Mata Pelajaran Umum), as required by the Ministry of Education, Malaysia

JPT/BPP(A 7451)(R/526/6/0011)(3/17) • JPT/BPP(A7814)(5/17) **KD, SJ & PG CAMPUSES**

UNIVERSITY OF SUNDERLAND, UK

BACHELOR OF ENGINEERING (HONS) AUTOMOTIVE ENGINEERING (3+0)

Graduates of this programme will have a detailed understanding of advanced technologies and processes related to automotive systems, analysis techniques and design methodologies.

The market for engineers in the field of automotive in Malaysia has grown rapidly due to the growth in the automotive sector. This programme will provide excellent preparation for a career in research, design, development, advanced engineering and production of various types of heavy or light vehicles.

Programme Modules

Level 1
- Applied Mechanics
- Manufacturing and Materials
- Engineering Mathematics
- Introduction to Automotive Engineering
- Design, Drawing and Practical Skills
- Electrical Principles
- Engineering Applications and Information Technology
- Thermodynamics

Level 2
- Design Methods and Application
- Computer Aided Engineering Application
- Industrial Studies
- Measurement and Instrumentation
- Automotive Electrical & Electronics System
- Vehicle Drive Train and Chassis system
- Engineering Mechanics
- Thermofluid and Engine
- Steering and suspension System
- Theory of Machines

Level 3
- Automotive Technology
- Material Selection
- Project
- Automotive Design
- Project Management, Planning and Control
- Manufacturing System Design

Career Opportunities

Graduates of this programme are able to create designs for vehicles and utilise knowledge in engine and transmission, vehicle dynamics, analysis of vehicle structure and electronics.

There is a wide career opportunity as engineers and managers in the automotive industry, either in Malaysia or overseas.

As part of the curriculum, students will be required to take 4 general subjects (Mata Pelajaran Umum), as required by the Ministry of Education, Malaysia

JPT/BPP(A7452)(R/522/6/0012)(3/17) • JPT/BPP(A7813)(5/17) • KPT/JPS(KA8502) (2/13) **SJ & PG CAMPUSES**

BACHELOR OF ENGINEERING (HONS) CIVIL ENGINEERING

Dual Award with

UNIVERSITY of GREENWICH

Civil Engineers are involved in all stages of development for much of the physically and naturally built infrastructure in our modern world. They have expertise in the planning, design, construction and maintenance of civil engineering projects.

The SEGi University BEng (Hons) Civil Engineering is a broad-based industrial driven degree programme which equips students with the fundamentals of engineering and science, as well as the technical skills and knowledge required. This enables students to be literate, highly numerate and competent in all aspects of civil engineering while being able to develop creative strategies and manage complex projects.

Programme Modules

Year 1
- Engineering Mathematics I
- Structural & Applied Mechanics
- Material Science
- Engineering Drawing
- Engineering Mathematics II
- Programming Methodology & Problem-Solving
- Engineering Geology
- Conceptual Design
- Construction Technology
- Academic English

Year 2
- Geomatic Engineering
- Structures I
- Fluid Mechanics I
- Soil Mechanics I
- Introduction to Structural Design
- Construction Materials
- Engineering Analysis & Application I
- Management for Civil Engineering
- Business Ethics & Corporate Responsibility
- Engineering Communication & Case Studies

Year 3
- Structures II
- Fluid Mechanics II
- Soil Mechanics II
- Highway Engineering
- Entrepreneurship & Leadership Skills & Development
- Estimating & Costing of Buildings
- Reinforced Concrete Structures I
- Design of Steel Structures I
- Project Management & Technology
- Environmental Management & Technology
- Industrial Training

Year 4
- Structures III
- Hydraulics & Hydrology
- Geotechnics
- Project Management & Appraisal
- Project
- Reinforced Concrete Structures II
- Engineering Application & Analysis II
- Elective I
- Elective II
- Project

Career Opportunities

Career opportunities for civil engineers are vast and varied depending on their area of specialisation or interest. Potential employers include local and international consulting firms, construction companies and research institutions, as well as all levels of government.

(Graduates will receive two certificates: one from SEGi and one from University of Greenwich)

As part of the curriculum, students will be required to take 4 general subjects (Mata Pelajaran Umum), as required by the Ministry of Education, Malaysia

KPT/JPS(KA10242)(6/14) **KD CAMPUS**

DIPLOMA IN CHEMICAL ENGINEERING

Chemical Engineering is an important discipline concerned with the design and operation of processes of making a wide range of products on which everyone's standard of living depends. These include oil and gas industries, petrochemical industries, palm oil industries, pharmaceuticals industries, food and beverage industries, plastic or polymer industries, energy, water and environmental engineering industries.

Once a chemical, biological or physical process has been successfully accomplished at concept stage, professional engineering skills are required to translate it into industrial practices and ensuring process optimisation, environmental management, energy conservation and workplace safety.

Programme Modules

Year 1
- Foundation Mathematics
- Foundation Physics
- Foundation Chemistry
- Academic English
- Computer Applications
- Programming Methodology & Problem Solving
- Engineering Mathematics 1
- Engineering Drawing
- Physical and Organic Chemistry
- Material Science

Year 2
- Engineering Mathematics 2
- Mass and Energy Balances
- Thermodynamics 1
- Mechanics of Fluids 1
- Unit Operation
- Chemical Engineering Kinetics
- Thermodynamics 2
- Pollution Control and Plant Safety
- Principles of Electrical & Electronic Engineering

Year 3
- Chemical Engineering Practice
- Heat Transfer
- Particle Technology
- Process Control and Instrumentation
- Project
- Industrial Training

Career Opportunities

With its coverage of chemical engineering principles, graduates are well poised to transition directly into employment, pursuing a variety of job roles. Possible job titles relevant to this qualification include assistant process manager, lab technician/executive, process operator, environmental technician, research officer, and technical sales / marketing officer.

Graduates can also consider upgrading their knowledge and skills by articulating into a range of degree programmes and, depending on units/electives completed during their studies, students may be eligible to apply for advanced standing.

As part of the curriculum, students will be required to take 4 general subjects (Mata Pelajaran Umum), as required by the Ministry of Education, Malaysia

JPT/BPP(A10756)(8/14) **KD CAMPUS**

DIPLOMA IN MECHANICAL ENGINEERING

The mechanical engineering industry is made up of a range of occupations that involve the design, production and service of machinery, equipment, tools and mechanical systems.

The Diploma in Mechanical Engineering provides students with a solid foundation in mechanical engineering. Graduates of this diploma will possess a broad understanding of engineering fundamentals, getting ready for studies at Degree level as well as working in industry.

Programme Modules

Year 1
- Foundation Mathematics
- Foundation Physics
- Foundation Chemistry
- Academic English
- Computer Applications
- Engineering Mathematics 1
- Engineering Drawing
- Engineering Mechanics
- Material Science

Year 2
- Academic Research
- Programming Methodology & Problem Solving
- Engineering Mathematics 2
- Mechanics of Materials 1
- Thermodynamics 1
- Mechanics of Fluids 1
- Principles of Electrical Technology
- Mechanics of Materials 2
- Mechanics of Fluids 2
- Thermodynamics 2

Year 3
- Dynamics
- Mechanical Engineering Practice
- Heat Transfer
- Manufacturing Processes
- Industrial Management
- Design of Machine Elements
- Project

Career Opportunities

Graduates of the Diploma in Mechanical Engineering will have obtained a solid foundation in mechanical engineering and will have excellent prospects for employment in a wide range of jobs roles. Possible job titles relevant to this qualification include CAD application engineers, trainee engineers, mechanical design engineers, draughtspersons and structural engineers.

Graduates can also consider upgrading their knowledge and skills by venturing into a range of degree programmes and, depending on units/electives completed during their studies, students may be eligible to apply for advanced standing.

As part of the curriculum, students will be required to take 4 general subjects (Mata Pelajaran Umum), as required by the Ministry of Education, Malaysia

JPT/BPP(A11472)(KR11472)(6/15) • JPT/BPP(A7749)(3/17) **KD & SJ CAMPUSES**

DIPLOMA IN ELECTRICAL & ELECTRONIC ENGINEERING

The Diploma in Electrical & Electronic Engineering covers a broad-based suite of electrical and electronic engineering modules, ensuring graduates are equipped with the necessary skills, knowledge and expertise to face challenges across a wide range of electrical and electronic industries.

Programme Modules

Foundation
- Foundation Mathematics
- Foundation Physics
- Foundation Chemistry
- Computer Application

Soft Skills
- English
- Engineering Communication and Case Studies

Control
- Instrumentation and Measurement
- Control Systems
- Industrial Electronics

Power
- Electric Machines
- Power Systems
- Malaysian Studies
- Bahasa Kebangsaan

Electronic
- Circuit Theory and Signals
- Solid State Devices
- Digital Electronics
- Analogue Electronics
- Microprocessors
- Microelectronics

Communication
- Electromagnetic Field
- Communication Systems

Basics Of Electrical & Electronic Engineering
- Programming Methodology and Problem-Solving
- Engineering Drawing
- Engineering Maths
- Principles of Electrical and Electronic Engineering

Career Opportunities

Graduates of the Diploma in Electrical & Electronic Engineering are well poised to gain employment, in a variety of job roles. Possible job titles relevant to this qualification include; electrical engineering technical officers, design specialists and assistant engineers.

Graduates can also consider upgrading their knowledge and skills by venturing into a range of degree programmes and, depending on units/electives completed during their studies, students may be eligible to apply for advanced standing.

As part of the curriculum, students will be required to take 4 general subjects (Mata Pelajaran Umum), as required by the Ministry of Education, Malaysia

KPT/JPS(KA7750)(11/12) • JPT/BPP(PA 1039) (12/17) **SJ & KL CAMPUSES**

DIPLOMA IN CIVIL ENGINEERING

Civil Engineering is a discipline that is involved with the design, construction and service of infrastructure facilities such as water supply, irrigation, pollution control, building, roads, harbours and airports. Civil Engineering is one of the oldest engineering disciplines.

Programme Modules

Year 1
- Foundation Mathematics
- Foundation Physics
- Foundation Chemistry
- Academic English
- Computer Applications
- Programming Methodology & Problem Solving
- Engineering Mathematics I
- Engineering Drawing
- Engineering Mechanics
- Construction Materials

Year 2
- Engineering Mathematics II
- Estimating and Costing of Buildings
- Mechanics of Materials I
- Geomatic Engineering
- Mechanics of Fluids I
- Academic Research
- Environmental Engineering
- Mechanics of Fluids II
- Geotechnical Engineering I
- Structural Analysis
- Basic Entrepreneurship

Year 3
- Civil Engineering Laboratory
- Design of Reinforced Concrete Structures
- Construction Management & Safety
- Design of Timber & Steel Structures
- Highway Engineering & Transportation
- Industrial Training
- Geotechnical Engineering II
- Project

Career Opportunities

Graduates of the Diploma in Civil Engineering are well poised to gain employment in a variety of sectors. Possible job titles relevant to this qualification include project executives, technical officers, assistant project managers, project managers, assistant civil engineers, draughtspersons or construction sales executives.

Graduates can also consider venturing into a range of degree programmes and, depending on units/electives completed during their studies, students may be eligible to apply for advanced standing.

As part of the curriculum, students will be required to take 4 general subjects (Mata Pelajaran Umum), as required by the Ministry of Education, Malaysia

KPT/JPS(A10293)(6/14) **KD CAMPUS**

DIPLOMA IN CONSTRUCTION MANAGEMENT

Construction Management graduates are involved in the management and technological aspects of a construction project from the beginning to the end. Graduates will be involved in project budgeting, planning, quality management, administration and safety and professional practice.

Programme Modules

Year 1
- Introduction to Construction Management
- Construction Materials
- Engineering Drawing
- Computer Applications
- General Language Training
- Academic English
- Building Construction I
- Building Services I
- Construction Economics
- Introduction to Structural Analysis
- Geomatic Engineering

Year 2
- Estimating and Costing of Building
- Building Construction II
- Building Services II
- Specification & Contract Documentation
- Measurement of Building Works I
- Building Construction III
- Construction Cost Management
- Contractual Procedures
- Site Management, Planning & Control
- Measurement of Building Works II

Year 3
- Construction Law
- Construction Safety & Health
- Project
- Industrial Training

Career Opportunities

Graduates of the Diploma in Construction Management are well poised to gain employment, in a variety of different sectors. Possible job titles relevant to this qualification include construction project supervisors, assistant construction project managers, construction project managers, or construction sales executives.

Graduates can also consider venturing into a range of degree programmes and, depending on units/electives completed during their studies, students may be eligible to apply for advanced standing.

As part of the curriculum, students will be required to take 4 general subjects (Mata Pelajaran Umum), as required by the Ministry of Education, Malaysia

the best in you, made possible

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TOLL FREE: 1-300-88-7344

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