

# ENGINEERING & THE BUILT ENVIRONMENT



**1<sup>st</sup>**  
Malaysian University  
that earned 5★ for Prioritizing  
Society's Needs in Malaysia  
- by QS Stars



**SEGi**  
University &  
Colleges

# DISCOVER THE ENGINEER IN YOU

The Faculty of Engineering & The Built Environment focuses on a student-centered environment, allowing student-teacher interaction from Malaysia and our partner universities worldwide. You have access to work in advanced laboratories and workshops with essential tools in the development of engineering skills. The programmes are delivered using applied methodologies and state-of-the-art engineering facilities.

We offer an impressive range of engineering disciplines from Foundation and Diploma through to Bachelor's, Master's degrees and PhD in disciplines including civil engineering, chemical engineering, electronic & electrical engineering, automotive engineering and mechanical engineering. Our engineering students have gone on to write many success stories and the Faculty is proud to host students who obtained First Class Honours from top-notch universities worldwide.

The Built Environment covers a variety of disciplines such as architecture, construction management, quantity surveying, environmental design and planning. You get to address professional, industrial and consultancy activities while exploring relationship between the buildings/cities and individuals, communities and organisations that inhabit them, ensuring they develop a prosperous future in the growing job market.

## CONTENTS

---

At a glance	1
Awards	2
International recognition by the Washington Accord	3
World Renowned University Partners	4
Learning & Teaching	5
Study Route	6
Programme Matrix	7 - 8
Programme Modules	9 - 21



### WIDEST RANGE OF QUALITY COURSES

**Tailored to your Passion**  
Programmes offered at SEGi University and Colleges are meticulously planned and are of equivalent to that of prestigious international universities, with its well-rounded curriculum in multi disciplines from foundation to doctorate level.



### TRUSTED & RECOGNIZED

**Malaysia's longest established higher education provider**

Established in 1977 as Systematic College in the heart of Kuala Lumpur, after four decades, SEGi has undergone significant growth, making it one of the most trusted and recognized higher education institutions in Malaysia.



### REAL-WORLD EXPERIENCE

**Education today, Workforce tomorrow**

Get a head start while pursuing your studies at SEGi. Before you graduate, SEGi encourages you to apply your knowledge and develop skills through work placements and internships. Work experiences help you better understand the world and fit into workplace upon graduation.

GLOBALLY RECOGNIZED,  
DISTINCTIVELY SEGi.

# OUR 6 COMPETITIVE ADVANTAGES



### SKILL ENHANCEMENT & SUPPORT

**Shine & stand out from the crowd**

The SEGi Enrichment Programme provides opportunities to enhance students' learning experience. Explore from more than 100 workshops and seminars to prepare you beyond the classroom including communication and grooming skills, among others.



### WORLD-CLASS ACADEMIC LEADERS

**Dedicated academicians, Great mentors**

Our world-class faculty members are connected to industry, imparting knowledge and sharing experiences to ensure students reap full benefit at SEGi. They will guide and help you excel. They will unlock your potential and talent by pushing you out of your comfort zone.



### CAREER READY FIRST CLASS GRADUATES

**Top of the class**

SEGi produces more than 300 first class graduates every year. They excel not only academically but are also socially competent, skilled and ready for the workforce.

# OUR ACCOMPLISHMENTS AND ACCOLADES

SEGi University & Colleges is at the forefront of educational excellence to help our students realize their career aspirations. We are honoured to have received a string of prestigious awards. These recognitions reflect SEGi's continued commitment to highest-caliber educational experience for our students.



## QS 5 STARS

in teaching, facilities, inclusiveness and social responsibility.

Achieved a stunning 3 Stars overall.

The First Malaysian University that earned 5 Stars for Prioritizing Society's Needs in Malaysia.



PUTRA  
BRAND AWARDS  
— THE PEOPLE'S CHOICE —

SILVER  
2013 - 2015

(Education & Learning)



PUTRA  
BRAND AWARDS  
— THE PEOPLE'S CHOICE —

BRONZE  
2012, 2016 & 2017

(Education & Learning)

## PUTRA BRAND AWARDS

Putra Brand Awards is a brand valuation award measured by consumer preferences. There are various categories ranging from automotive to property development and education and learning, among others.



EDUCATION – MALAYSIA  
2014 – 2015

**Education – Malaysia  
World Branding Award**



**Outstanding  
Innovation Award 2014**



**Reader's Digest  
Trusted Brand 2013 - 2015**  
(Services, Private University/College)

■ **Students Choice Awards 2015**

(Top 10 Universities)

■ **The Edge Billion Ringgit Club 2013**

(Best Performing Stock Award - Trading & Services)

■ **3rd Global Leadership Award 2013**

(Leadership in Educational & Training Excellence)

■ **Asia Pacific Entrepreneurship Awards 2012**

(Most Promising Entrepreneur)

■ **10th Asia Pacific International Honesty  
Enterprise Keris Award 2011**

■ **The BrandLaureate Best Brand Award 2010 - 2011**

(Education Tertiary Private)

# INTERNATIONAL RECOGNITION BY THE **WASHINGTON ACCORD**

The engineering degree programmes offered by SEGi University are fully accredited by the Board of Engineers Malaysia (BEM) which is a signatory to the Washington Accord. The BEM is the official regulatory body authorized to determine recognition of engineering degree programmes in Malaysia.



The Washington Accord is an international accreditation agreement for professional engineering academic degrees, between the bodies responsible for accreditation in its signatory countries. Established in 1989, the full signatories as of 2017 are Australia, Canada, Taiwan, Pakistan, China, Hong Kong, India, Ireland, Japan, Korea, Malaysia, New Zealand, Russia, Singapore, South Africa, Sri Lanka, Turkey, the United Kingdom, the Philippines and the United States.



As Malaysia is a signatory of the Washington Accord, it makes SEGi engineering graduates more employable as they can expand career opportunities in the countries under the signatories. Graduates can also become a professional or chartered engineer or further studies.

Recognition by the Washington Accord is of utmost importance to the engineering education in Malaysia and SEGi as graduates are considered to have met international academic standards to practice engineering at an international level.



# WORLD RENOWNED UNIVERSITY PARTNERS



**University of  
Sunderland**

## University of Sunderland

University of Sunderland (UOS) has been providing higher education since 1901 and is proud to be an innovative, forward-thinking university with high standards of teaching, research and support. As a research active university, UOS aims to enhance the learning experience of its students as well as its academic standing of the institution as a seat of higher learning and scholarship.

Academic programmes are at the core of the University's commitment to producing well-rounded graduates. The Guardian ranks its Hospitality, Event Management & Tourism as 4th best in the country, while Nursing is ranked 5th best. Other highly-ranked majors in the Guardian league tables are Business, Management & Marketing, Accounting & Finance, Mechanical Engineering and Fashion & Textiles.



## Cardiff University

Cardiff University first opened its door in 1883 and has undergone tremendous growth to become one of Britain's leading research universities. Today, it is the 8th largest university in the UK and is a member of the Russell Group, a group of 24 leading UK research intensive universities.

The University has a leading engineering school, conducting internationally renowned research alongside teaching that places students at the centre of the learning experience. In the latest Research Excellence Framework (REF) 2014, the school of engineering was ranked 1st in the UK for Civil Engineering and 7th in General Engineering including the Mechanical and Electrical and Electronic Engineering disciplines.



**Swansea University  
Prifysgol Abertawe**

## Swansea University

Founded in 1920, Swansea is a research-led university and was recognized as the 26th research-intensive university in the UK according to the Research Excellence Framework (REF) 2014. The University also ranked 22nd in the UK for impact in REF 2014, outperforming many Russell Group universities.

Its College of Engineering has strong links with the industry and it is fully equipped with outstanding facilities. The Guardian University Guide 2018 ranks its engineering as 9th best in the UK while its civil engineering department has been ranked in the world top 200 by QS World University Rankings and Shanghai Global Rankings.

**MODERN CHEMICAL  
ENGINEERING LABS**

The chemical engineering laboratories are fully equipped with instruments to aid in classroom experiment exercises.

**WELL-STOCKED  
LIBRARIES**

Each SEGi campus is equipped with a well-stocked library that includes books, web databases and other electronic resources for students' use.

**STUDENT-CENTERED  
LEARNING  
APPROACH**

We place a strong emphasis on students' interest to foster the development of skills for problem solving, critical thinking and communication as we try to shape students to become lifelong learners.

**PARTNERSHIPS  
WITH INDUSTRY**

We continue to engage with companies on many fronts to accelerate innovation and help shape future engineering leaders for industry.

# TOP-NOTCH RESOURCES

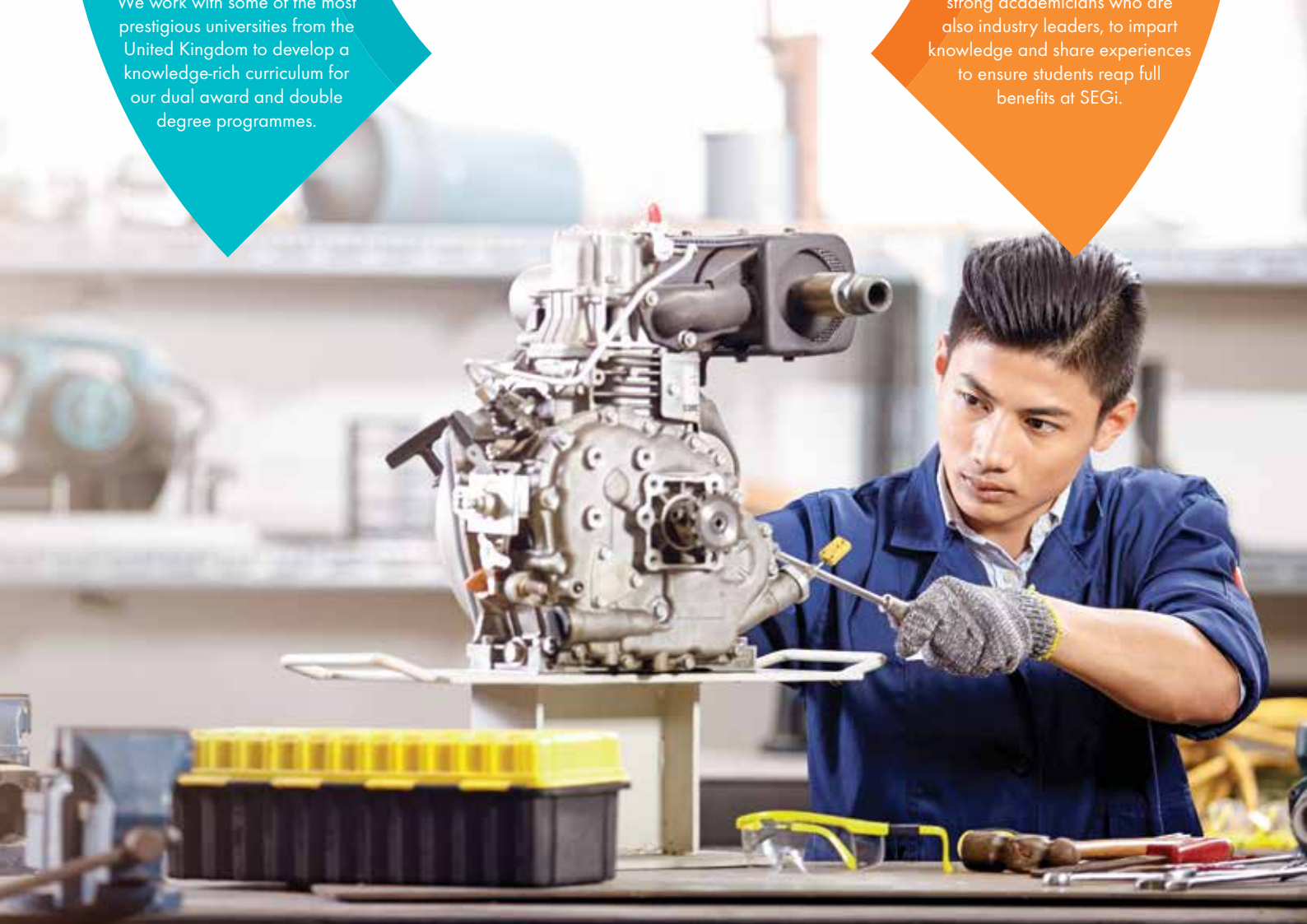
## FOR A QUALITY LEARNING EXPERIENCE

**GLOBAL  
PARTNERSHIPS  
WITH WORLD-WIDE  
UNIVERSITIES**

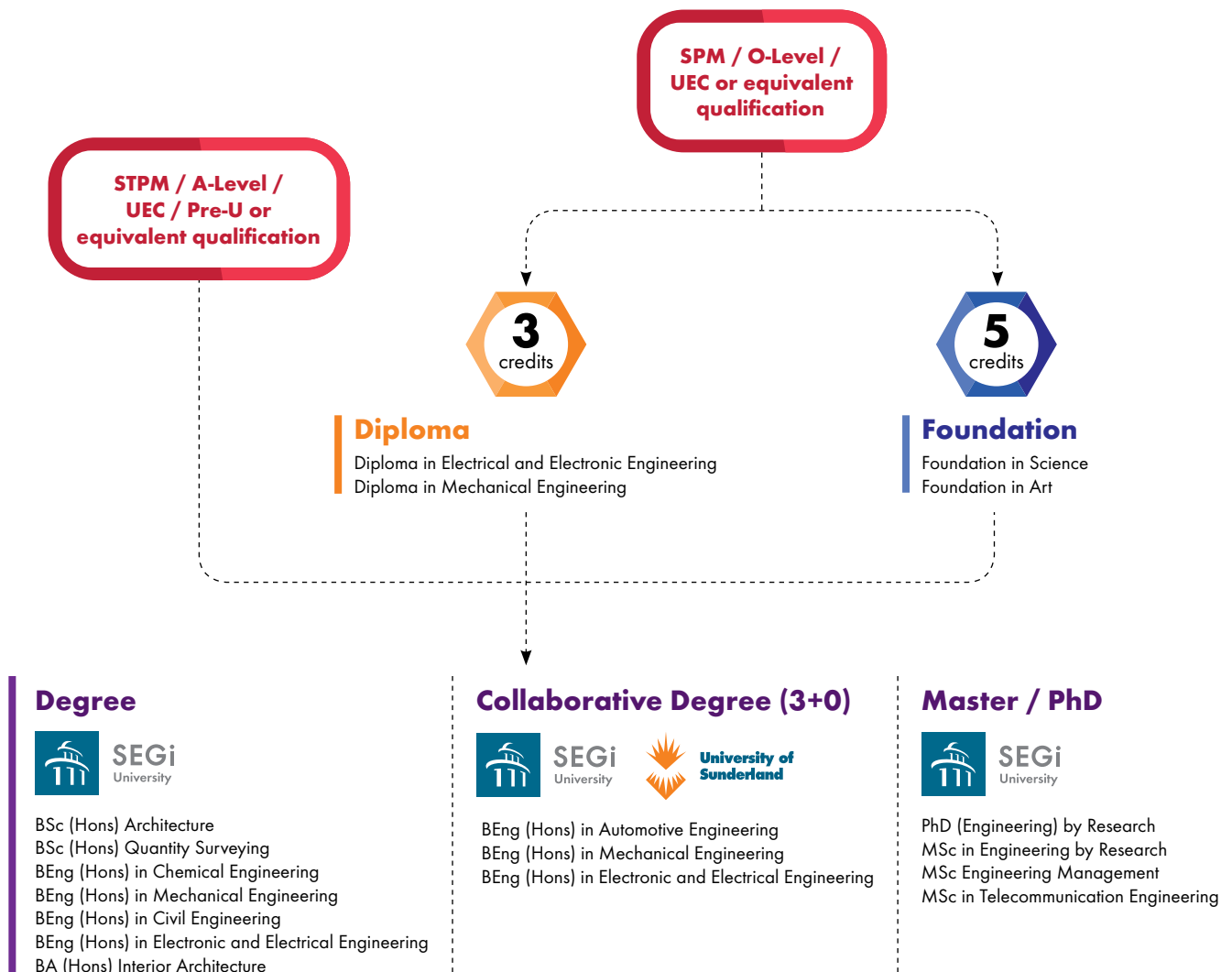
We work with some of the most prestigious universities from the United Kingdom to develop a knowledge-rich curriculum for our dual award and double degree programmes.

**EXPERIENCED  
ACADEMICIAN**

We pride ourselves on having strong academicians who are also industry leaders, to impart knowledge and share experiences to ensure students reap full benefits at SEGi.



# STUDY ROUTE



All diploma and degree programmes require students to take general subjects (Mata Pelajaran Umum), as required by the Ministry of Education, Malaysia. Beside, the programme duration may vary with different intake per year.

The above 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.





## DID YOU KNOW?



Most of our students undergo their industrial training programme at **MULTINATIONAL ORGANISATIONS** such as Gamuda MMC, Sunway Construction, WCT Construction and Petronas.





# PROGRAMME MATRIX

 <b>Programme</b>	 <b>Awarding Institution</b>	 <b>Entry Requirements</b>	 <b>Campus</b>
BEng (Hons) Automotive Engineering (3+0)		<ul style="list-style-type: none"> <li>• Pass a recognised Matriculation / Foundation Programme with of at least CGPA 2.00 and credit in Mathematics or Science in the SPM; OR</li> <li>• Pass STPM with at least CGPA 2.00 with full passes in 2 subjects (Mathematics or Science); OR</li> <li>• Pass a Diploma in any related field with at least CGPA 2.50. Candidates with a score of below CGPA 2.50 but more than 2.00 may be accepted subject to evaluation</li> </ul>	Subang Jaya
BEng (Hons) in Mechanical Engineering (3+0)	University of Sunderland, UK	<ul style="list-style-type: none"> <li>- Pass Foundation in Science</li> <li>- STPM / A-level – 2 Principal Passes (Maths &amp; Physics)</li> <li>- UEC 5 B's (including Maths &amp; Physics)</li> <li>- Pass in a recognized Diploma in Mechanical Engineering with minimum CGPA of 2.0</li> <li>- SAM / CPU / AUSMAT – 65% and above</li> </ul>	Subang Jaya Penang
BEng (Hons) in Electronic & Electrical Engineering (3+0)		<ul style="list-style-type: none"> <li>- Pass Foundation in Science</li> <li>- STPM / A-level – 2 Principal Passes (Maths &amp; Physics)</li> <li>- UEC 5 B's (including Maths &amp; Physics)</li> <li>- Pass in a recognized Diploma in Electronics and Electrical Engineering with minimum CGPA of 2.0</li> <li>- SAM / CPU / AUSMAT – 65% and above</li> </ul>	
BEng (Hons) in Mechanical Engineering		<ul style="list-style-type: none"> <li>• A-Level (2 principal Passes in Maths &amp; Physics)</li> <li>• STPM (2 principal Passes in Maths &amp; Physics)</li> <li>• UEC / SM3 ( including Maths &amp; Physics)</li> <li>• SAM (65% including a Pass in Maths &amp; Physics)</li> <li>• CPU (65% overall including Maths &amp; Physics)</li> <li>• Foundation in Science / Engineering (CGPA 2.00 or pass overall including Maths &amp; Physics)</li> <li>• Related certificate from IPT with approval from Sektor Pengurusan IPTS and MOHE (CGPA 2.00 or pass)</li> <li>• Other equivalent qualification recognised by the Malaysian government (CGPA 2.00 or pass)</li> <li>• Other equivalent foreign qualification (pre-university, Year 12) recognised by the Malaysian government (CGPA 2.00 or pass)</li> </ul>	
BEng (Hons) in Electronic & Electrical Engineering	SEGi University	<ul style="list-style-type: none"> <li>• A-Level - 3 Passes with UCAS point of 240 (include Maths &amp; Physics)</li> <li>• STPM - 3 Principal passes with Grade C / grade point of 2.0 and above (include Maths &amp; Physics)</li> <li>• UEC - 5 Bs (include Maths &amp; Physics)</li> <li>• SAM - 60% (include Maths &amp; Physics)</li> <li>• CPU - 60% (include Advanced Functions, Calculus &amp; Vectors and Physics)</li> <li>• Foundation in Science / Engineering - CGPA 2.00; OR Pass (include Maths and Physics)</li> <li>• Other equivalent qualification recognised by the Malaysian government (CGPA 2.0 or Pass)</li> <li>• Other equivalent foreign qualification (Pre-U/ Year 12) recognised by the Malaysian government (CGPA 2.0 or Pass)</li> </ul>	Kota Damansara
BEng (Hons) in Civil Engineering		<ul style="list-style-type: none"> <li>• STPM/ A-Level with (2 principal passes including Maths and one analytical science subject); OR</li> <li>• UEC with 5 Bs (must include Maths and one analytical science subject); OR</li> <li>• Pass in relevant Pre-U / Foundation or other equivalent qualification</li> </ul>	

 Programme	 Awarding Institution	 Entry Requirements	 Campus
BEng (Hons) in Chemical Engineering		<ul style="list-style-type: none"> <li>A-Level - 3 passes with UCAS point of 240 (include Maths &amp; Physics / Chemistry / Biology)</li> <li>STPM - 3 principal passes with Grade C grade point of 2.0 and above (include Maths &amp; Physics / Chemistry / Biology)</li> <li>UEC - 5 Bs (include Maths &amp; Physics /Chemistry / Biology)</li> <li>SAM - 60% (include Maths &amp; Physics / Chemistry / Biology)</li> <li>CPU - 60% (include Advanced Functions, Calculus &amp; Vectors and Physics / Chemistry / Biology)</li> <li>Foundation in Science / Engineering CGPA 2.00 or Pass (include Maths &amp; Physics / Chemistry / Biology)</li> <li>Any other equivalent qualification approved by MQA</li> </ul>	
BSc (Hons) Quantity Surveying		<ul style="list-style-type: none"> <li>SPM - with a minimum of 3 credits including mathematics AND</li> <li>STPM - with a minimum of 3 principle passes</li> <li>Matriculation/ Pre-University - to be completed with a minimum CGPA of 2.50</li> <li>Diploma from other institutions recognised by Malaysian government, with a minimum CGPA of 2.00 (Year 1 entry)</li> <li>Diploma in Quantity Surveying from other institutions recognised by Malaysian government, with a minimum CGPA of 2.67 (Year 2 entry)</li> <li>Foundation (Foundation in Arts or Foundation In Science)- with a minimum CGPA of 2.50</li> <li>A-Level - with a minimum of 3 principle passes</li> <li>Other equivalent foreign qualification (Pre-U / Year 12) recognised by Malaysian government</li> </ul>	
BSc (Hons) Architecture	SEGi University	<ul style="list-style-type: none"> <li>A-Level (2 principal passes including English, Maths, Science or Art)</li> <li>STPM (2 principal passes with Grade C / grade point of 2.0 with credit in Bahasa Malaysia &amp; Mathematic in SPM)</li> <li>UEC SM3 - 5Bs (including Maths &amp; English)</li> <li>South Australian Certificate of Education (SACE) 2 passes with Grade C (including Maths)</li> <li>Canadian Pre-U (CPU) - (including Maths)</li> <li>International Baccalaureate (IB) - 24 points (including Maths)</li> <li>Foundation in relevant field - CGPA 2.00 or pass</li> <li>Other equivalent qualification recognised by Malaysian Government - CGPA 2.00 or pass</li> <li>Other equivalent foreign qualification (Pre-U, Year 12) recognised by Malaysia Government</li> </ul>	Kota Damansara
BA (Hons) Interior Architecture		<ul style="list-style-type: none"> <li>Pass STPM/A level with at least 2 principals passes or equivalent with CGPA 2.0; OR</li> <li>Pass Unified Examination Certificate (UEC) with at least 5Bs; OR</li> <li>Pass Foundation in Arts/Design OR Foundation OR Foundation Programme in related field with CGPA 2.0 and above from any institution of higher learning recognised by the Malaysian Government OR</li> <li>Pass International Baccalaureate (IB) with at least 24 points; or</li> <li>Pass Diploma in interior design/ OR a Diploma programme in related field with CGPA 2.0 and above from institutions recognised by the MQA</li> <li>Other equivalent qualification recognised by the MQA AND</li> <li>PASS in an Art Assessment and interview by faculty for candidates without art subject and technical drawing subject in SPM or equivalent</li> </ul>	
Diploma in Electrical & Electronic Engineering	SEGi College	<ul style="list-style-type: none"> <li>SPM / SPMV / UEC with a minimum of 3 credits (including Maths and one Science subject) or other equivalent qualification</li> </ul>	Subang Jaya Penang
Diploma in Mechanical Engineering			
Foundation in Science	SEGi University & SEGi College	<ul style="list-style-type: none"> <li>SPM/ O-Level / SM2 or equivalent (5 credits including Maths and two Science subjects)</li> </ul>	Kota Damansara Subang Jaya Penang Sarawak
Foundation in Arts		<ul style="list-style-type: none"> <li>SPM/ O-Level / SM2 or equivalent (5 credits)</li> </ul>	Kota Damansara Subang Jaya

# BEng (HONS) AUTOMOTIVE ENGINEERING (3+0)

UNIVERSITY OF SUNDERLAND, UK

We provide you with a thorough understanding of advanced technologies and processes related to automotive systems, analysis techniques and design methodologies.

Develop skills for clear communication and responsible teamwork to inspire professional attitudes and ethics along the way. This prepares you for modern work environments and lifelong learning.

The multi-disciplinary nature of automotive systems ranging from manufacturing and power trains to electrical power / control systems and others, provides opportunities for you to gain exposure to disciplines at an advanced graduate level.

Programmes such as Automotive System Design, Automotive Electronic & Electrical System, Chassis Technology and Automotive Technology prepare you for employment within the automotive industry or many other related automotive fields.



**University of  
Sunderland**

## Programme Modules

### Year 1

- Applied Mechanics
- Manufacturing and Materials
- Engineering Mathematics
- Introduction to Automotive Engineering
- Design, Drawing and Practical Skills
- Hubungan Etnik / Malaysian Studies
- Tamadun Islam & Asia Tenggara
- Energy Conversion

### Year 2

- Design Methods and Application
- Computer Aided Engineering Application
- Automotive Electronic & Electrical System
- Vehicle Drive Train and Chassis System
- Engineering Mechanics
- Thermofluid and Engine
- Steering and Suspension System
- Theory of Machines
- Public Speaking
- Entrepreneurship
- Microprocessor and PLC's

### Year 3

- Automotive Dynamic and Control System
- Project
- Automotive Design
- Manufacturing System Design
- Community Service
- Mechanical Design and Material Selection

## DID YOU KNOW?

Engineering is one of the best paying entry-level jobs, **UP TO RM5,533 monthly.**



## Career Opportunities

This programme prepares you for a career in research, design, development, advanced engineering and production of various types of heavy or light vehicles. As graduates of this programme, you can create the latest design for vehicles, utilising knowledge in engine and transmission, vehicle dynamics, analysis of vehicle structure and electronics.

# BEng (HONS) MECHANICAL ENGINEERING (3+0)

UNIVERSITY OF SUNDERLAND, UK

The BEng (Hons) Mechanical Engineering is an ideal programme if you are interested in technology and its use in creative design. This programme will equip you with the necessary skills and knowledge to become a modern mechanical engineer.

Throughout the programme, you will encounter problems that need to be solved individually or as a group. You will need to design and construct new equipment for novel and challenging applications and tackle problems using the tools and computer systems available to today's engineers.

As the programme progresses, you 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

- Design drawing and practical skills
- Applied mechanics
- Manufacturing and materials
- Energy conversion
- Electronic and electrical principles
- Engineering mathematics
- Prog. Mythology and problem solving
- English
- Hubungan Etnik
- Tamadun Islam & Tamadun Asia

### Year 2

- Engineering mechanics
- Design methods and applications
- Computer aided engineering
- Thermofluids and engines
- Manufacturing processes
- Microprocessor and PLCs
- Numerical analysis
- Engineers and society
- Entrepreneurship
- Public speaking

### Year 3

- Mechanical design & material selection
- Engineering dynamics & thermofluids
- Manufacturing system design
- Professional engineering management techniques
- Project
- Community service

### Career Opportunities

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

# BEng (HONS) ELECTRONIC & ELECTRICAL ENGINEERING (3+0)

UNIVERSITY OF SUNDERLAND, UK

Get the skills and knowledge that enables you to influence the direction of electronic and electrical engineering, and make the world a better and more interesting place for future generations.

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



**University of  
Sunderland**

## Programme Modules

### Year 1

- Design drawing and practical skills
- Applied mechanics
- Manufacturing and materials
- Energy conversion
- Electronic and electrical principles
- Engineering mathematics
- Electromagnetic theory
- Magnetism theory
- English
- Hubungan etnik
- Tamadun Aslam & Tamadun Asia

### Year 2

- Manufacturing processes
- Electrical power systems and machines
- Control and instrumentation
- Electronics
- Mathematics, statistics and simulation
- Microprocessor and PLCs
- Prog. Methodology & problem solving
- Communication system
- Entrepreneurship
- Public speaking

### Year 3

- Electrical power
- Electronic systems design
- Manufacturing systems design
- Project
- Professional engineering management techniques
- Community service

### Career Opportunities

As graduates of the BEng (Hons) Electronics & Electrical programme, you will have a wide choice of career in diverse sectors such as: Automotive industry, Aerospace, Power generation and Communications.

# BEng (HONS) IN MECHANICAL ENGINEERING

**SEGi UNIVERSITY**

The BEng (Hons) in Mechanical Engineering at SEGi University is a broad industrial-driven degree programme, which equips you with the fundamentals of engineering and the technical skills required. The programme is designed to produce graduates who are able to address both technological and societal challenges in the field of mechanical engineering.

The integration of mathematic and engineering learning will allow you to develop advanced knowledge of physics and materials science to mechanical design and manufacturing processes.

The Programme Educational Objectives (PEO) are to produce graduates who:

- are employable in the global industry related to Mechanical Engineering discipline
- are in management / leadership role in the area of engineering
- pursue life-long learning via post-graduate qualification and / or professional licensure



Year 2 students with CGPA 3.30 can be articulated into  
Year 3 BEng Mechanical Engineering in Cardiff University.

## Programme Modules

### Year 1

- Fundamental Engineering Mechanics
- Design I – Basic Skills
- Engineering Materials
- Engineering Mathematics I
- Fundamental Thermo-Fluids
- Laboratory Investigations I
- Materials under Stress
- Thermo-Fluids
- Laboratory Investigations II
- Design II – Advanced Drawing Techniques
- Engineering Mathematics II
- Engineering Mechanics
- Programming in C++

### Year 2

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

### Year 3

- Advanced Dynamics
- Manufacturing Systems Design
- Advanced Fluid Mechanics
- Research Methodology
- Integrated Design Project I
- Entrepreneurship Development
- Advanced Thermodynamics
- Integrated Design Project II
- Electrical Machines and Motors
- Advanced Engineering Materials
- Engineers and Society

### Year 4

- Industrial Training
- Final Year Project
- Finite Element Analysis
- Environmental Management and Technology
- Project Management, Planning and Control
- Advanced Manufacturing Technology\*\*
- Computational Fluid Dynamics\*\*
- Control and System Engineering\*\*
- Thermal Management in Product Design\*\*

### MPU

- TITAS (Local students) / Malaysian Studies (International students)
- Hubungan Etnik (Local students) / B. Melayu Komunikasi 2 (International students)
- Business and Professional Ethics
- Effective Listening
- Pengurusan Ko-kurikulum

## Career Opportunities

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

\*\* Elective courses

# BEng (HONS) IN ELECTRONIC & ELECTRICAL ENGINEERING

**SEGi UNIVERSITY**

The B.Eng. (Hons) in Electronic and Electrical Engineering programme incorporates elements adopted from both academia and professional entities. The industry-driven programme delivers strong engineering fundamentals through technical involvement and soft skills development to empower students to produce efficient and cost effective solutions to address complex engineering challenges.

Students will undertake an integrated design project in Year 3 before embarking in the final year on an extensive design project of their own choosing. Students will be given options to select elective courses in Year 4 to specialize in their own area of interest.

## Electronic Engineering

Concerned primarily with solid state devices and integrated circuits to design systems that contribute to fields of communication, electronics, computers, VLSI, signal processing and other related areas.

## Electrical Engineering

Concerned mainly with the design, generation, protection, control and distribution of electrical power system.

The Programme Educational Objectives (PEO) are to produce graduates who are able to:

- Practice as engineer in industries related to electronic and electrical engineering globally
- Pursue postgraduate studies
- Register with Board of Engineers Malaysia (BEM) as a Professional Engineer



Year 2 students with a minimum grade of 60% and IELTS 6.0 (minimum of 5.5 in each component) can be articulated into Year 3 BEng Electronic & Electrical Engineering in Swansea University. Successful applicant will be awarded £2,000 fee abatement for the 1st year of study at Swansea University.



Alternatively, Year 2 students with CGPA 3.30 can also be articulated into Year 3 BEng Electronic & Electrical Engineering in Cardiff University.

## Programme Modules

### Year 1

- Engineering Mathematics I
- Circuits and Signals I
- Electronic Devices
- Electromagnetic I
- Engineering Drawing
- 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
- Programming in C ++
- Analogue Electronics II
- Electromagnetic II
- Digital Electronics II
- Measurement and Instrumentation
- Laboratory Investigations III
- Computational and Numerical Analysis
- Control Systems
- Electrical Machines
- Microprocessor
- Laboratory Investigations IV

### MPU

- TITAS (Local students) / Malaysian Studies (International students)
- Hubungan Etnik (Local students) / B. Melayu Komunikasi 2 (International students)
- Business and Professional Ethics
- Effective Listening
- Pengurusan Ko-kurikulum

### Year 3

- Electrical Power System
- Computer Architecture
- Environmental Management & Technology
- Research Methodology
- Communication System II
- Integrated Design Project I
- Embedded System
- Engineers and Society
- Integrated Design Project II
- Project Management, Planning and Control
- Digital Signal Processing
- Industrial Training

### Year 4

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

## Career Opportunities

As graduates of the BEng (Hons) Electronic & Electrical Engineering programme, you will have a wide choice of career in sectors including: Robotics & Automation, Control & Instrumentation, Power Generation and Communications.

\*\* Elective courses

# BEng (HONS) IN CIVIL ENGINEERING

**SEGi UNIVERSITY**

Discover Civil Engineering at SEGi and be involved in all stages of development of the physically and naturally built infrastructure in our modern world.

The expertise in planning, design, construction and maintenance of civil engineering projects are highly demanded of civil engineers. This sets us to design intensive civil engineering classes and shape graduates to be highly skilled professionals that possess technical, managerial, organisational, financial, communication, research and critical analysis skills.

The BEng (Hons) in Civil Engineering is a broad industrial-driven degree programme, which equips you with the fundamentals of engineering and science with the technical skills and knowledge required – shaping you to be literate, highly numerate and competent in all aspects of civil engineering.

Programme Educational Objectives (PEO): We aim to produce graduates who:

- Are employable in the global construction industry and other related fields of the Built Environment
- Pursues post-graduate qualifications to satisfy a passion for research and life-long learning
- Participates in continuous professional improvement leading to professional licensure



Year 2 students with CGPA 3.30 can be articulated into Year 3 BEng Civil Engineering in Cardiff University.

## Programme Modules

### Year 1

- Engineering Mathematics I
- Statics and Dynamics
- Construction Materials
- Engineering Drawing
- Soil Mechanics I
- Programming Methodology & Problem Solving
- Fluid Mechanics
- Mechanics of Materials
- Engineering Survey
- Engineering Mathematics II

### Year 2

- Construction Technology
- Engineering Statistics
- Structural Analysis I
- Hydraulics
- Soil Mechanics II
- Numerical Analysis
- Construction Project Management
- Hydrology

### MPU

- TITAS (Local students) / Malaysian Studies (International students)
- Hubungan Etik (Local students) / B. Melayu Komunikasi 2 (International students)
- Effective Listening
- Pengurusan Ko-kurikulum

### Year 3

- Design of Reinforced Concrete Structures I
- Highway Engineering
- Structural Analysis II
- Water Resources & Supply Engineering
- Design of Steel and Timber Structures
- Estimating & Costing of Buildings
- Design of Reinforced Concrete Structures II
- Engineering Application and Analysis
- Engineers & Society
- Geotechnics
- Conceptual Design
- Industrial Training

### Year 4

- Environmental Management & Technology
- Entrepreneurship Development
- Foundation Design
- Integrated Project
- Project & Research Methods
- Traffic & Transportation Engineering
- Elective I & Elective II:
  - Water and Environmental Management OR
  - Design of Earth Retaining Structures OR
  - Advanced Reinforced Concrete Design OR
  - Concrete Technology OR
  - Design of Steel Structures II

### Career Opportunities

As civil engineers, your career opportunities are vast and varied, depending on your area of specialisation and interest. Your potential employers include local and international consulting firms, construction companies and research institutions, as well as all levels in government.



# BEng (HONS) IN CHEMICAL ENGINEERING

**SEGi UNIVERSITY**

Chemical engineering works principally in the chemical industry to convert basic raw materials into a variety of products, and deals with the design and operation of chemical plant and equipment.

The principle knowledge in chemical engineering includes design, manufacture and operation of industrial chemicals, development of new chemicals or adapted substances and processes for products ranging from foods and beverages to cosmetics, cleaners and pharmaceutical ingredients, also development of new technologies such as fuel cells, hydrogen power and nanotechnology.

The fields derived from chemical engineering include material science, polymer engineering, biomedical engineering, membrane technology, and water and wastewater treatment industry.

The programmes objectives are to produce graduates who are able to:

- 1 Practice as engineer in industries related to chemical engineering
- 2 Pursue postgraduate studies
- 3 Register with the Board of Engineers Malaysia and subsequently become a professional chemical engineer

## Programme Modules

### Year 1

- Mass and Energy Balances
- Physical and Organic Chemistry
- Engineering Mathematics I
- Engineering Drawing
- Material Science
- Chemical Engineering Laboratory I
- Fluid Mechanics
- Thermodynamics
- Strength of Materials
- Engineering Mathematics II
- Project Year I
- Chemical Engineering Laboratory II

### Year 2

- Heat and Mass Transfer
- Separation Processes I
- Engineering Statistics
- Computer Aided Chemical Engineering
- Electrical Technology
- Chemical Engineering Laboratory III
- Chemical Engineering Thermodynamics
- Particle Technology
- Separation Processes II
- Engineers and Society
- Chemical Engineering Laboratory IV
- Project Year II

### MPU

- TITAS (Local students) / Malaysian Studies (International students)
- Hubungan Etnik (Local students) / B. Melayu Komunikasi 2 (International students)
- Business and Professional Ethics
- Effective Listening
- Pengurusan Ko-kurikulum

### Year 3

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

### Year 4

- Process and Plant Design
- Transport Phenomena
- Entrepreneurship
- Design Project I
- Research Methodology
- Fuel and Energy Utilization
- Research Project
- Design Project II
- Bio-Separation: Recovery Processes (Biochemical Engineering)\*\* OR Water and Wastewater Engineering (Environmental Engineering)\*\*
- Bioreactor Engineering Design (Biochemical Engineering)\*\* OR Solid Waste Engineering (Environmental Engineering)\*\*

## Career Opportunities

As Chemical Engineers, career opportunities include: Process engineer, Chemical and allied products, environmental engineering, contracting, oil and gas, consultancy, pharmaceutical, energy, water, food and beverage, materials and design.

\*\* Elective courses

# BEng (HONS) QUANTITY SURVEYING

**SEGi UNIVERSITY**

The BSc (Hons) Quantity Surveying programme aims to empower you with academic and practical knowledge with relevant soft skills in Quantity Surveying, grooming you to respond to high demands of qualified and competent quantity surveyors by the local as well as international construction industry.

As graduates of this programme, you'll be empowered to:

- Demonstrate accurate techniques and skills of measurement, quantification and cost estimation in construction projects.
- Apply knowledge of economics, building constructions, maintenance and services related to quantity surveying areas.
- Understand and apply the relevant laws, procedures, procurements and dispute resolutions when handling projects.
- Demonstrate good knowledge and analytical skills, problem-solving and communication with relevant soft skills.
- Participate in project management, financial management, entrepreneurship and current construction issues in the area of quantity surveying.
- Practice professional and ethical responsibilities in quantity surveying; as well as conduct further research and development activities to retain a professional membership status in quantity surveying (Sr.) or related disciplines.

The Programme Educational Objectives (PEO) are to produce graduates:

- To respond to the high demands of qualified and competent Quantity Surveyor in the global construction industry
- To assist students to mature into dynamic individuals who strive to become professional Registered Quantity Surveyors
- To develop research and critical thinking skill of students in pursuing life-long learning

## Programme Modules

### Year 1

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

### 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 Economics I
- Civil and Infrastructures Construction Works
- Business and Professional Ethics
- Entrepreneurship
- Environmental Management & Technology

### MPU

- TITAS (Local students) / Malaysian Studies (International students)
- Hubungan Etnik (Local students) / B. Melayu Komunikasi 2 (International students)
- Business and Professional Ethics
- Effective Listening
- Pengurusan Ko-kurikulum

### Year 3

- Measurement of Civil Engineering Works
- Information Computer Technology (ICT)
- Data Analysis and Statistic
- Quantity Surveying Practice III
- Dissertation I
- Academic Research
- Integrated Project
- Construction Economics II
- Value Engineering and Management
- Dissertation II
- Project Financial Management
- Industrial Training

### Career Opportunities

Quantity Surveyor, Contract and Cost Administrator, Property and Commercial Executive, Procurement Advisor & Contract Executive / Project Executive are just some of the possible employment prospects for QS graduates.

# BSc (HONS) ARCHITECTURE

SEGi UNIVERSITY

The BSc (Hons) Architecture is emphasises on design spaces where they are known as more than just well-built structures with architectural design elements. They encompass not only the involvement of space, but also the strong influence of innovation and technology. Students will explore inventions and designs through industrial revolution that consists of all areas in design, construction, practise and awareness of the built environment towards sustainability.

The BSc (Hons) Architecture intends to discover the best approach that suits the future architectural graduates, where problems are to be solved the unconventional way. This programme will encourage students to enthusiastically discuss ideas and express them in different styles of design, hence equip them with solid design and technical skills for their future career in the local and global architectural industry.

## Programme Modules

### Year 1

- Architectural Comm Graphics
- Architecture History 1
- Building Materials
- Design Studio 1
- Environmental Science 1
- Architecture History 2
- Basic CAD
- Building Construction 1
- Design Studio 2
- Structure 1

### Year 2

- Architecture Theory Philosophy
- Building Construction 2
- Building Services 1
- Design Studio 3
- Environmental Science 2
- Advanced CAD
- Asian Architecture
- Design Studio 4
- Working Drawing
- Structure 2

### Year 3

- Building Services 2
- Design Studio 5
- Sustainable Building Design
- Measured Drawing
- Industrial Training
- Construction Project Management
- Design Studio 6
- Professional Studies

### MPU

- TITAS (Local students) / Malaysian Studies (International students)
- Hubungan Etnik (Local students) / B. Melayu Komunikasi 2 (International students)
- Business and Professional Ethics
- Effective Listening
- Pengurusan Ko-kurikulum

### Career Opportunities

Assistant Architect, CAD Designer, Site Supervisor, Academic Researcher, 3D Visual Artist, Interior Designer, Landscape Designer, Creative Designer.

# BA (HONS) INTERIOR ARCHITECTURE

Interest in interior architecture has grown rapidly in recent years. New materials, technologies and techniques are giving interior architects exciting new ways to explore the way spaces can be reformed or re-imagined for new of different forms of inhabitation.

Interior architecture combines the study and practice of interior design with architecture. It explores how the interiors of buildings such as office blocks, houses, hospitals and galleries are inhabited, used and experienced. Furthermore, it also explores how interiors of buildings can be changed to meet different needs and to express different functions, for example from a station multi-storey car park to a modern office block. The course will equip students with core architecture skills, knowledge and attributes to succeed in the industry.

## Programme Modules

### Year 1

#### Semester 1

- Architectural Principle and Communication
- Building Construction 1
- Building Services 1
- Software Application for Design

#### Semester 2

- Architecture History 1
- Building Services 2

#### Semester 3

- Residential Design
- Architectural Graphic
- Furniture Design Workshop
- Interior Material and Furnishing
- Building Construction 2

### Year 2

#### Semester 1

- Commercial Design
- Architecture History 2
- Advance Computer 3D Modeling
- Environmental Psychology
- AutoCAD in Interior Design

#### Semester 2

- Environmental Management & Technology
- Business Ethics

#### Semester 3

- Advance Interior Design 1
- Lighting Design
- Construction Contract Law
- Specification & Contract Documentation

### Year 3

#### Semester 1

- Advance Interior Design 2
- Project and Construction Management
- Professional Practice for Interior Designer
- Research Methods
- Entrepreneurship

#### Semester 2

- Internship/ Industrial Training (6 months)

### Year 4

#### Semester 1

- Design Project
- Thesis

## Career Opportunities

Interior Architect, Project Manager, Retail and Commercial Design, Hospitality and Healthcare Design, Set & Exhibit Design, Visual Merchandising, Office Design.

# DIPLOMA IN MECHANICAL ENGINEERING

**SEGi COLLEGE**

The mechanical engineering industry comprises of a range of occupations involving the design, production and service of machinery, equipment, tools and mechanical systems.

The Diploma in Mechanical Engineering provides you with a solid foundation in mechanical engineering. As graduates of this diploma, you possess a broad understanding of engineering fundamentals, preparing for studies at Degree level as well as working in industry. You will have the skills and knowledge to apply analytical, design, industrial, laboratory, and fieldwork skills.

## Programme Modules

### Foundation

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

### Thermofluid and Heat

- Fluid Mechanics
- Thermodynamics
- Heat Transfer

### Soft Skills

- Engineering Communication and Case Studies
- Industrial Training
- Malaysian Studies
- Decision Making Skills
- Moral Studies / Islamic Studies
- Community Service

### Materials

- Material Science
- Mechanics of Materials

### Manufacturing

- Manufacturing Processes
- Industrial Management

### Design

- Engineering Drawing
- Design of Machine Element

### Basics of Mechanical Engineering

- Programming Methodology and Problem Solving
- Engineering Mathematics
- Principles of Electrical and Electronic Engineering
- Engineering Mechanics
- Dynamics
- Mechanical Engineering Practice



The engineering programme has been an eye opening experience. With the priority placed on practical based knowledge and design, coupled with the fundamental engineering principles, I am happy to say my future is bright.

**Hwang Chin Shern**

### Career Opportunities

Possible job titles relevant to this qualification include: CAD Application Engineer, Trainee Engineer, Trainee Design Engineer, Mechanical, Design Engineer, Draughts Person and Structural Engineer.

# DIPLOMA IN ELECTRICAL & ELECTRONIC ENGINEERING

**SEGi COLLEGE**

The Diploma in Electrical & Electronic Engineering programme covers a broad-based suite of electronic and electrical engineering modules, ensuring you 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

### Power

- Electric Machines
- Power Systems

### Soft Skills

- English
- Engineering Communication and Case Studies
- Industrial Training
- Malaysian Studies
- Decision Making Skills
- Moral Studies / Islamic Studies
- Community Service
- Project

### Electronic

- Circuit Theory and EMF
- Digital Electronics
- Analogue Electronics
- Microprocessors
- Microelectronics

### Control

- Instrumentation and Measurement
- Control Systems
- Industrial Electronics & Simulation

### Communication

- Communication Systems

### Basics Of Electrical & Electronic Engineering

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

## INTERESTING FACT

**96% OF OUR GRADUATES**  
get employed within a span of 6  
months upon graduation



## Career Opportunities

As graduates of the Diploma in Electronic & Electrical Engineering, you are able to pursue a variety of job roles. Possible job titles relevant to this qualification include: Electrical Engineering Technical Officer, Technologist, Design Specialist, Assistant Engineer.

# FOUNDATION IN SCIENCE

SEGi UNIVERSITY & SEGi COLLEGE

The foundation programme is shaped to equip you with the knowledge, skills and practice needed to bridge you from secondary studies to tertiary level.

We cover the subject of applied sciences, providing a strong foundation for those intending to pursue programmes in Health Sciences, Engineering and Computing. The foundation will guarantee your entry into above par degree programmes with SEGi as well as UK universities in collaboration with SEGi. The foundation will also enable you to for direct entry into respective degree programmes.

## Programme Modules

### Semester 1

- Physics 1
- Chemistry 1
- Mathematics 1
- Public Speaking
- Malaysian Studies

### Semester 2

- Physics 2
- Chemistry 2
- Mathematics 2
- Biology 1 / Information Technology
- Moral Studies / Islamic Studies

### Semester 3

- Physics 3
- Chemistry 3
- Mathematics 3
- Biology 2 / Computer Applications

There might be slight variations in course offerings across centres.

### Career Opportunities

This qualification is specially designed for students with SPM, O-Level or equivalent qualifications. Upon successful completion of this programme, students may enrol in a range of health science, engineering or computing degree programmes.

R/010/3/0355(7/20) • R/010/3/0088(4/23) • JPT/BPP(K)1000-600/P728/Jld6(17)(12/21) **KD, SJ & PG CAMPUSES**

# FOUNDATION IN ARTS

SEGi UNIVERSITY & SEGi COLLEGE

The foundation year is an introductory programme that will equip students with the skills and knowledge to further their studies locally or internationally. Students are exposed to modules which will allow them to become creative thinkers and problem solvers that can be translated into practical ideas. This programme also enables students to develop a range of practical skills and solid knowledge, preparing them for smooth progress to a communication degree of their choice.

## Programme Modules

### Semester 1

- General Language Training
- Computer Application
- Introduction to Business
- Statistics
- Malaysian Studies

### Semester 2

- Academic English
- Principle of Economics
- Elective 1 \*
- Elective 2 \*
- Moral Studies/Islamic Studies

### Semester 3

- Public Speaking
- Critical Thinking Skills
- Elective 3 \*
- Elective 4 \*

\* Students will have to choose the electives according to the discipline of undergraduate studies they intend to pursue.

### \* Elective Subjects

#### Quantity Surveyor

- E1 Introduction to Building Technology
- E2 Introduction to Estimating
- E3 Introduction to Construction Materials
- E4 Mathematics

\* Electives may be subject to change.

### Career Opportunities

This qualification is specially designed for students with SPM, O-Level or equivalent qualifications and who would like to pursue a bachelor degree at the university. Upon successful completion of the Foundation in Arts programme, students may further their studies in a wide range of degree programmes depending on units completed during their studies. Students may be eligible to apply for advanced standing.

R/210/4/0005(7/21) • R/010/3/0020(7/21) **KD & SJ CAMPUSES**



**SEGi University Kota Damansara** (DU031-B)

☎ 603 6145 1777    📞 011 1210 6389    📞 1800 88 7344

**SEGi College Kuala Lumpur** (W4P0115)

☎ 603 2070 2078    📞 018 211 8653    📞 1800 88 8028

**SEGi College Subang Jaya** (DK250-04(B))

☎ 603 8600 1777    📞 016 212 9154    📞 1800 88 8622

**SEGi College Penang** (187620-W)

☎ 604 263 3888    📞 013 629 4880

**SEGi College Sarawak** (DK250-02(Q))

☎ 6082 252 566    📞 017 859 2566    📞 1300 88 7344

The best in you, made

**POSSIBLE**

The information in this brochure is correct at the time of printing (Mar 2018).  
Changes may be made without prior notice. Copyright 2018. All rights reserved.

[segi.edu.my](http://segi.edu.my)

**SCANME**



DOWNLOAD OUR FREE APP

