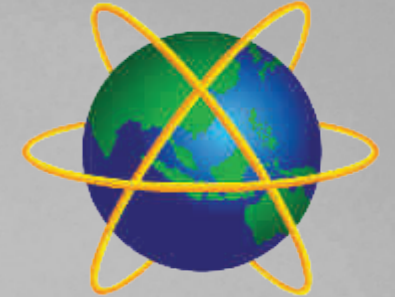


ENGINEERING



**A · P · U**  
ASIA PACIFIC UNIVERSITY  
OF TECHNOLOGY & INNOVATION



# I am visionary

ENGINEERING

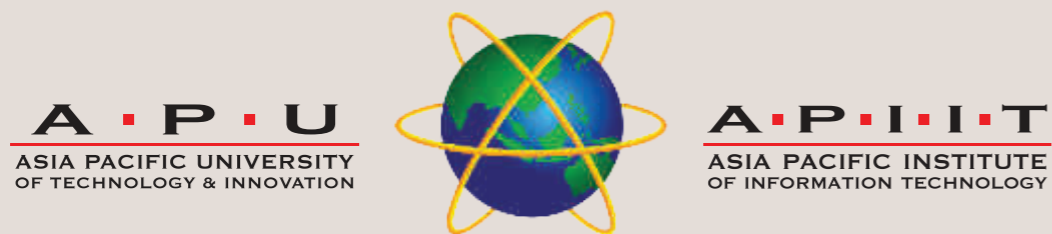
**WORLDWIDE  
RECOGNITION**  
UNDER THE  
**WASHINGTON ACCORD**

INNOVATIVE  
**THINKING**  
CAN CHANGE  
YOUR WORLD



**Premier  
Digital Tech  
University™**

**5 STAR**  
EXCELLENT RATING  
SETARA 2017



## APIIT EDUCATION GROUP

Asia Pacific University of Technology & Innovation (APU) Company no. 672203-A  
Asia Pacific Institute of Information Technology (APIIT) Company no. 260744-W  
(A Member of the APIIT Education Group)

Technology Park Malaysia, Bukit Jalil, 57000 Kuala Lumpur.  
Tel : +603-8996 1000 Fax : +603-8996 1001  
Email : [info@apu.edu.my](mailto:info@apu.edu.my) | [info@apiit.edu.my](mailto:info@apiit.edu.my)

DU030(W) | DK121(W)

[www.apu.edu.my](http://www.apu.edu.my) | [www.apiit.edu.my](http://www.apiit.edu.my)

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032020

# Inspiring

you towards  
innovation & ambitions

It starts now..... It starts here

## ENGINEERING

### DEGREE PROGRAMMES

- Bachelor of Engineering in Electrical & Electronic Engineering with Honours
- Bachelor of Engineering in Telecommunication Engineering with Honours
- Bachelor of Engineering in Mechatronic Engineering with Honours
- Bachelor of Computer Engineering with Honours
- Bachelor of Petroleum Engineering with Honours

### WORLDWIDE RECOGNITION

UNDER THE  
WASHINGTON ACCORD

#### APIIT RATED 5-STARS (EXCELLENT) RATING



APIIT rated 5-Stars  
(EXCELLENT)  
in MyQuest 2016/17.

#### APU AWARDED 5-STAR (EXCELLENT) RATING



APU was announced as among the Highest Rated Emerging Universities in Malaysia, being rated at 5-STAR (EXCELLENT Rating) under the SETARA 2017 Ratings by the Ministry of Education (MOE). APU has maintained this Excellent Rating in the SETARA 2011, 2013 as well as in the latest ratings announced in 2017. The SETARA ratings system measures the performance of teaching and learning in universities in Malaysia.

#### APU IS A PREMIER DIGITAL TECH UNIVERSITY - MALAYSIA DIGITAL ECONOMY CORPORATION



APU was among the first universities in Malaysia awarded Premier Digital Tech University status by the Malaysia Digital Economy Corporation (MDEC). APU is recognised for its commitment to offer top-notch digital technology courses and ensuring our highly-skilled graduates continue to flourish and fill future digital job demands locally and globally.



# Experience

APU's iconic campus

Asia Pacific University of Technology & Innovation (APU) is amongst Malaysia's Premier Private Universities, and is where a unique fusion of technology, innovation and creativity works effectively towards preparing professional graduates for significant roles in business and society globally.



## An Ultra-modern Campus Built Today for the Needs of Tomorrow

Asia Pacific University of Technology & Innovation (APU). This new Ultra-Modern University Campus in Technology Park Malaysia (TPM) is designed to be the state-of-the-art teaching, learning and research facility providing a conducive environment for students and staff. TPM is the ideal location for this new and contemporary Campus due to its strong positioning as Malaysia's primary hub for leading-edge and high-tech developments in a wide variety of areas. It is also located in one of the most rapidly developing areas in Kuala Lumpur, and is well served and accessible through major highways, LRT and other forms of public transportation.

APU has earned an enviable reputation as an award-winning University through its achievements in winning a host of prestigious awards at national and international levels.



## Malaysia's Award Winning University

- A Stylish Blend of Functionality & Accessibility
- A Unique Fusion of Technology, Innovation and Creativity
- Cutting-edge Technologies
- A Wide Variety of Spaces to Learn, Engage & Transform



APU's iconic campus is setting a new benchmark for design excellence among Malaysian Universities, combining an eco-friendly campus with a dynamic blend of technology and innovation to enable professional learning. It is a magnificent teaching & learning space for our Students & Staff designed by our award-winning architects & consultants.

**Rated No:1**  
in Asia and Malaysia  
for multicultural learning experience\*

**MALAYSIA'S AWARD WINNING UNIVERSITY**

Engineering Degrees Accredited under  
**WASHINGTON ACCORD**  
(Accepted Worldwide)

**100%**  
Employability\*\*

**12,000**  
STUDENTS on campus from 130 COUNTRIES

**MORE THAN 40,000**  
GRADUATES & ALUMNI

\* Student Barometer Wave 2019 (International Students), 'Studying with people from other cultures'.

\*\* Graduate Tracer Study 2018 by Minister of Education, Malaysia.





100% of our graduates are employed by graduation\*; this is not just a number, but a significant symbol of our success and pride in nurturing professionals for global careers.



### Industry Ready Graduates

The APU Career Centre connects and engages with over 10,000 Employers to ensure that our graduates are highly employed in both local and international corporations, as it closely supports APU students in both internship and career placement activities.

### Work-ready, World-ready

Study with us and we'll equip you to become a world-ready professional, with the knowledge, attributes, skills and expertise that employers look for.

Employers are demanding that graduates not just have qualifications, but also have the experience and ability to contribute to the workplace. To meet these demands, APU develops programmes and partnerships with academic and industry partners, with a heavy focus on applied learning. This helps ensure that the skills and knowledge taught at APU are up-to-date and in high demand.

### Outstanding Support

Regardless of the programme you choose, you will be supported by highly qualified and enthusiastic professionals. Many enjoy an international reputation for their research and actively engage with leading names in the industry.



\*Graduate Tracer Study 2018 by Ministry of Education, Malaysia.



# Rated No.1

in Asia and Malaysia for Multicultural Learning Experience\*

## A Truly International Community

Just like the beautiful country in which we are located, APU is a rich blend of traditional and modern styles. We have developed a singular character to embrace those things that set us apart. We pride ourselves on the quality of both our teaching and research as well as having a unique living and learning environment.



## A Hub of Cultural Diversity

With more than 12,000 students from over 130 countries, we ensure that you will gain memorable experiences alongside the diversified and colourful cultural environment. We have students from Asia, Central Asia, Middle East, Africa, Europe, and Oceania. Our International Students Support Centre helps you with the procedure to apply for your Student Pass before coming here. Upon arrival in Kuala Lumpur, you will be greeted with warmth by our friendly staff, who will pick you up and bring you to our campus.

### Student Welcome Team

The Student Welcome Team was established by Asia Pacific University of Technology & Innovation (APU) to improve the arrival experience of international students in Malaysia. Warm Welcome, Warm Hello, Warm What's up is the theme of this ASK ME Team.



## Student Life @ APU

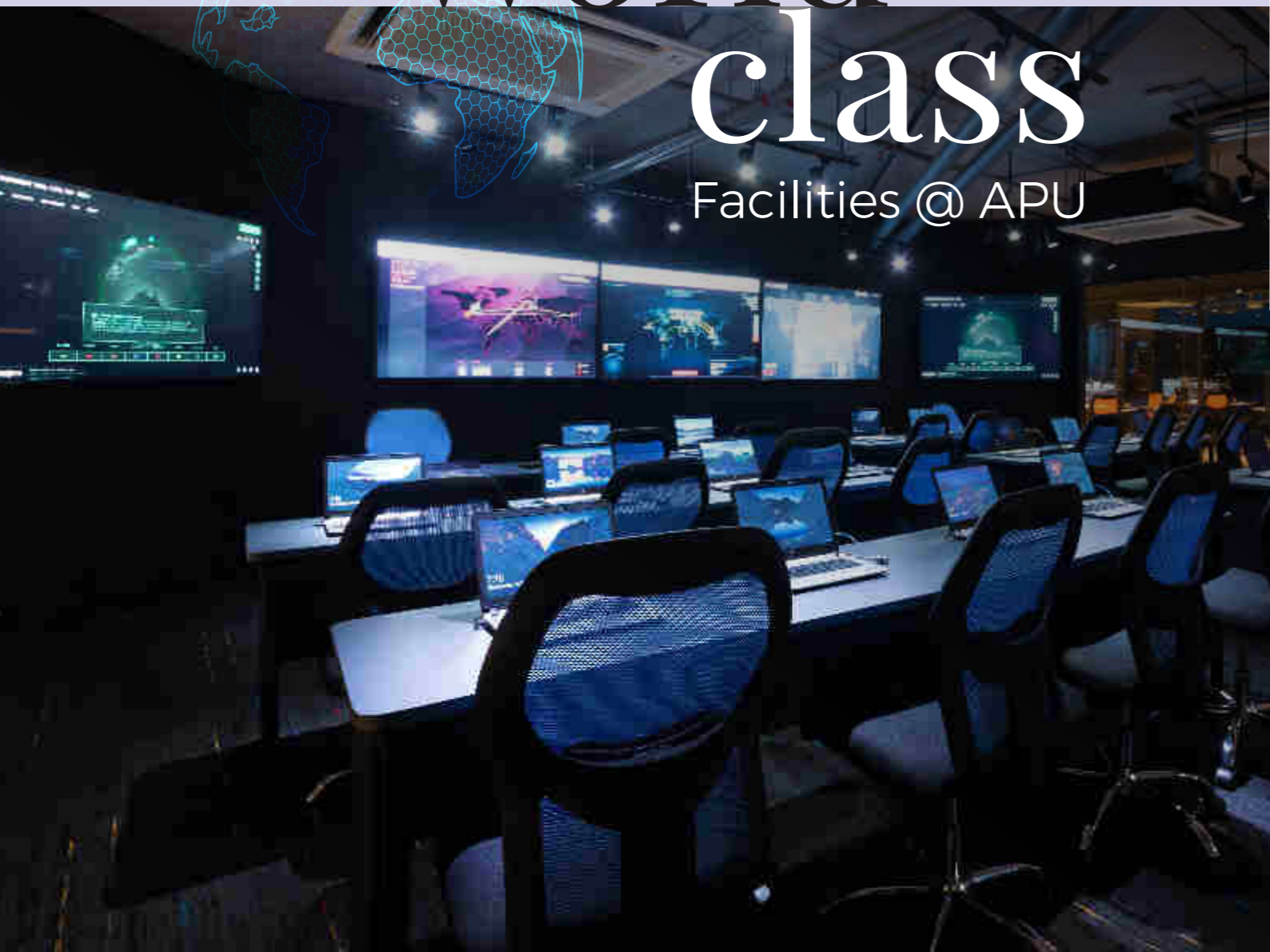
Being a university student can be one of your most exciting expeditions. Higher education opens up a world of new ideas, intellectual growth, new adventures and the building of lifelong friendships. Here at APU, we support you to take the time to explore not only the educational experiences but also the wide range of social, sporting and cultural activities on campus.

\* Student Barometer Wave 2019 (International Students),  
"Studying with people from other cultures."





# World-class Facilities @ APU



APU provides access to world-class resources across a wide range of disciplines. This translates into industry-ready skills and a competitive edge for graduates.

Our campus is well-situated in a high-technology environment, and is equipped to enable every student to get the most out of their study experience at APU.



## Cutting-Edge Technologies

The Campus blends technology, integration, innovation and creativity under one roof. It provides not just a university learning environment, but also a lively community spot for our students to formulate new ideas, gain intellectual growth and discover new adventures. It is not only a university campus, but also the nurturing ground for world-changing global ideas. All spaces are carefully designed to create an unforgettable learning and lifestyle experience that lasts for a lifetime, while enabling professional learning and cultivating global mindsets. APU, as Malaysia's leading technological university, is the incubator for self-starting and innovative APU graduates. Our educational technology environment supports the development of graduates of this calibre, in which well-equipped computing and engineering laboratories with advanced software, hardware and technologies place students at the forefront of technological excellence.

## An Integrated Community

The campus aims to establish a community aspect for the university - where integration is the key. Walkways, classrooms, communal spaces and discussion areas promote connectivity and cultivates exchange of ideas among students from different disciplines and academics, to implement cooperative learning concepts in line with the Industrial Revolution 4.0.



## Social Interaction Platforms

Fitness Sweatzone, student lounges, sports facilities and breakout rooms provide spaces for relaxation and socialization throughout the day. They are carefully designed to create an unforgettable learning and lifestyle experience that lasts for a lifetime, especially for students who are studying away from home.



## ENGINEERING DEGREES ACCREDITED UNDER THE WASHINGTON ACCORD

# WORLDWIDE RECOGNITION

## UNDER THE

# WASHINGTON ACCORD

The School of Engineering at APU is one of our fastest growing schools and is gaining popularity among school leavers. This is because all the five engineering programmes offered by the School are current in terms of technology and are market driven, and thus have great employment opportunities.

The vision of the School is to be a leading provider of Engineering and Technology based education with innovative approaches to enhancing lifelong career opportunities. This is emphasised by our mission to provide engineering education based on a theoretical, experimental, and ethical foundation and enhanced by opportunities for participation in research, internships and interdisciplinary study.

For all degrees within the School, APU links with industry helps provide internship training placements for students. Internships are compulsory for all students as per the requirement of the Board of Engineers Malaysia.

**APU Engineering Degrees are fully accredited by the Board of Engineers Malaysia (BEM) which is a signatory to the Washington Accord.**

- Bachelor of Engineering in Electrical & Electronic Engineering with Honours
- Bachelor of Engineering in Telecommunication Engineering with Honours
- Bachelor of Engineering in Mechatronic Engineering with Honours
- Bachelor of Computer Engineering with Honours
- Bachelor of Petroleum Engineering with Honours\*

## INTERNATIONAL RECOGNITION

### ENGINEERING DEGREES ACCREDITED UNDER THE WASHINGTON ACCORD

**APU Engineering Degrees are fully accredited by the Board of Engineers Malaysia (BEM) which is a signatory to the Washington Accord.**

This accreditation ensures that APU Engineering Graduates will have the following benefits in countries who are signatories of the Washington Accord:

- Opportunities to register as a Graduate Engineer with Board of Engineers Malaysia (BEM) or the relevant professional bodies in other countries who are signatories under the Washington Accord.
- Pathways to becoming a Professional or Chartered Engineer.
- Assurance that graduates are considered as having met international academic standards for engineering practice.

APU Engineering Degrees are Accredited Professionally by the Board of Engineers Malaysia (BEM) and are therefore recognised internationally under the Washington Accord. Recognition under the Washington Accord allows for APU engineering programmes to be recognised by countries such as Australia, Canada, China, Chinese Taipei, Hong Kong, India, Ireland, Japan, Korea, Malaysia, New Zealand, Pakistan, Peru, Russia, Singapore, Sri Lanka, South Africa, Turkey, the United Kingdom and the United States who are all signatories of the accord.

This allows APU graduates to be recognised in these countries for career opportunities towards achieving Professional/Chartered Engineer status or for further education progression. Furthermore, many countries which are not yet signatories to the Washington Accord also use this as a benchmark in recognising Engineering Degrees.



With this achievement, recognition under the Washington Accord enables APU Engineering graduates to work in any country in the world who are also a signatory to the Accord, without the need to re-qualify. The recognition is of utmost importance to the engineering education in Malaysia as graduates from accredited engineering degree programmes from Washington Accord signatory countries are considered as meeting the academic standard for practices in engineering at the international level.

Please refer to [http://www.eac.org.my/web/list\\_accredited.html](http://www.eac.org.my/web/list_accredited.html)

The above benefits are applicable in the following countries, which are signatory to the Washington Accord:

**“Signatories have full rights of participation in the Accord; qualifications accredited or recognised by other signatories are recognised by each signatory as being substantially equivalent to accredited or recognised qualifications within its own jurisdiction”**

<http://www.ieagrements.org/accords/washington/signatories/>

- |  |  |   |
|--|--|---|
| <ul style="list-style-type: none"> <li>• <b>Australia</b> - Engineers Australia (1989)</li> <li>• <b>Canada</b> - Engineers Canada (1989)</li> <li>• <b>China</b> - China Association for Science and Technology (2016)</li> <li>• <b>Chinese Taipei</b> - Institute of Engineering Education Taiwan (2007)</li> <li>• <b>Hong Kong China</b> - The Hong Kong Institution of Engineers (1995)</li> <li>• <b>India</b> - National Board of Accreditation (2014) (Applies only to programmes accredited by NBA offered by education providers accepted by NBA institutions.)</li> <li>• <b>Ireland</b> - Engineers Ireland (1989)</li> </ul> | <ul style="list-style-type: none"> <li>• <b>Japan</b> - Japan Accreditation Board for Engineering Education (2005)</li> <li>• <b>Korea</b> - Accreditation Board for Engineering Education of Korea (2007)</li> <li>• <b>Malaysia</b> - Board of Engineers Malaysia (2009)</li> <li>• <b>New Zealand</b> - Institution of Professional Engineers NZ (1989)</li> <li>• <b>Pakistan</b> - Pakistan Engineering Council (2017)</li> <li>• <b>Peru</b> - Instituto de Calidad Y Acreditacion de Programas de Computacion, Ingenieria Y Tecnologia (ICACIT) (2018)</li> </ul> | <ul style="list-style-type: none"> <li>• <b>Russia</b> - Association for Engineering Education of Russia (2012)</li> <li>• <b>Singapore</b> - Institution of Engineers Singapore (2006)</li> <li>• <b>South Africa</b> - Engineering Council of South Africa (1999)</li> <li>• <b>Sri Lanka</b> - Institution of Engineers Sri Lanka (2014)</li> <li>• <b>Turkey</b> - MUDEK (2011)</li> <li>• <b>United Kingdom</b> - Engineering Council UK (1989)</li> <li>• <b>United States</b> - Accreditation Board for Engineering and Technology (1989)</li> </ul> |
|--|--|---|

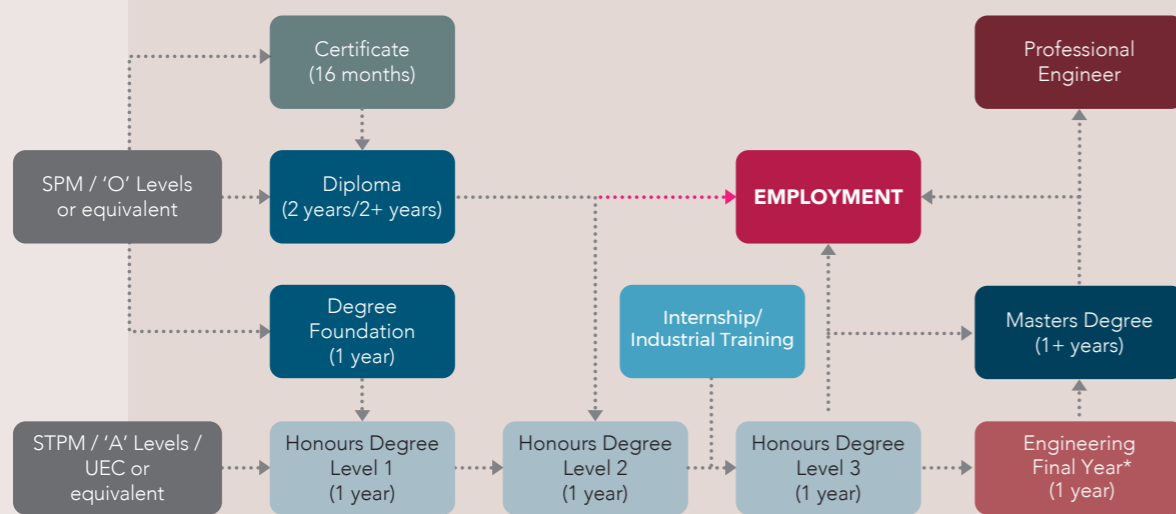
**“Organisations holding provisional status have been identified as having qualification accreditation or recognition procedures that are potentially suitable for the purposes of the Accord; those organisations are further developing those procedures with the goal of achieving signatory status in due course; qualifications accredited or recognised by organisations holding provisional status are not recognised by the signatories”**

<http://www.ieagrements.org/accords/washington/signatories/>

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• <b>Bangladesh</b> - Represented by The Institution of Engineers Bangladesh (IEB)</li> <li>• <b>Costa Rica</b> - Represented by Colegio Federado de Ingenieros y de Arquitectos de Costa Rica (CFIA)</li> <li>• <b>Chile</b> - Represented by Agencia Acreditadora Colegio De Ingenieros De Chile S A (ACREDITA CI)</li> <li>• <b>Mexico</b> - Represented by Consejo de Acreditación de la Enseñanza de la Ingeniería (CACEI)</li> </ul> | <ul style="list-style-type: none"> <li>• <b>Philippines</b> - Represented by Philippine Technological Council (PTC)</li> <li>• <b>Thailand</b> - Represented by Council of Engineers Thailand (COET)</li> <li>• <b>Myanmar</b> - Represented by Myanmar Engineering Council (MEngC)</li> <li>• <b>Indonesia</b> - Represented by Indonesian Accreditation Board for Engineering Education (IABEE)</li> </ul> |
|---|--|

# Pathways & Admission Requirements

## YOUR STUDY PROGRESSION



\*Only applicable for Engineering students

## PATHWAYS & ADMISSION REQUIREMENTS

### BACHELORS (HONS) ENGINEERING DEGREE PROGRAMMES

General Requirements	
<b>DIRECT ENTRY TO LEVEL 1 OF THE DEGREE:</b>	
STPM	- 2 Passes in STPM with a minimum Grade C (GP 2.0) in Mathematics and Physics (or Chemistry), and a Credit in Mathematics and Physics (or Chemistry) at SPM Level or its equivalent.
A-LEVEL	- 2 Passes in A-Level including Mathematics and Physics (or Chemistry), and a Credit in Mathematics and Physics (or Chemistry) at SPM/O-Level/IGCSE or its equivalent.
UEC	- 5 Grade B's in UEC, including Mathematics and Physics (or Chemistry).
MATRICULATION / FOUNDATION	- Passed the relevant Foundation programme (minimum CGPA of 2.0) with a Credit in Mathematics and Physics (or Chemistry) at SPM/O-Level/IGCSE or equivalent.
<b>DIRECT ENTRY TO LEVEL 2 OF THE DEGREE:</b>	
DIPLOMA	- Successful completion of the APU/APIIT Diploma or - Successful completion of studies in another recognised institute with academic credits equivalent to Level 1 of an Honours Degree (Subject to the approval of the APU/APIIT Academic Board)

Any qualification that APU accepts as equivalent to the above.

### ENGLISH REQUIREMENTS (only applicable to International Students)

Programmes	Requirements		
Foundation	• IELTS : 4.0	• TOEFL PBT : 397 • TOEFL IBT : 30-31	• Pearson (PTE) : 30 • MUET : Band 2
Diploma and Bachelor (Hons) Engineering Degree Programmes	• IELTS : 5.0	• TOEFL PBT : 410-413 • TOEFL IBT : 34	• Pearson (PTE) : 36 • MUET : Band 3

Please note that under Ministry of Education regulations, only students who have achieved the minimum requirement in the English Language proficiency assessment as indicated above will be allowed to continue their studies in the main study programme. Students who do not have the required English Language achievement may apply for a student visa on conditional basis and are allowed to enrol in an English Language Certification programme at APU upon arrival in Malaysia and, subsequently, appear for the IELTS/TOEFL/PTE/MUET assessment.

Students who are unable to obtain the required level of English Competency during the maximum 12 months' period, will not be allowed to pursue their studies in the main programme and will have to return to their home country.

Students from English speaking countries and those with qualifications taught in English (IGCSE, A-Levels, IB, American High School Diploma etc) are exempted from English requirements. Applications for exemption must be accompanied by supporting documents.

Note: The above entry requirements may differ for specific programmes based on the latest programme standards published by Malaysian Qualifications Agency (MQA).



# Foundation Programme – Flexibility of Choice

Duration: 1 Year (3 Semesters)

## MODULES YOU STUDY

The modules studied help develop your study skills, introduce you to what you can expect on your degree and also allow you to discover what you can study depending on whether you choose a degree in Accounting, Banking, Finance, Actuarial Studies, Business & Management, Computing & Technology, Engineering, Industrial Design, Animation and Visual Effects.

## ENRICHING EXPERIENCES - MORE THAN JUST A FOUNDATION

The APU Foundation Programme lays the pathway towards professional tertiary education. It is a vital transformation point for students; soft skills, general knowledge and preparatory subject fundamentals acquired at the Foundation lead to excellence in a student's education performance, as well as career-readiness as they move on as global professionals eventually. This is achieved through 4 key areas:

- Leadership & Teamwork
- Problem-Solving Skills
- Social Skills & Responsibilities
- Practical Skills

The unique support system at APU Foundation Programme consist of helpful academic mentors who are committed in ensuring academic achievements, providing pastoral care, advising, mentoring, motivating students' potential and performance, to ensure that they undergo a smooth transition from secondary education to tertiary learning.

SEMESTER 1	COMMON SEMESTER 1				
	• English for Academic Purpose	• Communication Skills	• Personal Development & Study Methods	• Essentials of Web Applications	• Mathematics
ROUTES	BUSINESS & FINANCE	COMPUTING & TECHNOLOGY	ENGINEERING	DESIGN	
SEMESTER 2	<ul style="list-style-type: none"> <li>• Introduction to Business</li> <li>• Fundamental of Finance</li> <li>• Global Business Trends</li> <li>• Public Speaking in English</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to Business</li> <li>• Introduction to Computer Architecture &amp; Networking</li> <li>• Introduction to Visual &amp; Interactive Programming</li> <li>• Perspectives in Technology</li> <li>• Public Speaking in English</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to Business</li> <li>• Introduction to Visual &amp; Interactive Programming</li> <li>• Engineering Mathematics</li> <li>• Public Speaking in English</li> </ul>	<ul style="list-style-type: none"> <li>• Imaging/Production Skills for Design</li> <li>• Major Project 1</li> <li>• Design Theory and Practice 1</li> <li>• Public Speaking in English</li> </ul>	
SEMESTER 3	<ul style="list-style-type: none"> <li>• Academic Research Skills</li> <li>• Principles of Accounts</li> <li>• Economics for Business</li> <li>• Perspectives in Technology / Further Mathematics**</li> <li>• Co-Curricular</li> </ul>	<ul style="list-style-type: none"> <li>• Academic Research Skills</li> <li>• Further Mathematics</li> <li>• Introduction to Multimedia Applications</li> <li>• Perspectives in Technology</li> <li>• Co-Curricular</li> </ul>	<ul style="list-style-type: none"> <li>• Academic Research Skills</li> <li>• Mechanical Science</li> <li>• Engineering Science</li> <li>• Electrical and Electronic Principles</li> <li>• Co-Curricular</li> </ul>	<ul style="list-style-type: none"> <li>• Academic Research Skills</li> <li>• History of Design and Media</li> <li>• Major Project 2</li> <li>• Design Theory and Practice 2</li> <li>• Co-Curricular</li> </ul>	
You may then proceed to Level 1 of a Degree of your choice in the following pathways					
PRIMARY PATHWAYS	<ul style="list-style-type: none"> <li>- Business &amp; Management</li> <li>- Accounting, Finance, Banking &amp; Actuarial Studies</li> <li>- Media &amp; Communications</li> </ul>	<ul style="list-style-type: none"> <li>- Computing &amp; Technology</li> </ul>	<ul style="list-style-type: none"> <li>- Engineering</li> </ul>	<ul style="list-style-type: none"> <li>- Industrial Design, Visual Effects, Animation &amp; Digital Advertising</li> </ul>	
SECONDARY PATHWAYS	<ul style="list-style-type: none"> <li>- Computing &amp; Technology</li> <li>- Industrial Design, Visual Effects, Animation &amp; Digital Advertising- International Relations</li> </ul> <p>Students may also choose the following:</p>	<ul style="list-style-type: none"> <li>- Business &amp; Management</li> <li>- Accounting, Finance, Banking &amp; Actuarial Studies</li> <li>- Industrial Design, Visual Effects, Animation &amp; Digital Advertising</li> <li>- International Relations</li> <li>- Media &amp; Communications</li> </ul>	<ul style="list-style-type: none"> <li>- Computing &amp; Technology</li> <li>- Accounting, Finance, Banking &amp; Actuarial Studies</li> <li>- Business &amp; Management</li> <li>- Industrial Design, Visual Effects, Animation &amp; Digital Advertising</li> <li>- International Relations</li> <li>- Media &amp; Communications</li> </ul>	<ul style="list-style-type: none"> <li>- Computing &amp; Technology</li> <li>- Accounting, Finance, Banking &amp; Actuarial Studies</li> <li>- Business &amp; Management</li> <li>- International Relations</li> <li>- Media &amp; Communications</li> </ul>	

## YOUR FOUNDATION PATHWAY TO A DEGREE OF YOUR CHOICE

(Please refer to individual course brochure for details and admission requirements.)

### CREDIT / GRADE C in SPM / O-Level is required in:

Mathematics

Leading from APU Foundation to your Choice of Degree Studies; please note that a Credit Pass in Mathematics at SPM / O-Level is required for the following programmes:

#### Computing, Technology & Games Development

- BSc (Hons) in Information Technology
- BSc (Hons) in Information Technology with a specialism in
  - Information Systems Security
  - Cloud Computing
  - Network Computing
  - Mobile Technology
  - Internet of Things (IoT)
  - Financial Technology (FinTech)
  - Business Information Systems
- BSc (Hons) in Computer Science\*
- BSc (Hons) in Computer Science with a specialism in
  - Data Analytics\*
  - Digital Forensics\*
- BSc (Hons) in Computer Science (Cyber Security)
- BSc (Hons) in Software Engineering\*
- Bachelor of Computer Science (Hons) (Intelligent Systems)\*
- BSc (Hons) in Multimedia Technology\*
- BSc (Hons) in Multimedia Technology with a specialism in VR/AR\*
- BSc (Hons) in Computer Games Development

#### Accounting, Banking, Finance & Actuarial

- BA (Hons) in Accounting and Finance
- BA (Hons) in Accounting and Finance with a specialism in Forensic Accounting
- BA (Hons) in Accounting and Finance with a specialism in Taxation
- BA (Hons) in Accounting and Finance with a specialism in Forex and Investments
- BA (Hons) in Accounting and Finance with a specialism in Internal Audit
- Bachelor in Banking and Finance (Hons)
- Bachelor in Banking and Finance (Hons) with a specialism in Investment and Risk Management
- Bachelor in Banking and Finance (Hons) with a specialism in Financial Technology
- Bachelor of Science (Honours) in Actuarial Studies

### CREDIT / GRADE C in SPM / O-Level is required in:

Mathematics

Physics OR Chemistry OR Technical Science

Leading from APU Foundation to your Choice of Degree Studies; please note that a Credit Pass in Mathematics and Physics OR Chemistry at SPM / O-Level is required for the following programmes:

#### Engineering

- Bachelor of Engineering in Electrical & Electronic Engineering with Honours
- Bachelor of Engineering in Telecommunication Engineering with Honours
- Bachelor of Engineering in Mechatronic Engineering with Honours
- Bachelor of Computer Engineering with Honours
- Bachelor of Petroleum Engineering with Honours

Leading from APU Foundation to your Choice of Degree Studies:

#### Business, Management, Marketing, Media, Tourism & International Relations

- BA (Hons) in Business Management
- BA (Hons) in Business Management with a specialism in E-Business
- BA (Hons) Human Resource Management
- BA (Hons) in International Business Management
- BA (Hons) in Marketing Management
- BA (Hons) in Marketing Management with a specialism in Digital Marketing
- Bachelor of Arts (Honours) in Media and Communication Studies
- BA (Hons) in International Relations
- BA (Hons) in Tourism Management

#### Industrial Design, Animation & Visual Effects

- BA (Hons) in Industrial Design
- BA (Hons) in Visual Effects
- BA (Hons) in Animation
- BA (Hons) in Digital Advertising

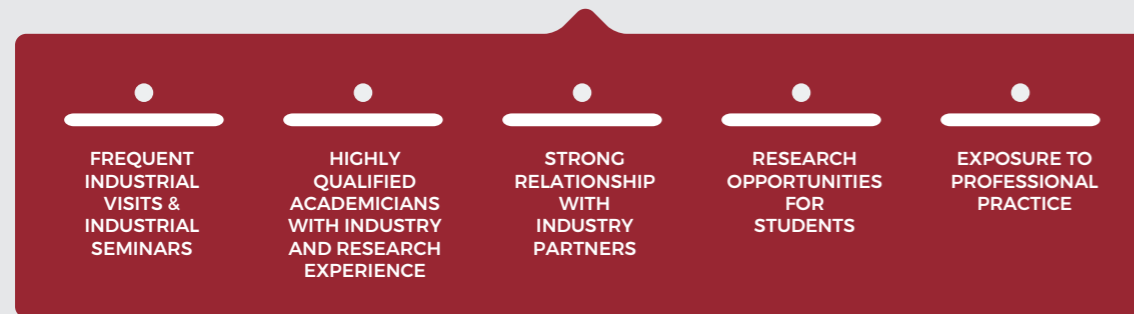


\* Student who choose to progress to BSc (Hons) in Software Engineering, BSc (Hons) in Computer Science, Bachelor of Computer Science (Hons) (Intelligent Systems) or BSc (Hons) in Computer Science (Cyber Security) will require Foundation from Computing & Technology route or Engineering route if the student do not have a credit in Additional Mathematics at SPM / IGCSE / O-Level OR do not have a credit in Mathematics and Science subject at SPM / IGCSE / O-Level.

\*\* Compulsory for Student who choose to progress to Bachelor of Science (Honours) in Actuarial Studies.

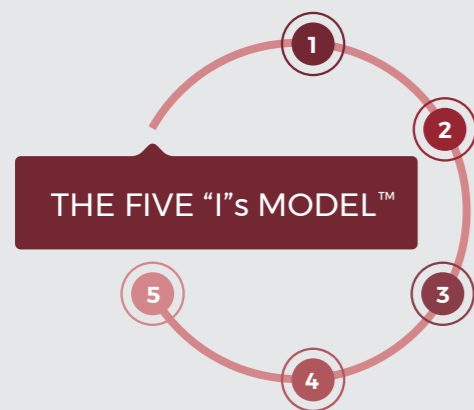


# Engineering @ APU



## THE AIMS OF THE APU ENGINEERING PROGRAMMES ARE TO OFFER:

- A broad education in the fundamentals of engineering principles and professional practices that form a strong flexible base which enables graduates to fill a variety of responsible engineering positions
- Specialised development in one area of concentration that will enable graduates to successfully perform at entry-level engineering positions. Some graduates will prefer and be capable of continuing their education in a graduate school
- A stimulating and accessible course of study necessary to understand the impact of engineering solutions in a global and social context, analysis and contemporary engineering issues which the students can develop and apply in their near future
- An opportunity for students with different abilities and different educational experiences to benefit intellectually and vocationally from their education in engineering courses
- Graduates who are able to demonstrate intelligence, ingenuity, inventiveness and independence in all areas of endeavour
- An intellectually demanding and stimulating programme of study and develop a life-long commitment to learning that develops graduates who are imaginative and innovative and who show initiative and creativity in their work APU Engineering Degrees are accredited by the Board of Engineers Malaysia (BEM).



- 1: INNOVATION**  
through the design of curriculum, the module content and the learning approaches
- 2: INTEGRATION**  
through developing your capabilities to interrelate knowledge and to work in multidisciplinary teams
- 3: INFORMATION**  
through developing your knowledge and also your abilities to communicate effectively and persuasively
- 4: INTERACTIVITY**  
through the use of group work to develop your teamwork skills and through the use of technology to achieve interactivity of devices and people
- 5: IMAGINATION**  
in relation to new products, ideas, applications and solutions

# Engineering Programmes

## Bachelor of Engineering in Electrical & Electronic Engineering with Honours

An Electrical or Electronic Engineer maybe responsible for research, design, development, manufacturing and management of complex hardware and software systems and reliable, cost effective devices, many involving the use of new information and computer intensive technologies. These include:

- Integrated electronic systems
- Renewable energy systems
- Generation, transmission and distribution of electrical power
- Instrumentation in electrical and electronic systems
- Manufacturing
- Microelectronics
- Photoelectronics

## Bachelor of Engineering in Mechatronic Engineering with Honours

Mechatronic Engineering is concerned with the creation, design and building of intelligent machines. This new breed of engineer has to master skills in mechanical, electronic and computer engineering and work in a hybrid manner, meeting an ever-increasing need in industry where complexity of projects is rising and resources are limited. The main areas of activity are:

- Fundamental design and build - ways of embedding intelligence and interfacing to the real world
- Process control - plant condition monitoring and control
- Advance robotics and intelligent Machines
- Image Processing and collision avoidance
- Industrial system such as CIM system, CAD/CAM system
- Design and develop a Mechatronics system

## Bachelor of Engineering in Telecommunication Engineering with Honours

Telecommunication Engineers design, develop, test and maintain telecommunication systems to ensure fast and steady transmission and reception of information. Telecommunication engineering will appeal to those who are interested in the following field:

- Satellite and mobile communication
- Signal processing
- Optical fibres and photonics
- Real-time embedded systems
- Data networks, data coding, compression, encryption and transmission
- Microwave & RF Communications

## Bachelor of Computer Engineering with Honours

Computer engineering has emerged as a driving force addressing numerous global demands like smart grids, cognitive buildings, energy management and the likes. Operating platforms for more and more applications have been migrating to the cloud in recent days. Bridging the gap between hardware and software, are Computer Engineers, advancing computer technology towards transforming more and more of these cyber dreams into realities. Some of the areas covered in this major are:

- Digital Logic Design
- Computer Networks
- Embedded and Desktop Operating Systems
- Microcontroller Selection and Programming
- Signal Processing

## Bachelor of Petroleum Engineering with Honours

Petroleum engineers travel to where petroleum reservoirs are known to exist. They define and develop the reservoirs, and produce oil and gas with maximum profitable recovery. Petroleum engineering allows one to specialize in several different oil & gas specialties, each with its own unique challenges and rewards. The careers and job activity areas are as a:

- Drilling engineer, working with geologists and contractors in designing and supervising drilling operations.
- Production engineer, developing processes and equipment to optimize oil and gas production.
- Reservoir engineer and help determine ideal recovery processes, estimate the number of wells that can be economically drilled, and simulate future performance using sophisticated computer models.
- Manager, an entrepreneur, economist, or environmental/safety specialist.



## PROGRAMME EDUCATIONAL OBJECTIVES

PEO	ELECTRICAL AND ELECTRONIC ENGINEERING (EEE)	MECHATRONIC ENGINEERING (ME)	TELE-COMMUNICATION ENGINEERING (TE)	COMPUTER ENGINEERING (CE)	PETROLEUM ENGINEERING (PE)
PEO1	Be a practicing engineer contributing to the development of Electrical or Electronic Engineering while demonstrating professionalism.	Be a practicing engineer contributing to the development of Mechatronic Engineering while demonstrating professionalism.	Be a practicing engineer contributing to the development of Telecommunication or Electronic Engineering while demonstrating professionalism.	Be a practicing engineer contributing to the development of Computer or Electronic Engineering while demonstrating professionalism.	Be a practicing engineer contributing to the development of Petroleum Engineering while demonstrating professionalism.
PEO2	Pursue engineering innovation via career advancement opportunities and/or advanced studies in Electrical or Electronic Engineering.	Pursue engineering innovation via career advancement opportunities and/or advanced studies in Mechatronic Engineering.	Pursue engineering innovation via career advancement opportunities and/or advanced studies in Telecommunication or Electronic Engineering.	Pursue engineering innovation via career advancement opportunities and/or advanced studies in Computer or Electronic Engineering.	Pursue engineering innovation via career advancement opportunities and/or advanced studies in Petroleum Engineering.

## PROGRAMME OUTCOMES

The students, upon completion of their study, should attain the following outcomes:

- PO1 - Ability to gain and apply principles of Mathematics, Science and Engineering to the solutions of complex engineering problems.
- PO2 - Ability to undertake complex engineering problem analysis and apply engineering principles to solve them.
- PO3 - Ability to select and use suitable tools and techniques for complex engineering problems.
- PO4 - Ability to investigate complex engineering problems using research techniques.
- PO5 - Ability to design innovative solutions for complex engineering problems.
- PO6 - Ability to communicate effectively and professionally on complex engineering activities.
- PO7 - Ability to comprehend and demonstrate good practices of engineering in sustainable development and environmental considerations for the solutions of complex engineering problems.
- PO8 - Ability to engage in professional engineering practice for safety, health, social, cultural and legal responsibilities in developing solutions for complex engineering problems.
- PO9 - Ability to execute the responsibilities of an Engineer professionally and ethically.
- PO10 - Ability to function effectively as a team leader or a member in a team within multi-disciplinary settings.
- PO11 - Ability to recognize the need for, and be able to engage in independent and life-long learning towards continuous professional development.
- PO12 - Ability to demonstrate entrepreneurship skills, engineering project management and economic decision making in multidisciplinary environments.

# Collaborative Industrial Partners



The School of Engineering at APU is very active in pursuing collaborative partnership with industries with an aim to expose students to professional engineering practices as early as possible in their studies and to provide students opportunities to solve real-world engineering problems as a form of grooming for engineering careers upon graduation. The School of Engineering has been collaborating with industries on two fronts, i.e. to work with professional and industrial institutions, and with multinational corporations and small & medium enterprises (SMEs).

On collaboration with professional institutions, the School of Engineering collaborate closely with the Institution of Engineers Malaysia (IEM). Since then, IEM has been very supportive on all activities organised by the IEM-APU Student Section (IASS) via funding and provision of expertise on technical talks, seminars and workshops. All engineering students are also highly encouraged to participate in IEM activities as Student Member of the institute. The strong ties with IEM has provided students an early appreciation of the roles of engineers and the challenges ahead. For 4 consecutive years, our Final Year students were awarded the IEM Gold Medal Award in which their excellence and outstanding performance were highly recognised by IEM and the members of the industry.

The School of Engineering has also established a MOU with Malaysia Automation Technology Association (MATA) with an aim to expose students to automation technologies via internships, workshops, technical talks and opportunities to work on final-year projects at member companies of MATA. The partnership with MATA has been going from strength-to-strength since 2014, with the successful launch of Automation Technology Day both in 2015 and 2016. The event has provided students great opportunities to seek employment and internship with some of the MATA member companies such as Schneider Electric, Siemens, Festo, Omron, among others. In addition, students also benefitted from the technical talks on Industrial 4.0, Internet of Things (IoT) and workshops on PLC & Pneumatics etc.

The School of Engineering also champions industrial collaboration with companies, be it multinational corporations or SMEs. The companies typically provide final-year project (FYP) titles for qualified 4th Year students to work on. A number of projects have been initiated and completed successfully with companies such as Top Glove, ABB, Daikin R&D, Mawea Industries, ERL Maintenance Support, Signal Transmission, among others. In addition, many such projects resulted from the proactive efforts of the lecturers in establishing Memorandum of Agreements (MOAs) with companies. All these have resulted in a win-win situation whereby companies benefit from the outcome of the research and development efforts while students are able to solve real-work complex engineering problems by leveraging on resources and expertise from the industries.



Our Engineering students won the APICTA Malaysia award, which is also known as the 'Oscars of ICT'.

Our Final Year Engineering students have attained the IEM Gold Medal for 6 consecutive years.

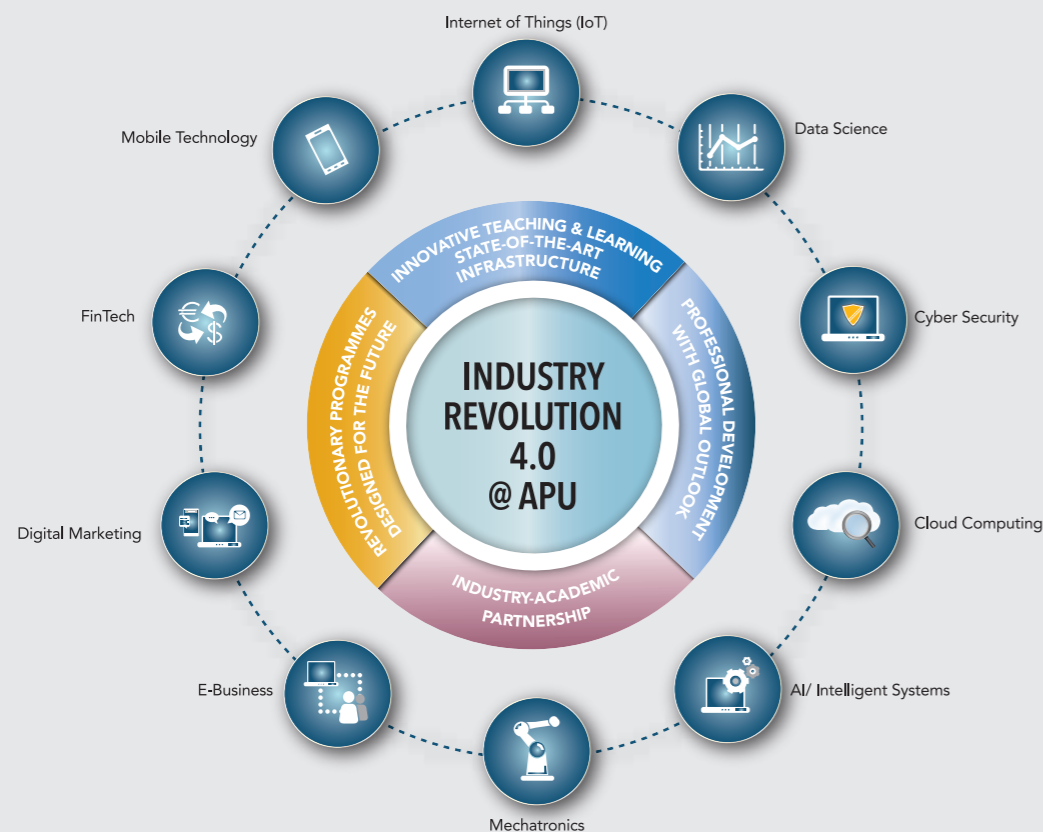


# Embracing the wave of Industry Revolution 4.0

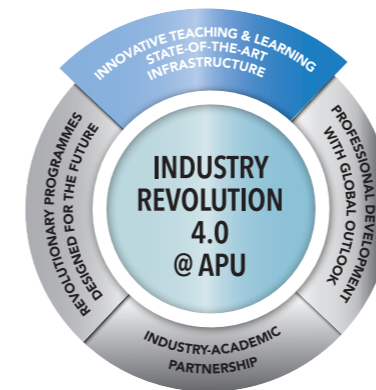
## FUTURE-PROOFING THE WORKFORCE OF THE FUTURE

New waves of technological disruptions and the emergence of advanced technologies have resulted in the Fourth Industrial Revolution (Industry 4.0), where Robotics, Artificial Intelligence (AI), Machine Learning, Virtual Reality (VR), Cloud Computing, Data Science are going to transform the way businesses operate - routine, mundane jobs will be replaced and there is a growing need to develop "smarter" talents that can ride along the wave of digital transformation.

At APU, we developed our own IR 4.0 strategy to prepare our students to join the workforce of the future. We nurture the world's future innovators and uphold our Vision as a University of Technology and Innovation.

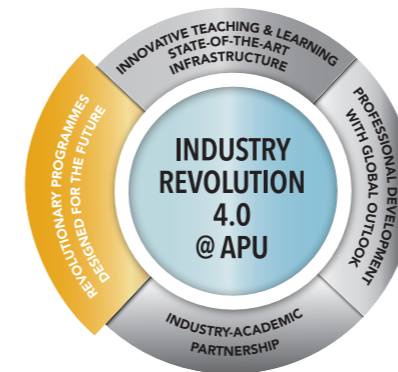


## INDUSTRY REVOLUTION 4.0 @ APU



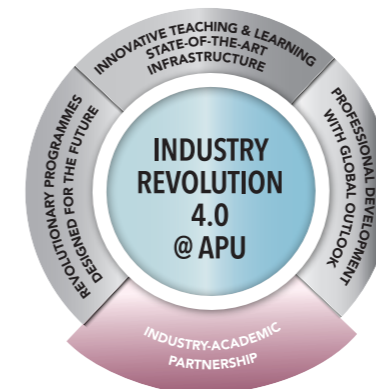
### INNOVATIVE TEACHING & LEARNING STATE-OF-THE-ART INFRASTRUCTURE

In the era of Industry 4.0, learning is no longer confined within the classroom. Our iconic campus houses world-class facilities that aim to nurture Creativity & Innovation. Industrial-grade infrastructure are built to provide real-life exposure to our students, cultivating their practical skills aside from academic knowledge. We have also redesigned our teaching & learning methods to stimulate critical thinking, decision making, teamwork and build confidence.



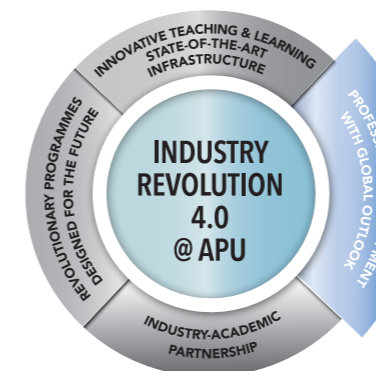
### REVOLUTIONARY PROGRAMMES DESIGNED FOR THE FUTURE

New technologies mean new expertise, while this translates into a new need of talents in new areas. We address the needs of the industry, to help to build talents who can manage, operate and innovate under the new IR 4.0 environment, by carefully designing new programmes of the future. Our programmes are first-of-its-kind, such as in Cyber Security, Data Science, Internet of Things (IoT), Intelligent Systems, Financial Technology (FinTech), Digital Marketing, E-Business, Mechatronics, Cloud Computing and more.



### INDUSTRY-ACADEMIC PARTNERSHIP

Industry 4.0 is all about the "industry". Our close relationship with our industry partners allows students to be exposed to real-life case studies, enabling them to formulate innovative solutions even before they graduate. Innovative accelerators such as GrowthX Academy and Supercharger create a platform for students to realize their world-changing ideas, inspiring them to build startups and develop world-changing solutions.



### PROFESSIONAL DEVELOPMENT WITH GLOBAL OUTLOOK

Communication skills, professionalism and cultural sensitivity are 'people' element skills that cannot be replaced by machines and automation. Under our unique formula to nurture professionalism, we create an ecosystem that simulates the workplace on-campus. Global outlook, international understanding and respect are nurtured through continuous immersion in multicultural discourse, as our campus houses a community of 12,000 students from over 130 countries.



## Bachelor of Engineering in **ELECTRICAL & ELECTRONIC ENGINEERING** with Honours

(R2/522/6/0060)(02/22)(MQA/FA4013)

### At a glance

#### Duration:

4 years full-time

#### This programme is specifically designed to provide students with:

- High-quality undergraduate engineering education by providing students with a curriculum that is firmly grounded in electrical & electronic engineering fundamentals.
- A study in both the areas of electronics fundamentals as well as electrical power systems including the areas of generation, transmission and distribution of electrical energy.

#### Career options

- Electrical Engineer
- Power Engineer
- Design Engineer
- Product Engineer
- Electronics Engineer
- QA/QC Engineer
- Sales Engineer
- Support Engineer
- R&D Engineer
- Power Plant Engineer
- Optical Engineer
- Transmission Engineer



#### YEAR 1

Students will understand the basic principles of engineering in the areas of Circuit Analysis, Engineering Materials, Engineering Statics & Dynamics and Engineering Design. Other modules aim to provide the basic academic skills required to meet the demands of employers, as well as thorough grounding in principles of IT and management. Important and relevant skills for managing activities and for their own independent learning are also introduced.

#### YEAR 2

Here, students start specialising in modules that develop the necessary underlying knowledge and skills in Electrical & Electronic Engineering with modules such as Analogue Electronics, Digital Electronics, Electromagnetic Field Theory, Engineering Software & Applications and Signals and Linear Systems. Engineering Mathematics is provided for the better understanding of the engineering modules.

#### YEAR 3

Specialised knowledge and skills in the areas of Control Engineering, Computer Architecture, Communication Engineering Principles, Numerical Methods and Statistics, Microprocessor Systems & Embedded Software, Digital Signal Processing, Generation, Transmission and Distribution of Electrical Power, PLC & Pneumatic Systems and Power Electronics & Drives are the critical focus of this level. There is further development of the ability to apply relevant engineering skills with strong critical thinking and analysis. Independent learning continues in all modules.

#### INTERNSHIP

Students will undertake an Internship/Industrial Training for a minimum period of 16 weeks to prepare them for a smooth transition from the classroom to the working environment.

#### YEAR 4

The final year Engineering modules provide the necessary industry application and technological skills which become very useful for employment upon graduation. Students' personal and professional development, technical capability and understanding of how to innovate, generate and manage the creation of new ideas will be enhanced. Students will deliver several Engineering Projects where they will demonstrate higher level critical thinking, analysis and solutions development skills which will enhance their employability.

(\*All students are required to successfully complete these modules as stipulated by the Malaysian Qualification Agency)

### Module outline

#### YEAR 1

##### Common Modules

- Analysis of Circuits
- Instrumentation & Measurement
- Introduction to Management
- Engineering Mathematics 1
- Engineering Mathematics 2
- Introduction to C Programming
- Industry 4.0
- Engineering Materials
- Engineering Design
- Engineering Statics & Dynamics

#### YEAR 2

##### Common Modules

- Analogue Electronics
- Digital Electronics
- Engineering Mathematics 3
- Electromagnetic Field Theory
- Engineering Software & Applications
- Signals and Linear Systems

##### Specialised Modules

- Electrical Machines 1
- Electrical Machines 2
- Electrical Power Utilization
- Sensors & Actuators

#### YEAR 3

##### Common Modules

- Control Engineering
- Computer Architecture
- Communication Engineering Principles
- Numerical Methods & Statistics
- Microprocessor Systems & Embedded Software
- Digital Signal Processing
- Engineering Project Management

##### Specialised Modules

- Generation, Transmission & Distribution of Electrical Power
- PLC & Pneumatic Systems
- Power Electronics & Drives

#### INTERNSHIP (16 weeks)

#### YEAR 4

##### Common Modules

- Project Phase 1 (Investigation)
- Project Phase 2 (Implementation)
- Group Design Project
- Engineer in Society

##### Specialised Modules

- Analogue Integrated Circuits and Systems
- Power System Analysis
- High Voltage Engineering

##### Elective Modules (Choose 2)

- Switchgears & Protection
- Renewable Energy
- Optical Communication & Network
- Product Creation Technology

##### MQA Compulsory Subjects\*

- Ethnic Relations (M'sian Students)
- Islamic & Asian Civilisation (M'sian Students)
- Malaysian Studies (Int'l Students)
- Malay Communication Language (Int'l Students)
- Workplace Professional Communication Skills
- Employee & Employment Trends
- Co-Curriculum



## Bachelor of Engineering in **TELECOMMUNICATION ENGINEERING** with Honours

(R2/523/6/0116)(02/22)(MQA/FA4014)

### At a glance

#### Duration:

4 years full-time

#### This programme is specifically designed to provide students with:

- High-quality undergraduate engineering education by providing students with a curriculum that is firmly grounded in telecommunication engineering fundamentals.
- A study in the areas of telecommunication engineering which covers the structure of mobile computing systems, telecommunication systems & networks, and software systems.
- The technical skills to cover the ever demanding expertise in the fields of microwave and optical Transmission, satellite communications and RF communications.

#### Career options

- RF Engineer
- Network Engineer
- Test Engineer
- Electronics Engineer
- Sales Engineer
- Product Engineer
- Support Engineer
- R&D Engineer
- Infrastructure / Utility Engineer
- Optical Engineer
- Telecommunication Engineer



#### YEAR 1

Students will understand the basic principles of engineering in the areas of Circuit Analysis, Engineering Materials, Instrumentation & Measurement and Engineering Design. Other modules aim to provide the basic academic skills required to meet the demands of employers, as well as thorough grounding in principles of IT and management. Important and relevant skills for managing activities and for their own independent learning are also introduced.

#### YEAR 2

Here, students start specialising in modules that develop the necessary underlying knowledge and skills in Telecommunication Engineering with modules such as Electromagnetic Field Theory, Engineering Software & Applications, Analogue Electronics, Digital Electronics, Analogue Communication, Digital Communication, Introduction to Electrical Systems, Signals & Linear Systems and more. Engineering Mathematics is provided for the better understanding of the engineering modules.

#### YEAR 3

Specialised knowledge and skills in the areas of Control Engineering, Computer Architecture, Microprocessor Systems & Embedded Software, Digital Signal Processing, VLSI Design, Numerical Methods and Statistics, Antenna & Propagation, Machine Vision & Intelligence and Modern Communication Systems are the critical focus of this level. There is further development of the ability to apply relevant engineering skills with strong critical thinking and analysis. Independent learning continues in all modules.

#### INTERNSHIP

Students will undertake an Internship/Industrial Training for a minimum period of 16 weeks to prepare them for a smooth transition from the classroom to the working environment.

#### YEAR 4

The final year Engineering modules provide the necessary industry application and technological skills which become very useful for employment upon graduation. Students' personal and professional development, technical capability and understanding of how to innovate, generate and manage the creation of new ideas will be enhanced. Students will deliver several Engineering Projects where they will demonstrate higher level critical thinking, analysis and solutions development skills which will enhance their employability.

(\*All students are required to successfully complete these modules as stipulated by the Malaysian Qualification Agency)

### Module outline

#### YEAR 1

##### Common Modules

- Analysis of Circuits
- Instrumentation & Measurement
- Introduction to Management
- Engineering Mathematics 1
- Engineering Mathematics 2
- Introduction to C Programming
- Industry 4.0
- Engineering Materials
- Engineering Design

##### Specialised Modules

- Introduction to Networking

#### YEAR 2

##### Common Modules

- Analogue Electronics
- Digital Electronics
- Introduction to Electrical Systems
- Engineering Mathematics 3
- Electromagnetic Field Theory
- Engineering Software & Applications
- Signals and Linear Systems

##### Specialised Modules

- Human Computer Interaction
- Analogue Communication
- Digital Communication

#### YEAR 3

##### Common Modules

- Control Engineering
- Computer Architecture
- VLSI Design
- Numerical Methods & Statistics
- Microprocessor Systems & Embedded Software
- Digital Signal Processing
- Engineering Project Management

##### Specialised Modules

- Antenna & Propagation
- Machine Vision & Intelligence
- Modern Communication System

#### INTERNSHIP (16 weeks)

#### YEAR 4

##### Common Modules

- Project Phase 1 (Investigation)
- Project Phase 2 (Implementation)
- Group Design Project
- Engineer in Society

##### Specialised Modules

- Analogue Integrated Circuits and Systems
- Optical Communications & Networks
- Microwave & RF Communication

##### Elective Modules (Choose 2)

- Cloud Infrastructure & Services
- Distributed Computer Systems
- Internet of Things: Concepts & Applications
- Computer Systems Security
- Satellite & Mobile Communication
- Renewable Energy
- Product Creation Technology

##### MQA Compulsory Subjects\*

- Ethnic Relations (M'sian Students)
- Islamic & Asian Civilisation (M'sian Students)
- Malaysian Studies (Int'l Students)
- Malay Communication Language (Int'l Students)
- Workplace Professional Communication Skills
- Employee & Employment Trends
- Co-Curriculum





## Bachelor of Engineering in **MECHATRONIC ENGINEERING** with Honours

(R2/523/6/0191)(02/22)(MQA/FA4084)

### At a glance

#### Duration:

4 years full-time

#### This programme is specifically designed to provide students with:

- High-quality undergraduate engineering education by providing students with a curriculum that is firmly grounded in Mechatronic engineering fundamentals.
- A study of basic engineering sciences and fundamentals of mechanical, electrical, electronics and computer engineering. Students will be able to integrate these four disciplines.
- The technical skills to design, analyse and test "intelligent" products or processes that incorporate suitable controller, sensor and mechatronic devices for robotics and automation.

#### Career options

- Automation Engineer
- Mechatronic Engineer
- Mechanical Engineer
- Service Engineer
- QA/QC Engineer
- Sales Engineer
- Support Engineer
- R&D Engineer
- Manufacturing Engineer
- IoT Engineer
- Robotics Engineer
- Plant Engineer
- Design Engineer



#### YEAR 1

Students will understand the basic principles of engineering in the areas of Circuit Analysis, Engineering Materials, Instrumentation & Measurement and Engineering Design. Other modules aim to provide the basic academic skills required to meet the demands of employers, as well as thorough grounding in principles of IT and management. Important and relevant skills for managing activities and for their own independent learning are also introduced.

#### YEAR 2

Here, students start specialising in modules that develop the necessary underlying knowledge and skills in Mechatronic Engineering with modules such as Analogue Electronics, Digital Electronics, Introduction to Electrical Systems, Electromagnetic Field Theory, Engineering Software & Applications, Signals and Linear Systems, Strength of Materials, Robotics Technology and Sensor & Actuators. Engineering Mathematics is provided for the better understanding of the engineering modules.

#### YEAR 3

Specialised knowledge and skills in the areas of Control Engineering, Communication Engineering Principles, Numerical Methods & Statistics, Microprocessor Systems & Embedded Software, Machine Design, Fluid Mechanics, PLC & Pneumatic System and Machine Vision & Intelligence are the critical focus of this level. This is a further development of the ability to apply relevant engineering skills with strong critical thinking and analysis. Independent learning continues in all modules.

#### INTERNSHIP

Students will undertake an Internship/Industrial Training for a minimum period of 16 weeks to prepare them for a smooth transition from the classroom to the working environment.

#### YEAR 4

The final year Engineering modules provide the necessary industry application and technological skills which become very useful for employment upon graduation. Students' personal and professional development, technical capability and understanding of how to innovate, generate and manage the creation of new ideas will be enhanced. Students will deliver several Engineering Projects where they will demonstrate higher level critical thinking, analysis and solutions development skills which will enhance their employability.

(\*All students are required to successfully complete these modules as stipulated by the Malaysian Qualification Agency)

### Module outline

#### YEAR 1

##### Common Modules

- Analysis of Circuits
- Instrumentation & Measurement
- Introduction to Management
- Engineering Mathematics 1
- Engineering Mathematics 2
- Introduction to C Programming
- Industry 4.0
- Engineering Materials
- Engineering Design
- Engineering Statics & Dynamics

#### YEAR 2

##### Common Modules

- Analogue Electronics
- Digital Electronics
- Introduction to Electrical Systems
- Engineering Mathematics 3
- Electromagnetic Field Theory
- Engineering Software & Applications
- Signals and Linear Systems

##### Specialised Modules

- Strength of Material
- Robotics Technology
- Sensors & Actuators

#### YEAR 3

##### Common Modules

- Control Engineering
- Communication Engineering Principles
- Numerical Methods & Statistics
- Microprocessor Systems & Embedded Software
- Engineering Project Management

##### Specialised Modules

- Machine Design
- Fluid Mechanics
- PLC & Pneumatics Systems
- Machine Vision & Intelligence

##### Elective Modules (Choose 1)

- Digital Signal Processing
- Power Electronics & Drives

#### INTERNSHIP (16 weeks)

#### YEAR 4

##### Common Modules

- Project Phase 1 (Investigation)
- Project Phase 2 (Implementation)
- Group Design Project
- Engineer in Society

##### Specialised Modules

- Analogue Integrated Circuits & Systems
- CAD/CAM
- Thermodynamics & Heat Transfer
- Product Creation Technology

##### Elective Modules (Choose 1)

- Cloud Infrastructure & Services
- Internet of Things: Concepts & Applications

##### MQA Compulsory Subjects\*

- Ethnic Relations (M'sian Students)
- Islamic & Asian Civilisation (M'sian Students)
- Malaysian Studies (Int'l Students)
- Malay Communication Language (Int'l Students)
- Workplace Professional Communication Skills
- Employee & Employment Trends
- Co-Curriculum



## Bachelor of **COMPUTER ENGINEERING** with Honours

(R/523/6/0190)(02/22)(MQA/FA5127)

### At a glance

#### Duration:

4 years full-time

#### This programme is specifically designed to provide students with:

- High-quality undergraduate engineering education by providing students with a curriculum that is firmly grounded in Computer engineering fundamentals.
- A study in the area of computer engineering which covers networking, database management, security systems, cloud infrastructure and data analytics.

#### Career options

- Computer Systems Engineer
- Computer System Analysts
- Computer Network Architect
- Computer Hardware Engineer
- Database Administrator
- Programmer
- IT Engineer
- Application Engineer
- Support Engineer
- Electronics Engineer



#### YEAR 1

Students will understand the basic principles of engineering in the areas of Circuit Analysis, Instrumentation & Measurement, C Programming, Industry 4.0, Engineering Materials, Software Development and Networking. Other modules aim to provide the basic demands of employers, as well as thorough grounding in principles of IT and management. Important and relevant skills for managing activities and for their own independent learning are also introduced.

#### YEAR 2

Here, students start specialising in modules that develop the necessary underlying knowledge and skills in Computer Engineering with modules such as Electromagnetic Field Theory, Engineering Software & Applications, Analogue Electronics, Digital Electronics, Signals & Linear Systems, Introduction to Electrical Systems, Object Oriented Development with Java, Programming Concepts in C++ and Human Computer Interaction. Engineering Mathematics is provided for better understanding of the engineering modules.

#### YEAR 3

Specialised knowledge and skills in the areas of Control Engineering, Computer Architecture, Communication Engineering Principles, VLSI Design, Numerical Methods & Statistics, Microprocessor Systems and Embedded Software, Digital Signal Processing, Modern Communication Systems and Machine Vision & Intelligence are the critical focus of this level. There is further development of the ability to apply relevant engineering skills with strong critical thinking and analysis. Independent learning continues in all modules.

#### INTERNSHIP

Students will undertake an Internship/Industrial Training for a minimum period of 16 weeks to prepare them for a smooth transition from the classroom to the working environment.

#### YEAR 4

The final year Engineering modules provide the necessary industry application and technological skills which become very useful for employment upon graduation. Students' personal and professional development, technical capability and understanding of how to innovate, generate and manage the creation of new ideas will be enhanced. Students will deliver several Engineering Projects where they will demonstrate higher level critical thinking, analysis and solutions development skills which will enhance their employability.

(\*All students are required to successfully complete these modules as stipulated by the Malaysian Qualification Agency)

### Module outline

#### YEAR 1

##### Common Modules

- Analysis of Circuits
- Instrumentation & Measurement
- Introduction to Management
- Engineering Mathematics 1
- Engineering Mathematics 2
- Introduction to C Programming
- Industry 4.0
- Engineering Materials

##### Specialised Modules

- Fundamentals of Software Development
- Introduction to Networking

#### YEAR 2

##### Common Modules

- Analogue Electronics
- Digital Electronics
- Introduction to Electrical Systems
- Engineering Mathematics 3
- Electromagnetic Field Theory
- Engineering Software & Applications
- Signals & Linear Systems

##### Specialised Modules

- Human Computer Interaction
- Object Oriented Development with Java
- Programming Concepts in C++

#### YEAR 3

##### Common Modules

- Control Engineering
- Computer Architecture
- Communication Engineering Principles
- VLSI Design
- Numerical Methods & Statistics
- Microprocessor Systems and Embedded Software
- Digital Signal Processing
- Engineering Project Management

##### Specialised Modules

- Modern Communication Systems
- Machine Vision & Intelligence

#### INTERNSHIP (16 weeks)

#### YEAR 4

##### Common Modules

- Project Phase 1 (Investigation)
- Project Phase 2 (Implementation)
- Group Design Project
- Engineer in Society

##### Specialised Modules

- Analogue Integrated Circuits & Systems
- Computer Systems Security
- Knowledge Discovery & Big Data Analytics

##### Elective Modules (Choose 2)

- Cloud Infrastructure & Services
- Distributed Computer System
- Internet of Things: Concepts & Applications
- Network Troubleshooting
- Emergent Technology

##### MQA Compulsory Subjects\*

- Ethnic Relations (M'sian Students)
- Islamic & Asian Civilisation (M'sian Students)
- Malaysian Studies (Int'l Students)
- Malay Communication Language (Int'l Students)
- Workplace Professional Communication Skills
- Employee & Employment Trends
- Co-Curriculum



## Bachelor of **PETROLEUM ENGINEERING** with Honours

(N/544/6/0004)(10/20)(MQA/PA6546)

### At a glance

**Duration:**  
4 years full-time

**This programme is specifically designed to provide students with:**

- High quality undergraduate engineering education that combines petroleum, gas and exploration engineering to cater for the ever-demanding oil and gas industry.
- The ability to apply engineering principles to the design, development and operation of systems for locating, extracting, processing and refining crude petroleum and natural gas, including mining and drilling systems, processing and refining systems and facilities, storage facilities, transportation systems, and related environmental and safety systems.

### Career options

- Production Engineer
- Commissioning Engineer
- Reservoir Engineer
- Well Completion Engineer
- Drilling Engineer
- Process Engineer
- Oil & Gas Design Engineer
- Plant Engineer
- Petroleum Geologist

### Module outline

#### YEAR 1

Students will understand the basic principles of engineering in the areas of Petroleum Engineering, Petroleum Geology, Engineering Materials etc. Other modules aim to provide the basic academic skills required to meet the demands of employers, as well as thorough grounding in principles of IT and management. Important and relevant skills for managing activities and for their own independent learning are also introduced.

#### YEAR 2

Here, students start specialising in modules that develop the necessary underlying knowledge and skills in Petroleum Engineering with modules such as Rocks & Fluid Properties, Formation Evaluation & Well Logging etc. Other modules such as Introduction to Electrical System, Strength of Materials are provided for the better understanding of the Electronic & Mechanical engineering skills.

#### YEAR 3

Specialised knowledge and skills in the areas of Reservoir Simulation, Drilling Engineering, Reservoir Engineering, Well Design & Completion, Production Engineering, Enhanced Oil Recovery, Well Testing, Gas Engineering and Numerical Methods & Statistics are the critical focus of this level. There is further development of the ability to apply relevant engineering skills with strong critical thinking and analysis. Independent learning continues in all modules.

#### INTERNSHIP

Students will undertake an Internship/Industrial Training for a minimum period of 16 weeks to prepare them for a smooth transition from the classroom to the working environment.

#### YEAR 4

The final year Engineering modules provide the necessary industry application and technological skills which become very useful for employment upon graduation. Students' personal and professional development, technical capability and understanding of how to innovate, generate and manage the creation of new ideas will be enhanced via Engineering Projects.

#### YEAR 1

##### Common Modules

- Introduction to Management
- Engineering Mathematics 1
- Engineering Mathematics 2
- Introduction to C Programming
- Industry 4.0
- Engineering Materials
- Engineering Design
- Engineering Statics & Dynamics

##### Specialised Modules

- Fundamental of Petroleum Engineering
- Petroleum Geology

#### YEAR 2

##### Common Modules

- Introduction to Electrical Systems
- Engineering Mathematics 3

##### Specialised Modules

- Strength of Materials
- Element of Reservoir Rock & Fluid Properties
- Fluid Mechanics
- Safety in Oil & Gas Engineering
- Formation Evaluation & Well Logging
- Reservoir Engineering 1
- Thermodynamics & Heat Transfer
- Sustainable Development

#### YEAR 3

##### Common Modules

- Numerical Methods & Statistics
- Engineering Project Management

##### Specialised Modules

- Reservoir Simulation
- Drilling Engineering
- Reservoir Engineering 2
- Well Design & Completion
- Production Engineering
- Enhanced Oil Recovery
- Well Testing
- Gas Engineering

#### INTERNSHIP (16 weeks)

#### YEAR 4

##### Common Modules

- Project Phase 1 (Investigation)
- Project Phase 2 (Implementation)
- Engineer in Society

##### Specialised Modules

- Field Development Project 1
- Field Development Project 2
- Petroleum Economics

##### Elective Modules (Choose 2)

- Advanced Well Test Analysis
- Advanced Drilling Engineering
- Drilling Hydraulics
- Advance Well Completion

##### MQA Compulsory Subjects\*

- Ethnic Relations (M'sian Students)
- Islamic & Asian Civilisation (M'sian Students)
- Malaysian Studies (Int'l Students)
- Malay Communication Language (Int'l Students)
- Workplace Professional Communication Skills
- Employee & Employment Trends
- Co-Curriculum

(\*All students are required to successfully complete these modules as stipulated by the Malaysian Qualification Agency)

# Engineering Your Success

**APU'S SCHOOL OF ENGINEERING,  
OUR ULTIMATE FORMULA TO SUCCESS:**

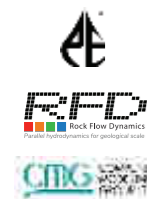
OUTCOME BASED CURRICULUM

VALUE ADDED SKILLS TRAINING

STUDENT INDUSTRIAL ACTIVITIES

PROFESSIONAL DEVELOPMENT

B.Eng (Hons) in Petroleum Engineering is powered by:



The infusion of software application for petroleum engineering has been fully incorporated into the curriculum. This is in line with the industry's move towards Digital Transformation and enhancing productivity in the field. Strong Industry-Academia partnerships at APU with organizations such as Petroleum Experts Limited, UK (PETEX) and Rock Flow Dynamics Ltd., USA (RFD) have allowed for the provision of industrial software for student learning and research purposes. APU students have the hands-on practical experiences through petroleum engineering related software tools which also are being applied in their Field Development Project (FDP) and Final Year Project (FYP) works. APU is one of the first universities in Malaysia to provide students with a combination of Integrated Production Modelling (IPM) and Reservoir Engineering Simulation (tNav) modern industrial tools. Further strengthening the curriculum is the application of the Computer Modelling Group (CMG) software which is used for reservoir modelling and enhanced oil recovery studies.



## ENGINEERING PROGRAMME STRENGTHS

### Outcome Based Education

Our curriculum is a collaborative effort, between our team of academicians and our Industry Advisory Panel (IAP). We design our curriculum based on the needs of the industry, to ensure Employability Edge among our students, while maintaining our standards, by ensuring our programmes are full-accreditation compliant.

Our programme delivery is based on Outcome Based Education (OBE), in which high graduate employability is our end result.



### Value-added Skills Training

Apart from technical knowledge in the Engineering field, we highly believe that students should also possess life skills such as critical thinking, communication and professionalism. Our Problem Based Learning (PBL) leads to producing critical and innovative graduates, in which multiple wins in various industry-standard-competitions are our best testaments of success.

### Student Experiences

Our academicians believe that learning should not be confined within classrooms and lecture halls. As early as the first year of their study, students possess the opportunities to gain hands-on exposure to the industry, to experience life as a professional engineer, as well as to build connections with professional engineers through regular industrial visits to manufacturing plants, factories, sites and offices of our industry partners, such as MEASAT, Top Glove, ABB and more.

The IEM-APU Student Section (IASS) is a committee for the students by the students. Since its establishment in 2015, IASS never failed to organize monthly technical events in collaboration with IEM, to boost students' managerial skills, innovation and presentation skills while learning to manage and organize professional-standard events from A to Z.



**DEVINDRAN A/L MUNANDY** (Malaysia)

**B.Eng (Hons) in Electrical & Electronics Engineering, Class of 2017**  
Design Engineer – Schneider Electric Malaysia

"Within my first year of having graduated, I managed to secure a job at the M&E Consulting firm, Minconsult Sdn. Bhd. I am forever grateful to APU for providing me with a conducive environment and great opportunities to improve my knowledge and subsequently allowing me to graduate with a prestigious first class honours degree. It was APU that equipped me with a strong foundation in my field of engineering, leading me to this first success. The exposure to project management and technical skills within the programme enabled me to contribute to my employer's success even from a junior position. Subsequently I moved on to my current place of employment. It comes with its own set of challenges but I still feel equipped to handle this new adventure, thanks again to APU."

**LIM CHEE CHEOW** (Malaysia)

**B.Eng (Hons) in Electrical and Electronic Engineering, Class of 2014**

"I am currently a visiting scholar with State-Key Laboratory of Analog & Mixed Signal VLSI at University of Macau and also a PhD candidate of the University of Malaya. Both institutions are known for state of the art research in the field of Microelectronics. It was at APU that I acquired this strong footing in this field."



## WHAT DO OUR ALUMNI SAY...

**SABRINA, FONG KAH YAN** (Malaysia)

**B.Eng (Hons) in Mechatronic Engineering, Class of 2013**  
Process Engineer - NXP Semiconductor (formerly known as Freescale Semiconductor)

"Receiving my degree from APU gave me the skills and knowledge needed in my engineering career. But untimely, APU and its faculty members prepared me for the professional working environment and instill independence and importance of continuous learning that made me a successful engineer I am today."

**THIERRY THOMASSE** (Mauritius)

**B.Eng (Hons) in Electrical and Electronic Engineering, Class of 2015**  
Sales Engineer & Commercial Support, Vitech Electronics Limited, Australia

"I have been in a working environment for 2 years already and I think that the EEE programme is quite complete. I have used my qualification here in Australia and the professional body, Engineers Australia, classified me as a Professional Electrical Engineer Skill level 1."

**ELAHEH SHAKERI** (Iran)

**B.Eng (Hons) in Mechatronic Engineering, Class of 2016**  
Project Engineer - Coesia Group, Italy

"Today I'm proud to be considered as the best of the best engineering graduates in the globally leading supplier of high-tech machinery. APU was where I created my future in."

**VIMALALAN NAIR A/L CHANDRASHAKARAN** (Malaysia)

**B.Eng (Hons) in Telecommunication Engineering, Class of 2014**  
RF Optimization Engineer - Huawei Technologies (M) Sdn. Bhd.

"Graduating from APU not only gave me advanced theoretical knowledge in the field of telecommunication engineering, but, through the various project-based assignments, also allowed me to develop practical skills such as teamwork, problem-solving and effective communication. As an RF Engineer, I utilize these skills every day to work both autonomously and cooperatively."

**ANDREW TEH BOON KHENG** (Malaysia)

**B. Eng (Hons) in Mechatronic Engineering, Class of 2015**  
Technical Support Engineer - Keyence Corporation

"APU provided me a fabulous platform to equip myself to enter the industrial world, from organizing various engineering events to managing a team. Studying at Asia Pacific University has given me a lot of memorable and happy moments. It provided many opportunities for students to learn and explore.

In the university's engineering community, IEM-APU Student Section, I was one of the committee representatives to assist in different events such as seminar coordination, industrial visit arrangements and technical workshops to skill up other students and so on. It was such an honour to be enrolled in Asia Pacific University and be involved in this student section, as I could develop my management skills. The student section established a bridge between our internal communities and other universities to reinforce students' experiences during their university life.

These experiences made my student life eventful and valuable during my study at Asia Pacific University."



# World-class R&D and Innovation

## ACADEMIC RESEARCH

For our staff, learning is a continuous journey where we keep abreast with the latest knowledge in a variety of fields. Our academic staff publish papers and present them at conferences worldwide. Some of the areas of research include:

- Regenerative Power
- Renewable/Green Energy
- Sustainable Development
- Rapid Prototyping
- Material Science
- Modeling of Quantum Dot Systems
- Silicon-based Microdosimeter Applications
- Humanoid Robot development
- Active RFID System in Multi-Hop Wireless Sensor Network
- Automatic Object Retrieval Systems Based on Speech Dictation Technology
- Robotics Haptic and Tactile Sensor development
- Robotics Vision development
- Biomedical Robotics
- Seismic Imaging
- Reservoir Engineering
- Noise Filtration
- Sub-Sea Cable Trenching
- Signal Processing
- Nanoelectronics
- Microelectronics
- Wireless self-charging drone for stock updates
- LoRa monitoring module
- Universal sensor module with IoT
- Smart Lab with voice activation
- Smart Utility for Smart City



## INNOVATIVE INDUSTRY-BASED RESEARCH CENTRES @ APU



### Asia Pacific Centre of Robotics Engineering

The APCORE (Asia Pacific Center of Robotics Engineering) is an initiative by APU School of Engineering to develop the robotic engineering field within the school. The center undertakes research in various areas of robotics especially humanoid robot development, robotic sensors, robotic vision and biomedical robotics. This will involve lectures by industrial experts and in-house research activities in these areas. The center is also a meeting point for students and lecturers to share ideas and assess their work, as well as a platform for collaboration with industry to keep the research and technology used to be relevant and current. APCORE aims to help lecturers and students to gain knowledge with get hands on experience through involvement in continuous development of robotics technology. Some of projects conducted by APCORE include the development of tele-presence and humanoid robot, participations in international exhibitions and competitions.



### Asia Pacific Centre of Analytics (APCA)

Asia Pacific Centre of Analytics - APCA is established in association of multi-discipline expertise from various schools in APU. The vision of APCA is to establish the foundation to develop young data scientists to meet the demands in Malaysia and global. The expertise and experience cover areas of Data Management, Machine Learning, Behavioral Studies, Business Cases, Statistics and Engineering. The formation directs to broad activities in Big Data ecosystem, in line with National vision to make Big Data Analytics the catalyst for nation's economic development: Creating new area in BDA studies, Embedding BDA topics into Undergraduate and Postgraduate studies, Development of Educational and Industrial Framework, Creating Project Marketplace, Research project commercialization and crowdfunding, Consultancy and Training Services.



### Centre for Research and Development of IoT (CREDIT)

The establishment of Centre for Research and Development of IoT (CREDIT) is a significant milestone that supports the objectives of the Malaysia National IoT Strategic Roadmap initiative. CREDIT aims to provide students and academic staff the opportunities to access IoT-related knowledge and know-how through various activities. It also acts as a hub to support commercialising potential state-of-the-art solutions resulting from R&D projects. Additionally it allows students to be engaged in a current key requirement sector which will increase employability rates.



### APU IEEE Student Branch

APU IEEE Student Branch, which is part of the Malaysia Section under Region 10 (Asia and Pacific), was formulated in 2014. As a member of IEEE, APU students have a wide variety of resources and valuable opportunities to advance their knowledge and future career. APU Student Branch provides numerous educational, technical, and professional development for its members through special projects, activities, meetings, tours and field trips. Following three student technical chapters namely Computer Society, Communication Society and Computational Intelligence are also established under the Student Branch which offer the opportunity for APU student members to network with peers, develop activities for professional development, and share expertise through technical exchange.



### APU Motorsports Club

The Club focuses on performance and eco-friendly competitions. The academic staff and students work on constructing efficient cars based on materials study, structural engineering, engine optimum performance and control mechanisms for local races such as EIMA, GT 128, IPMA and Formula Y.



## PREPARING STUDENTS FOR THE INDUSTRY

### Internships & Industrial Training

FYPBaNK - An online facility to support students' development of their final year project to meeting industry standards, to enhance employability and to assist student in ensuring projects are fit for purpose at the final year of study.

It is a facility web-based integrated system that facilitates the project management responsibilities carried out by the APU FYP students, supervisors, second markers, FYP administrators and project managers.

The companies who have and are contributing to FYPBaNK are INFOPRO SDN BHD, Bank Negara Museum and Art Gallery, DLoop Empeiria Sdn Bhd, Everly Group, GCA, Hilti, LOW Health Care Services, MAD Incubator, MIMOS Wireless Innovation Lab, Neruti Technology Sdn Bhd, REDtone, Signal Transmission (M) Sdn Bhd and Top Glove Sdn Bhd. Students are allowed to work on an industrial FYP proposals selected from the FYPBaNK. Our FYP students have successfully completed the industrial projects selected from the FYPBaNK. The end-product of each industrial project is being used by the real users.

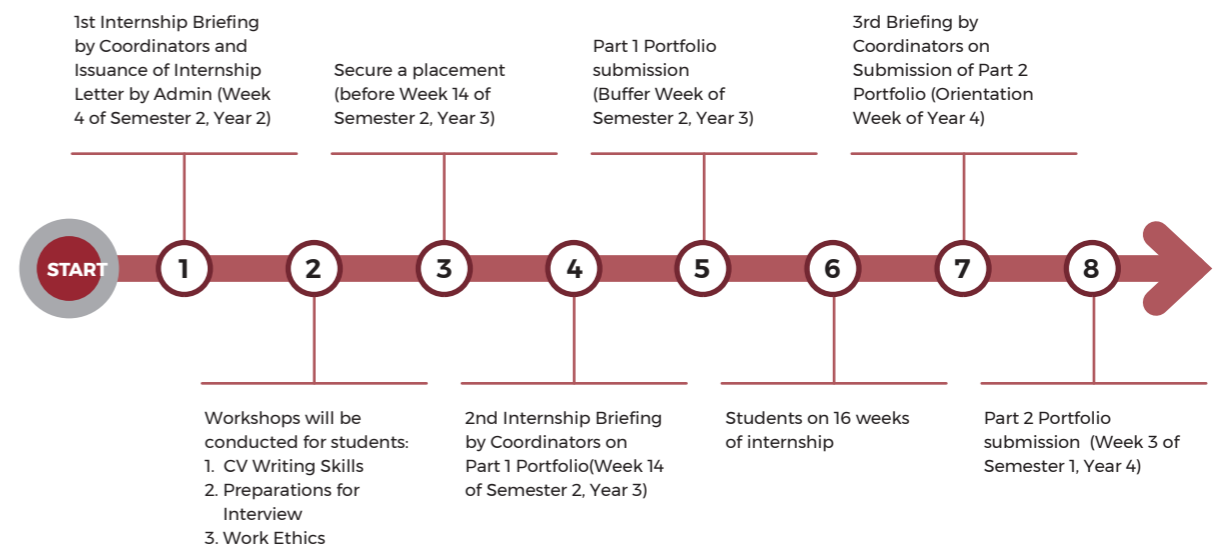
### Internships & Industrial Training

Prior to starting the final year of study APU students will do internship or industrial training placements for 16 weeks. This is to enable students to gain industrial or professional learning experiences to develop transferable skills for employability so as to enhance their future value to employers. Familiarity with all common processes is essential and exposure at a practical level to a wide variety of processes is required at a level appropriate to young professional. Whilst it is clearly desirable for students to get a feel for the skills involved, the central aim is to achieve appreciation. Industrial training is a key component of learning in an integrated academic curriculum.

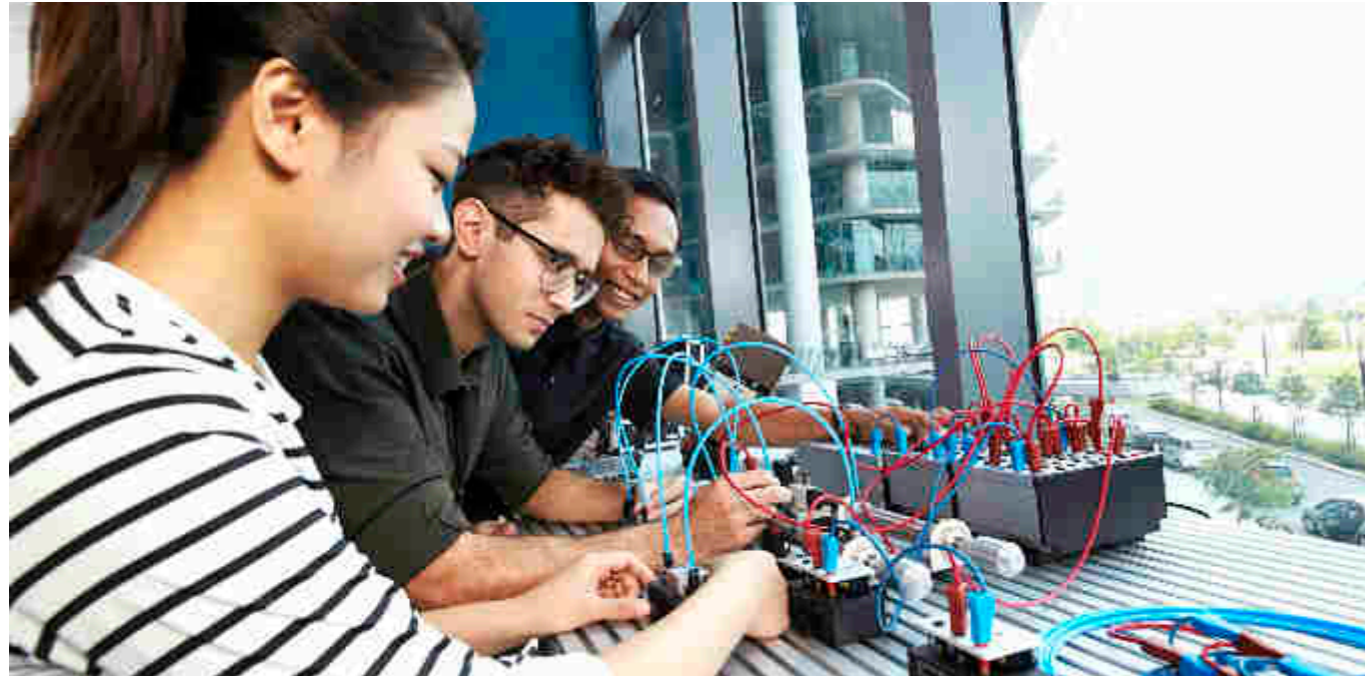
Taking this exposure as an important element in the curriculum APU ensures the smooth process of facilitation by starting the process a semester by guiding and nurturing the students via workshops and classes dedicated to:

- 1 - Development of a CV
- 2 - Attending Interviews
- 3 - Working professionally and ethically at a organization

APU also has dedicated Internship Officers per school and a company pool bank in which student can choose from in terms of writing in or direct placements.







# State-of-art<sup>☆</sup> Engineering Equipment



It's all going on  
@APU Students from over  
130 countries ☆





