ELECTRICAL & ELECTRONIC, MECHATRONIC, MECHANICAL, COMPUTER & PETROLEUM ENGINEERING

A · P · U

ASIA PACIFIC UNIVERSITY
OF TECHNOLOGY & INNOVATION



# I am visionary

ELECTRICAL & ELECTRONIC, MECHATRONIC, MECHANICAL, COMPUTER & PETROLEUM ENGINEERING

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

INNOVATIVE
THINKING
CAN CHANGE
YOUR WORLD

QAA
INSTITUTION ACCREDITED
ASIA PACIFIC UNIVERSITY OF TECHNOLOGY AND INNOVATION
Valid: 04/2024 - 04/2029

5 STAR
EXCELLENT RATING
SETARA

MD™
Premier Digital Tech Institution

QS WORLD UNIVERSITY RANKINGS
2027

QS 1st Malaysian University
5-Stars Plus

# First and Only Malaysian University with QAA UK Accreditation 2024 - 2029







## APU achieves Global Quality Accreditation from QAA UK

Asia Pacific University of Technology & Innovation (APU), a leading Malaysian University has achieved a significant milestone by securing accreditation from the Quality Assurance Agency for Higher Education (QAA) in the United Kingdom. This accreditation underscores APU's commitment to excellence, rigorous quality assurance processes, and student-centered education.

The Quality Assurance Agency (QAA) carries out Quality Assurance for UK higher education institutions.

- APU underwent a thorough review process conducted by independent reviewers appointed by QAA. This involved almost a year of intense preparation and submission of documentation.
- A comprehensive physical Audit was held at APU in March 2024. Based on the Audit, APU has been deemed to have achieved Accreditation by the QAA – the FIRST ever Malaysian University to have achieved this.
- The Audit Panel confirmed that APU meets all ten UK and European Quality Assurance standards covering areas such as teaching & learning, student support, research, facilities, resources and governance.
- APU Degrees will now be recognised on an equal basis with Degrees from UK universities due to QAA Accreditation of APU as an QAA Accredited Institution.
- APU graduates will benefit from this prestigious recognition of their qualifications in Malaysia, the UK and beyond.

APU's commitment to continuous improvement and adherence to international best practices played a pivotal role in achieving this accreditation. QAA accreditation enhances APU's global reputation and validates its commitment to quality education. APU will continue to uphold the QAA standards and strive for further excellence with pride.

# 1st Malaysian University

5-Stars Plus

*1 of 24 in the world*

QS WORLD UNIVERSITY RANKINGS 2027

## QS WORLD UNIVERSITY RANKINGS 2027

**TOP 2%** in the World

| #528 | #20 | #157 | TOP 500 | #177 |
|---|---|---|---|---|
| WORLDWIDE | INTERNATIONAL STUDENTS | INTERNATIONAL FACULTY | EMPLOYER REPUTATION | STUDENT EXPERIENCE |
| Top 2% Globally | | | | |

## QS WORLD UNIVERSITY RANKINGS : ASIA 2026

**#39** IN SOUTH EAST ASIA

**#147** IN ASIA

## TOP 20 IN ASIA & TOP 5 IN ASEAN

APU has achieved outstanding recognition in the AppliedHE All Asia 2026 Private University Ranking. This remarkable achievement reflects our unwavering commitment to academic excellence, innovation, and global impact. The AppliedHE Private University Ranking: All Asia was created with the goal of measuring the things about private universities that students deciding on their higher education journey find most important. The ranking measures what is important to students: the quality of teaching and learning, Employability, Research, Internationalisation, Community Engagement and Institution Reputation.

## APU MAKES WAVES IN THE QS WORLD UNIVERSITY RANKING 2027 - TOP 2% GLOBALLY

The Asia Pacific University of Technology & Innovation (APU) has been officially recognised among the world's leading universities in the QS World University Rankings 2027, achieving a global ranking of #528 and placing APU within the Top 2% of universities worldwide. APU is also ranked #20 in the World for International Students, reflecting its highly diverse, multicultural and globally inclusive learning environment, with students representing more than 130 nationalities studying together on campus.

## APU IS AWARDED 2026 EMPLOYERS' CHOICE OF UNIVERSITY - TALENTBANK

Renowned for its 100% employability rate among graduates, APU underlined its strengths by being selected as the 2026 Employers' Choice of University in Talentbank's annual survey of employers. Further reinforcing its strong employability outcomes, APU programmes received the prestigious Talentbank 6-Star Employer Choice rating in the following fields: Computing & IT, Actuarial Science, Analytics, Animation, Banking, Business Management, Event Management, Finance, Games Design & Development, Human Resource Management, and Mechatronic Engineering.




## APU IS AWARDED BEST AI UNIVERSITY, BEST TECH UNIVERSITY & BEST FUTURE READY UNIVERSITY - PC.COM AWARDS 2025

The PC.com Awards are prestigious accolades that celebrate organisations demonstrating excellence and leadership in technology and innovation. At the 2025 Awards, Asia Pacific University of Technology & Innovation (APU) once again stood out, earning Best Tech University, Best Future Ready University, and the newly introduced Best AI University titles, as voted by PC.com readers. These achievements reaffirm APU's dedication to delivering world-class digital technology programmes and shaping future-ready graduates. APU continues its winning streak, having previously secured both Best Tech University and Best Future Ready University in 2024, and Best Tech University in 2023.

## APU'S LIST OF FIRSTS:

- **1st** Malaysian University to achieve Five Stars Plus in the latest QS Stars Rating
- **1st** Local Institute awarded Multimedia Super Corridor Status
- **1st** Institute awarded the MSC Research & Development Grant
- **1st** Institute awarded MS ISO 9002 Quality Certification
- **1st** Institute appointed Novell Education Academic Partner
- **1st** Institute appointed Authorised Sun Education Centre
- **1st** Institute appointed Microsoft Training Partner
- **1st** Institute listed in Enterprise 50 Award Programme
- **1st** Institute appointed University Alliance Partner by SAP
- **1st** XR Studio - Mixed & Extended Reality Infrastructure in Asia
- **1st** Integrated Cybersecurity Talent Zone in Malaysia

QS defines rating as “The system evaluates universities across a wide range of important performance indicators as set against pre- established international standards. By covering a broader range of criteria than any world ranking exercise, QS Stars™ shines a light on both the excellence and the diversity of the rated institution”.

*"The QS Stars university rating system audits and rates over 600 universities globally in a broader range of criteria than any world ranking exercise. Comprehensive audits are also independently carried out as part of the rating exercise. QS Stars™ shines a light on both the excellence and the diversity of the rated institution. Congratulations to Asia Pacific University (APU) for being the first-ever QS 5-Stars Plus rated institution in Malaysia and being 1 amongst 20 in the world."*

***Leigh Kamolins - Head of Evaluation, QS Intelligence Unit***

OUTSTANDING

# Rated for Excellence

## Asia Pacific University of Technology & Innovation

The QS Intelligence Unit has, through rigorous and independent data collection and analysis of performance metrics as set out in the QS Stars™ methodology, rated Asia Pacific University of Technology & Innovation as a Five Stars Plus institution.

| | | | |
|---|---|---|---|
| Teaching | Internationalisation | Facilities | Social Responsibility |
| Employability | Academic Development | Accounting & Finance | Inclusiveness |
| Online Learning | | | |

**QS STARS**

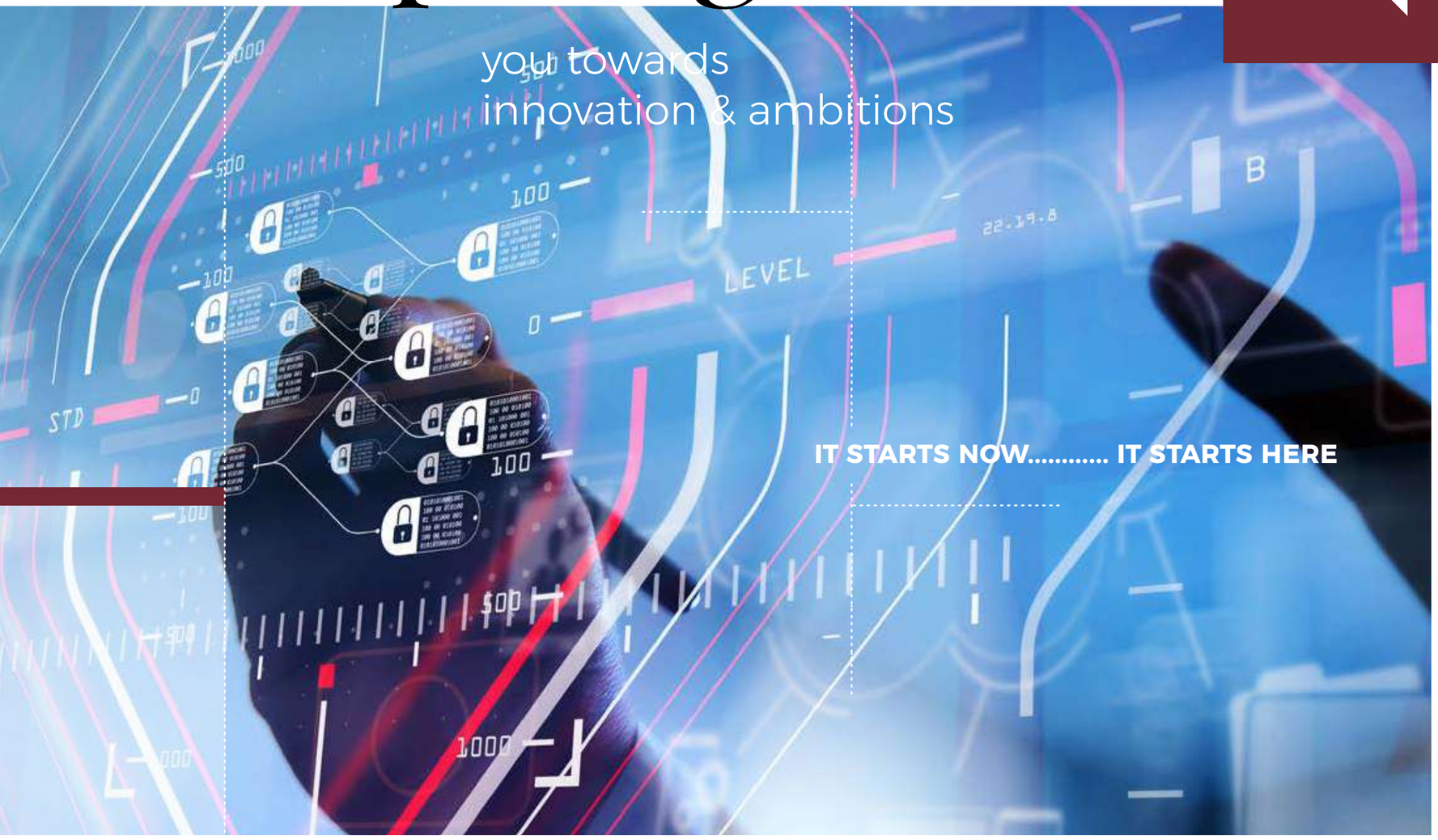
The QS Stars™ rating system is operated by the QS Intelligence Unit, the independent compiler of the QS World University Rankings® since 2004. The system evaluates universities across a wide range of important performance indicators as set against pre-established international standards. By covering a broader range of criteria than any world ranking exercise, QS Stars shines a light on both the excellence and the diversity of the rated institution.

Leigh Kamolins, Head of Evaluation

18 Oct 2021

# Inspiring

you towards
innovation & ambitions




## ENGINEERING

### DEGREE PROGRAMMES

- **Bachelor of Electrical & Electronic Engineering with Honours***
- **Bachelor of Mechatronic Engineering with Honours***
- **Bachelor of Mechanical Engineering with Honours**
- **Bachelor of Computer Engineering with Honours***
- **Bachelor of Petroleum Engineering with Honours***

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

DEGREE PROGRAMMES
ACCREDITED
BOARD OF ENGINEERS MALAYSIA

### APU – A 5-STAR (EXCELLENT) RATED INSTITUTION

5 STAR EXCELLENT RATING
SETARA
APU amongst the Highest Rated Emerging Universities - 2019

APU has consistently received the highest ratings among emerging Universities through the SETARA Ratings exercise conducted by the Ministry of Higher Education, ever since the SETARA Ratings system was introduced, including having attained 5 STARS in the latest ratings announced in Dec 2020.

The SETARA ratings system employs a rigorous assessment methodology to rate an education institution's three core functions, namely teaching, research and services.

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

MD Premier Digital Tech Institution

APU was among the first institute in Malaysia awarded Premier Digital Tech Institution status by the Malaysia Digital Economy Corporation (MDEC) and Ministry of Higher Education (MOHE). 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.

### APU IS AWARDED BEST AI UNIVERSITY, BEST TECH UNIVERSITY & BEST FUTURE READY UNIVERSITY - PC.COM AWARDS 2025




The PC.com Awards are prestigious accolades that celebrate organisations demonstrating excellence and leadership in technology and innovation. At the 2025 Awards, Asia Pacific University of Technology & Innovation (APU) once again stood out, earning Best Tech University, Best Future Ready University, and the newly introduced Best AI University titles, as voted by PC.com readers. These achievements reaffirm APU's dedication to delivering world-class digital technology programmes and shaping future-ready graduates. APU continues its winning streak, having previously secured both Best Tech University and Best Future Ready University in 2024, and Best Tech University in 2023.

### APU - FIRST EVER MALAYSIAN UNIVERSITY WITH QAA UK ACCREDITATION

QAA
INSTITUTION ACCREDITED
ASIA PACIFIC UNIVERSITY OF TECHNOLOGY AND INNOVATION

# 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)'s Ultra-Modern University Campus in MRANTi - Technology Park Malaysia 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.

**Ranked No.20** in the **World** for **International Students**
QS World University Rankings 2027

MALAYSIA'S AWARD WINNING UNIVERSITY

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

**100%** Employability*

**TOP 20** in **Asia**
AppliedHE All Asia Private University Rankings 2026

**FIRST IN MALAYSIA** TO ACHIEVE **5-STARS PLUS** IN QS RATINGS

** Latest Graduate Tracer Study by Ministry of Higher 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.

** Latest Graduate Tracer Study by Ministry of Higher Education, Malaysia.*







## Empowering High-Impact Careers

APU is widely recognised for producing career-ready graduates with exceptional employability and competitive starting salaries across Malaysia's key growth sectors. By integrating industry-relevant curricula, practical learning experiences, and strong corporate engagement, APU equips its graduates to succeed in dynamic and globally connected career pathways.



### Industry Ready Graduates

The APU Career Centre connects and engages with over 12,000 Employers to ensure that our graduates are highly employable 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 to ensure that the skills and knowledge taught at APU are up-to-date and in high demand.

RANKED

# #20 in the World for International Students

*QS World University Rankings 2027*







## 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 students from over 130 countries, we ensure that you will gain memorable experiences alongside the diversifed and colourful cultural environment. We have students from Asia, Central Asia, Middle East, Africa, Europe, Latin America 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.









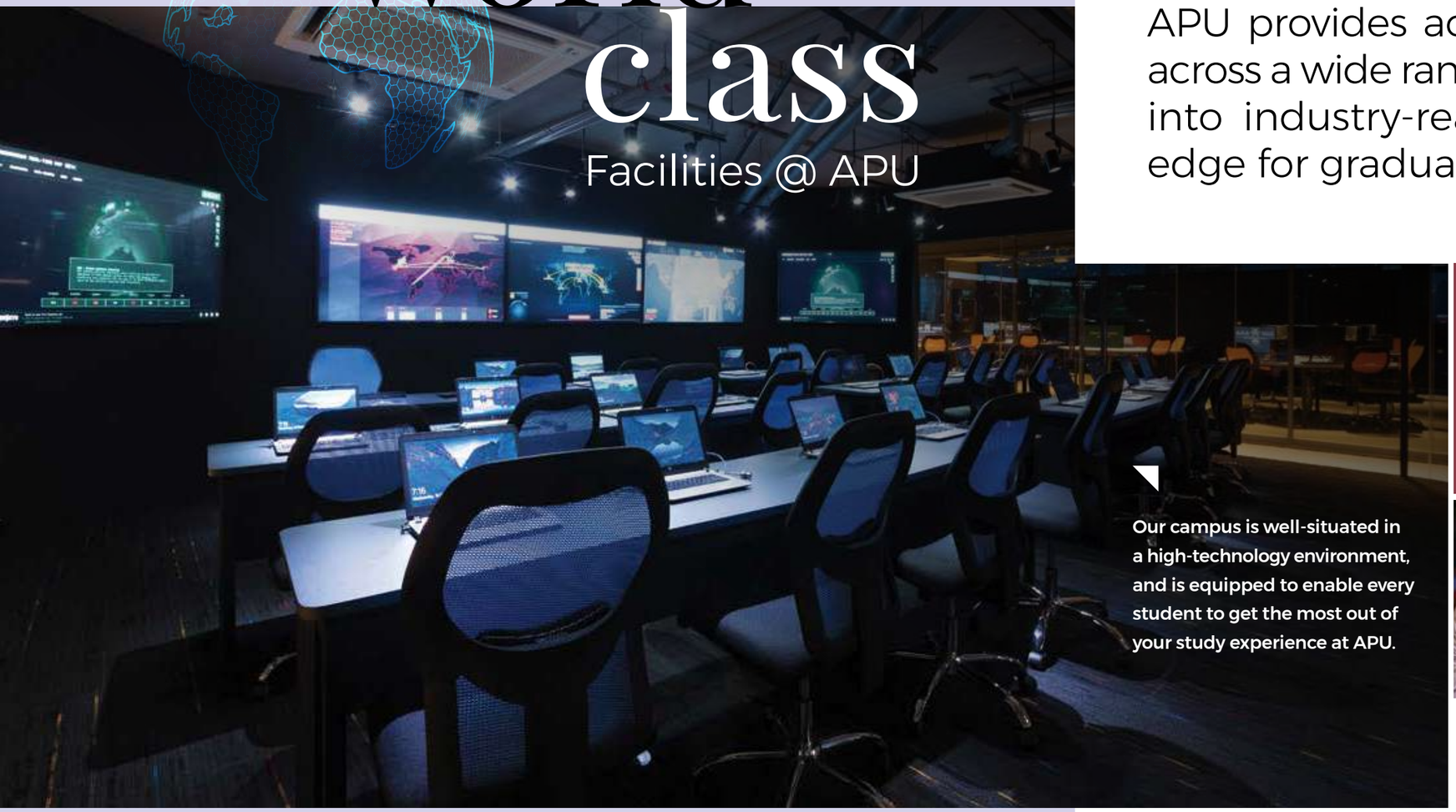


### Student Life @ APU

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.

# World-class

## Facilities @ APU



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

### 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 Industry Revolution 4.0.









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.







### Cutting-Edge Technologies

The Campus blends technology, integration, innovation and creativity under one roof. It provides not just a 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.

### Social Interaction Platforms

Fitness Sweatzone, student lounges, sports facilities and breakout rooms provide spaces for relaxation and socialisation 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.

# Our Partner in Quality

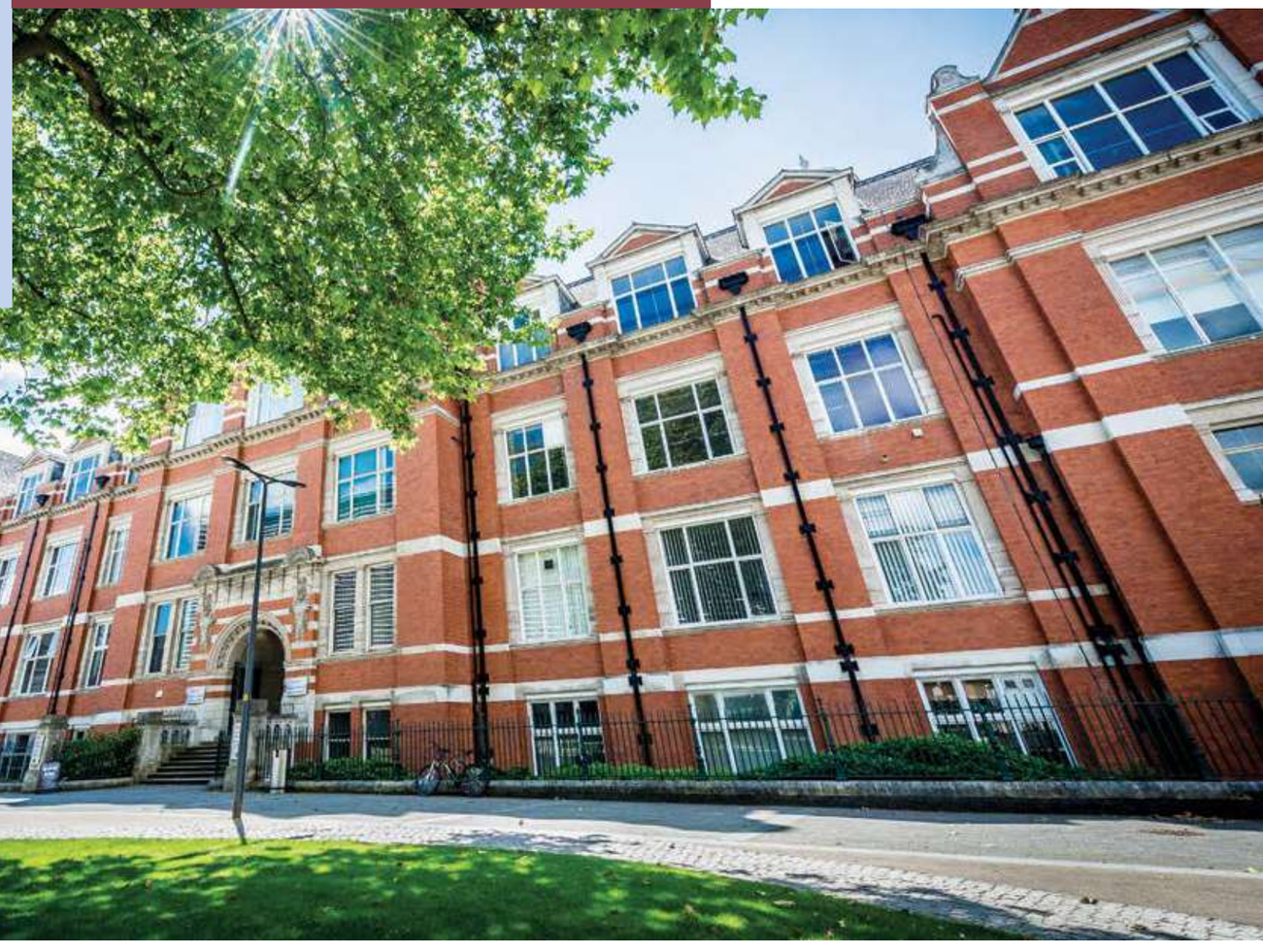
De Montfort University (DMU), UK











## 150 years of academic excellence

De Montfort University (DMU) Leicester is a dynamic, 21st century UK university. With an original campus in Leicester, a new one in London and growing campuses around the world in Dubai, Kazakhstan and Cambodia, DMU has a truly global outlook and international reach.

At DMU, our supportive and nurturing community will empower you to realise your dreams. Our courses are carefully designed and taught by expert academics to help you gain the skills needed to enter today's competitive job market and succeed in your career. The university is organised into four faculties; Arts, Design and Humanities, Business and Law, Health and Life Sciences and Computing, Engineering and Media. Our award-winning Careers Team provides guaranteed work experience opportunities including placements, internships and career mentoring to open doors that will help you achieve your ambitions..





### About DMU

- Since its beginnings in Leicester 150 years ago, DMU has transformed into a global university. We deliver outstanding education around the world, both at our own campuses and with our partner universities.
- Each year, international students from more than 140 countries choose to study at DMU.
- DMU is rated a 5-star 'excellent' institution by QS Top Universities for our teaching, facilities, employability, global outlook and more.
- DMU's Careers Team won Employability Team of the Year at the TargetJobs National Graduate Recruitment Awards for helping students reach their ambitions.
- DMU is the only UK university to be appointed as Chair of the hub for the United Nations' sustainable development goal 11 - sustainable cities and communities.
- Leicester is known for being welcoming and student-friendly, with a rich history and a diverse culture. It's been named the best city in the East Midlands to live and work (Good Growth for Cities Index, 2024).

# Double your Advantage

## APU-DMU **Dual Degree Programme**







**MEng Award by De Montfort University (DMU), UK**

DUAL DEGREE

- APU's partnership with DMU enables students to be awarded Dual Awards - separate degree certificates from each institution – and enhances not just teaching and learning experiences, but also career prospects.
- Upon graduation, students will receive 2 Degree Certificates & Transcripts: 1 from APU, Malaysia and 1 from DMU, UK
- DMU Degree Certificate will be an MEng Award
- Both degrees are recognised locally & internationally
- The APU-DMU Dual Degree Programmes are offered under an approved collaboration in accordance with the QAA UK Quality Code for Higher Education for the Assurance of Academic Quality and Standards in Higher Education as published by the United Kingdom Quality Assurance Agency (QAA).












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 Electrical & Electronic Engineering with Honours
- Bachelor of 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.**

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, Costa Rica, Hong Kong China, India, Indonesia, Ireland, Japan, Korea, Malaysia, Mexico, 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.

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.

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 ***https://www.internationalengineeringalliance.org/accords/washington-accord***

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"***

- **Australia** - Engineers Australia (1989)
- **Bangladesh** - Represented by The Institution of Engineers Bangladesh (IEB)
- **Canada** - Engineers Canada (1989)
- **China** - China Association for Science and Technology (2016)
- **Chinese Taipei** - Institute of Engineering Education Taiwan (2007)
- **Costa Rica** - Colegio Federado de Ingenieros y de Arquitectos de Costa Rica (CFIA) (2020)
- **Hong Kong China** - The Hong Kong Institution of Engineers (1995)
- **India** - National Board of Accreditation (2014) (Applies only to programmes accredited by NBA offered by education providers accepted by NBA institutions.)
- **Ireland** - Engineers Ireland (1989)
- **Indonesia** - Indonesian Accreditation Board for Engineering Education (IABEE) (2019)
- **Japan** - Japan Accreditation Board for Engineering Education (2005)
- **Korea** - Accreditation Board for Engineering Education of Korea (2007)
- **Malaysia** - Board of Engineers Malaysia (2009)
- **Mexico** - Consejo de Acreditación de la Enseñanza de la Ingeniería (CACEI) (2016)
- **New Zealand** - Institution of Professional Engineers NZ (1989)
- **Pakistan** - Pakistan Engineering Council (2017)
- **Peru** - Instituto de Calidad Y Acreditacion de Programas de Computacion, Ingeneria Y Technologia (ICACIT) (2018)
- **Philippines** - Represented by Philippine Technological Council (PTC)
- **Russia** - Association for Engineering Education of Russia (2012)
- **Singapore** - Institution of Engineers Singapore (2006)
- **South Africa** - Engineering Council of South Africa (1999)
- **Sri Lanka** - Institution of Engineers Sri Lanka (2014)
- **Turkey** - MUDEK (2011)
- **United Kingdom** - Engineering Council UK (1989)
- **United States** - Accreditation Board for Engineering and Technology (1989)

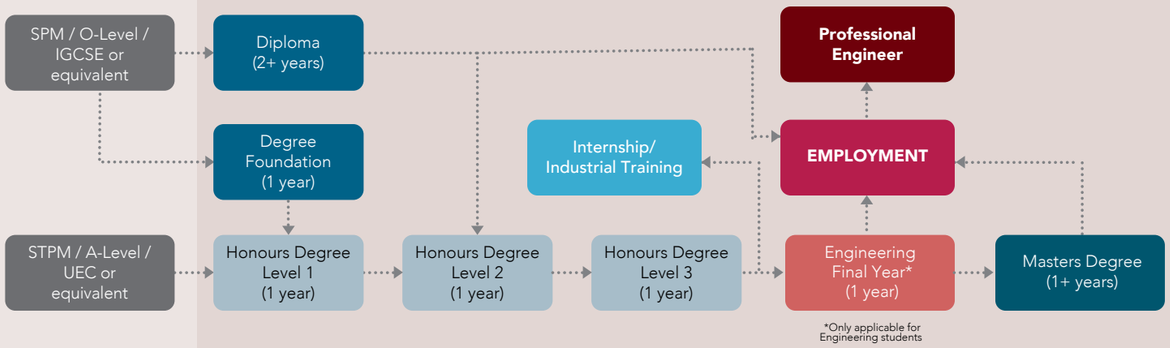
***"Organisations holding provisional status have been identified as having qualification accreditation or recognition procedures that are potentially suitable for the purposes of the Accord; those organisations are further developing those procedures with the goal of achieving signatory status in due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

- **Chile** - Represented by Agencia Acreditadora Colegio De Ingenieros De Chile S A (ACREDITA CI)
- **Myanmar** - Represented by Myanmar Engineering Council (MEngC)
- **Nigeria** - Represented by Council for the Regulation of Engineering in Nigeria (COREN)
- **Kenya** - Represented by Engineering Board Kenya (EBK)
- **Thailand** - Represented by Council of Engineers Thailand (COET)
- **Saudi Arabia** - Represented by Education and Training Evaluation Commission (ETEC)
- **Mauritius** - Represented by Institution of Engineers Mauritius (IEM)



# Pathways & Admission Requirements

## YOUR STUDY PROGRESSION




## APU FOUNDATION ADMISSION REQUIREMENTS

- 5 Credits in at least 5 subjects at SPM level with a minimum of a pass in Bahasa Malaysia and Sejarah (History);
- 5 Credits (Grade C & above) in at least 5 subjects at IGCSE/O-Levels;
- 3 Credits (Grade B & above) in at least 3 subjects in UEC.
- A qualification that APU accepts as equivalent to the above.

* *Some Degree Programmes may require a Credit in Mathematics at SPM/IGCSE/O-Level or equivalent.*

* *Engineering Degree Programmes require a Credit in Mathematics and Physics or Chemistry at SPM/IGCSE/O-Level or equivalent.*

* *Foundation in Computing (ODL) - 100% Online requires a Credit Pass in Mathematics*



## PATHWAYS & ADMISSION REQUIREMENTS

### BACHELORS (HONS) ENGINEERING DEGREE PROGRAMMES

| | General Requirements |
|---|---|
| **DIRECT ENTRY TO LEVEL 1 OF THE DEGREE:** | |
| **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 (Grade A-D) in A-Level including Mathematics and Physics (or Chemistry). |
| **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. |
| **ENTRY TO LEVEL 2 OF THE DEGREE:** | |
| **DIPLOMA** | - Successful completion of the APU/APIIT Engineering Diploma and fulfilment of requirements for Credit Transfer, subject to the approval of the APU Academic Board OR<br>- Successful completion of a Diploma in Engineering with other recognised Institutions and fulfilment of requirements for Credit Transfer, subject to the approval of the APU 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 IBT : 30-31 • Pearson (PTE) : 36 • MUET : Band 3 |
| Diploma and Bachelor (Hons) Engineering Degree Programmes | • IELTS : 5.0 • TOEFL IBT : 40 • Pearson (PTE) : 47 • MUET : Band 3.5 |

Please note that under Ministry of Higher 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 – Your Future. Your Choice.

**Duration: 1 Year (3 Semesters)**

(R3/0011/3/0089)(11/29)(A10955)

## 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, Psychology, Business & Management, Computing & Technology, Game Development, Engineering, Industrial Design, Animation, Visual Effects, Media, Hospitality & Tourism and International Relations.

## 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 consists 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.

**Learn, Apply, Achieve - Practical Assessments for Meaningful Learning**

At APU, learning is designed to be practical, engaging, and relevant. Many Foundation modules are assessed through projects, presentations, case studies, and coursework, allowing you to apply knowledge in real-world situations. This approach builds critical thinking, problem-solving, communication, and teamwork skills while preparing you for degree-level studies and future career success. Where appropriate, final examinations are included to ensure a well-rounded academic foundation.

| | | | | |
|---|---|---|---|---|
| **SEMESTER 1 (COMMON SEMESTER 1)** | · English for Academic Purposes · Personal Development & Study Skills · Digital Communication & Collaboration · Mathematics | | | |
| **ROUTES** | **BUSINESS, FINANCE & SOCIAL SCIENCES** | **COMPUTING & TECHNOLOGY** | **ENGINEERING** | **ARCHITECTURE & DESIGN** |
| **SEMESTER 2** | · Public Speaking & Personal Branding<br>· Global Business Trends & Supply Chains<br>· Digital Business & Entrepreneurship<br>· Further Mathematics** / Psychology & Behavioral Science<br>· Principles of Accounting and Finance / Global Citizenship & Cultural Intelligence | · Public Speaking & Personal Branding<br>· Digital Business & Entrepreneurship<br>· Computational Thinking & Programming<br>· Further Mathematics<br>· Computer Systems, Networks and Cloud Technologies | · Public Speaking & Personal Branding<br>· Digital Business & Entrepreneurship<br>· Computational Thinking & Programming<br>· Mechanics for Engineers<br>· Engineering Mathematics | · Public Speaking & Personal Branding<br>· Introduction to Digital Photography<br>· Fundamentals of Drawing<br>· Design Studies<br>· Design Project 1 / Architecture and Built Environment |
| **SEMESTER 3** | · Research & Data Literacy<br>· Business Economics & Global Markets<br>· AI for Business & Design<br>· Co-Curricular<br>*Choose **one** of the following modules:*<br>· Discovering Media in the Digital Age<br>· Cyberpsychology and Digital Society<br>· Exploring Hospitality, Travel & Tourism<br>· Fundamentals of Risk Management<br>· Next-Gen Accounting Tech and FinTech | · Research & Data Literacy<br>· Cyber Security & Digital Resilience<br>· AI Essentials for the Digital World<br>· Co-Curricular<br>*Choose **one** of the following modules:*<br>· Exploring Games & Immersive Technologies<br>· Discovering Media in the Digital Age<br>· Cyberpsychology and Digital Society<br>· Exploring Hospitality, Travel & Tourism | · Research & Data Literacy<br>· Science for Engineers<br>· AI, Robotics & Automation Fundamentals<br>· Design Thinking for Engineers – Fraunhofer IEM<br>· Co-Curricular | · Research & Data Literacy<br>· AI for Business & Design<br>· Life Drawing / Architectural Drawing and Communication<br>· Design Project 2 / Architectural Design Project<br>· Co-Curricular<br>*Choose **one** of the following modules:*<br>· History of Design and Media<br>· Exploring Games & Immersive Technologies<br>· Cyberpsychology and Digital Society |
| **You may then proceed to Level 1 of a Degree of your choice in the following pathways** | | | | |
| **PRIMARY PATHWAYS** | **- Business, Management, Hospitality & Tourism**<br>**- Accounting, Finance, Banking & Actuarial Studies**<br>**- Media, Communication & Psychology**<br>**- International Relations** | **- Computing & Technology**<br>**- Immersive Technology & VR/AR**<br>**- Game Development** | **- Electrical and Electronic Engineering**<br>**- Mechatronic & Mechanical Engineering**<br>**- Computer Engineering**<br>**- Petroleum Engineering** | **- Industrial Design, Visual Effects, Animation & Digital Advertising**<br>**- Architecture** |
| **ALTERNATIVE PATHWAYS**<br>Students may alternatively choose the following: | - Computing & Technology<br>- Immersive Technology & VR/AR<br>- Industrial Design, Visual Effects, Animation & Digital Advertising<br>- Architecture<br>- Game Development | - Business, Management, Hospitality & Tourism<br>- Accounting, Finance, Banking & Actuarial Studies<br>- Industrial Design, Visual Effects, Animation & Digital Advertising<br>- International Relations<br>- Media, Communication & Psychology<br>- Architecture | - Computing & Technology<br>- Immersive Technology & VR/AR<br>- Accounting, Finance, Banking & Actuarial Studies<br>- Business, Management, Hospitality & Tourism<br>- Industrial Design, Visual Effects, Animation, Digital Advertising & Architecture<br>- International Relations<br>- Media, Communication & Psychology<br>- Game Development | - Computing & Technology<br>- Immersive Technology & VR/AR<br>- Accounting, Finance, Banking & Actuarial Studies<br>- Business, Management, Hospitality & Tourism<br>- International Relations<br>- Media, Communication & Psychology<br>- Game Development |

## 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 / IGCSE 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 / IGCSE is required for the following programmes:

### Computing & Technology

- Bachelor of Science (Honours) in Information Technology
- Bachelor of Science (Honours) in Information Technology with a specialism in
  - Information System Security
  - Internet of Things (IoT)
  - Financial Technology (FinTech)
  - Cloud Engineering
  - Sustainable Computing
  - Business Information Systems
- Bachelor of Science (Hons) in Software Engineering*
- Bachelor of Science (Honours) in Computer Science*
- Bachelor of Science (Honours) in Computer Science with a specialism in
  - Data Analytics*
  - Quantum Computing*
- Bachelor of Computer Science (Hons) (Artificial Intelligence)*
- Bachelor of Science (Honours) in Computer Science (Cyber Security)*
- Bachelor of Science (Honours) in Computer Science (Cyber Security) with a specialism in
  - Digital Forensics*

### Accounting, Banking, Finance & Actuarial

- Bachelor of Accounting and Finance (Honours)
- Bachelor of Accounting and Finance (Honours) with a specialism in
  - Forensic Accounting
  - Accounting Technology
  - Forex and Investments
- Bachelor in Banking and Finance (Hons)
- Bachelor in Banking and Finance (Hons) with a specialism in
  - Investment Analytics
  - Financial Technology
- Bachelor of Financial Technology (Honours)
- Bachelor of Science (Honours) in Actuarial Studies
- Bachelor of Science (Honours) in Actuarial Studies with a specialism in
  - Data Analytics
  - Financial Technology

### Architecture

- Bachelor of Science (Honours) in Architecture

PORTFOLIO OR INTERVIEW REQUIRED

### Immersive Technology & Game Development

- Bachelor in Interactive Media and Immersive Technology (Honours)
- Bachelor in Interactive Media and Immersive Technology (Honours) with a specialism in
  - VR/AR
- Bachelor in Game Development (Honours)

PORTFOLIO OR INTERVIEW REQUIRED

**CREDIT / GRADE C in SPM / O-Level / IGCSE 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 / IGCSE is required for the following programmes:

### Engineering

- Bachelor of Electrical and Electronic Engineering with Honours
- Bachelor of Mechatronic Engineering with Honours
- Bachelor of Mechanical Engineering with Honours
- Bachelor of Computer Engineering with Honours
- Bachelor of Petroleum Engineering with Honours

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

**Mathematics**

**Science OR Physics OR Chemistry OR Biology**

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

### Psychology

- Bachelor of Science (Honours) in Psychology
- Bachelor of Science (Honours) in Psychology with a specialism in
  - Cyberpsychology
  - People and Culture

Leading from APU Foundation to your Choice of Degree Studies:

### Business, Management, Marketing & Digital Marketing

- Bachelor of Arts (Honours) in Business Management
- Bachelor of Arts (Honours) in Business Management with a specialism in
  - E-Business
  - AI & Business Analytics
  - Digital Leadership
  - Business Economics
- Bachelor of Arts (Honours) in International Business Management
- Bachelor of Arts (Honours) in International Business Management with a specialism in
  - Supply Chain Management
- Bachelor of Arts (Honours) in Human Resource Management
- Bachelor of Arts (Honours) in Human Resource Management with a specialism in
  - People Analytics
- Bachelor in Digital Marketing (Honours)

### Hospitality & Tourism

- Bachelor of Arts (Honours) in Tourism Management
- Bachelor of Science (Honours) in Hospitality and Tourism with a specialism in
  - Hospitality Innovation
  - Events Management
  - Aviation Management

### Media and International Relations

- Bachelor of Arts (Honours) in Media and Communication Studies
- Bachelor of Arts (Honours) in International Relations

### Media, Arts & Design

- Bachelor of Arts (Honours) in Industrial Design
- Bachelor of Arts (Honours) in Visual Effects
- Bachelor of Arts (Honours) in Animation
- Bachelor of Arts (Honours) in Digital Advertising

PORTFOLIO REQUIRED

* Students who choose to progress to Computer Science, Software Engineering, Data Analytics, Cyber Security, Digital Forensics and Artificial Intelligence programmes will be required to undertake Foundation Pathways from the **Computing & Technology** route or **Engineering** route if the student does not have a credit in Additional Mathematics at SPM / O-Level / IGCSE or equivalent.

Students who have completed Foundation from other routes apart from the above are required to do a Pre-Requisite module in Further Mathematics or equivalent in the first semester of the Degree Programme, provided they also still have Credit in Maths and Science or ICT subject at SPM / O-Level / IGCSE or equivalent.

** Further Mathematics module is Compulsory for students who choose to progress to Bachelor of Science (Honours) in Actuarial Studies.



# Diploma Programmes

Our Diploma Programmes are designed to prepare those with SPM, O-Levels, IGCSE or similar qualifications with academic aspect as well as the vocational aspects of various areas of studies. The programmes are designed to:

- Prepare students for careers in the respective environment
- Provide students with academic and professional skills to develop solutions requiring a holistic outlook in various areas of studies
- Provide students with critical, independent and cooperative learning skills so as to facilitate their response to continuous future international change
- Develop intellectual skills, communications ability and team working capability
- Provide students with opportunities for progression into the Degree Programmes of their choice*

* Pathways after Diploma Programme vary accordingly.

## OUR DIPLOMA PROGRAMME:

- **Diploma in Mechatronic Engineering**



## PATHWAYS AFTER DIPLOMA TO ENGINEERING DEGREES

Upon Successful completion of the APU Engineering Diploma and fulfilment of requirements for Credit Transfer, subject to the approval of the APU Academic Board or Successful completion of a Diploma in Engineering with other recognised Institutions and fulfilment of requirements for Credit Transfer, subject to the approval of the APU Academic Board, you will be eligible to progress into Year 2 of any of the following degree programmes offered at APU.

**Diploma in Mechatronic Engineering**

- **Bachelor of Electrical & Electronic Engineering with Honours**
- **Bachelor of Mechatronic Engineering with Honours**
- **Bachelor of Mechanical Engineering with Honours**
- **Bachelor of Computer Engineering with Honours**
- **Bachelor of Petroleum Engineering with Honours**











** For the full listing of our Diploma Programmes, please refer to the Pre-University programme brochure.*

# Engineering @APU

FREQUENT INDUSTRIAL VISITS & INDUSTRIAL SEMINARS

HIGHLY QUALIFIED ACADEMICIANS WITH INDUSTRY AND RESEARCH EXPERIENCE

STRONG RELATIONSHIP WITH INDUSTRY PARTNERS

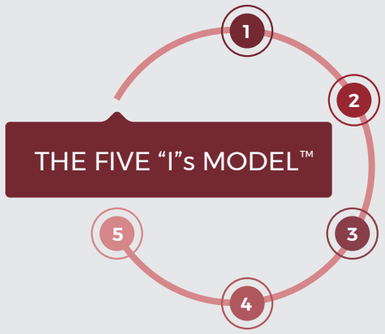
RESEARCH OPPORTUNITIES FOR STUDENTS

EXPOSURE TO PROFESSIONAL PRACTICE

## 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 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 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 Mechanical Engineering with Honours

Mechanical Engineer plays a vital role in various industries by applying their expertise in designing, analysing, and maintaining mechanical systems and devices. This profession is at the heart of innovation, as mechanical engineers contribute to the development of cutting-edge technologies and the improvement of existing systems. Here's a brief overview of the role of a Mechanical Engineer:

- Automobile Design and Development
- Analysis and Testing of Machines
- Thermo fluids Problem Solving
- Prototyping and Manufacturing
- Project Management
- Research and Development
- Climate Control System Developer
- Regulatory Compliance
- Production and quality control
- Aircraft and Spacecraft Design Specialist

### 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 specialise 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 optimise oil and gas production.
- Reservoir engineer helps 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.

### 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

## PROGRAMME EDUCATIONAL OBJECTIVES

| PEO | ELECTRICAL AND ELECTRONIC ENGINEERING (EEE) | MECHATRONIC ENGINEERING (ME) | MECHANICAL ENGINEERING (ME) | 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 Mechanical 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 Mechanical 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 LEARNING OUTCOMES

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

**PLO1** - Ability to gain and apply principles of Mathematics, Science and Engineering to the solutions of complex engineering problems.

**PLO2** - Ability to undertake complex engineering problem analysis and apply engineering principles to solve them.

**PLO3** - Ability to design innovative solutions for complex engineering problems.

**PLO4** - Ability to investigate complex engineering problems using research techniques.

**PLO5** - Ability to select and use suitable tools and techniques for complex engineering problems.

**PLO6** - Ability to engage in professional engineering practice for safety, health, social, cultural and legal responsibilities in developing solutions for complex engineering problems.

**PLO7** - Ability to comprehend and demonstrate good practices of engineering in sustainable development and environmental considerations for the solutions of complex engineering problems.

**PLO8** - Ability to execute the responsibilities of an Engineer professionally and ethically.

**PLO9** - Ability to function effectively as a team leader or a member in a team within multi-disciplinary settings.

**PLO10**- Ability to communicate effectively and professionally on complex engineering activities.

**PLO11** - Ability to demonstrate entrepreneurship skills, engineering project management and economic decision making in multidisciplinary environments.

**PLO12**- Ability to recognise the need for, and be able to engage in independent and life-long learning towards continuous professional development.



# 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.



*RescueAI, the AI-powered drone that's taking disaster management to the next level, took home the highest invention technical award at WICO 2023 and advanced to the finals (business plan competition) of the DB-SNUbiz Global Startup Challenge 2023.*



*Students from Asia Pacific University of Technology & Innovation's (APU's) School of Engineering (SoE) and Center for Research and Development of IoT (CREDIT) were awarded 11 awards/medals in three prestigious research and innovation competitions in 2023.*



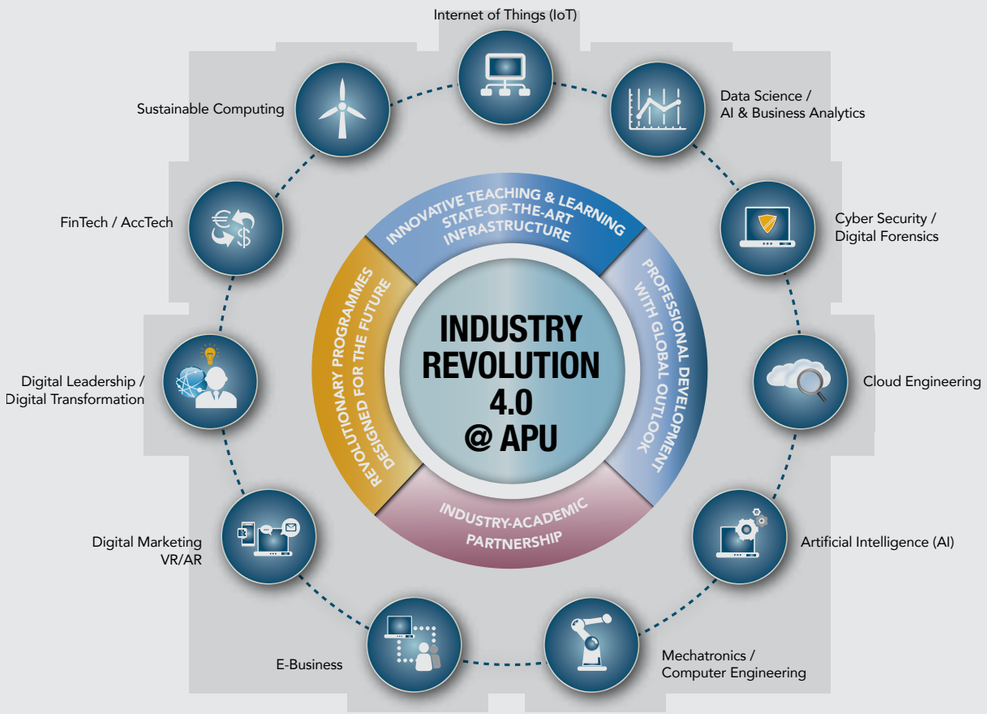

*Asia Pacific University of Technology & Innovation (APU) congratulates Mr. Chong Wei Lun on receiving the IEM Gold Medal Award at the 64th IEM Annual Dinner.*

# Embracing the wave of Industry Revolution 4.0

## FUTURE-PROOFING THE WORKFORCE OF THE FUTURE

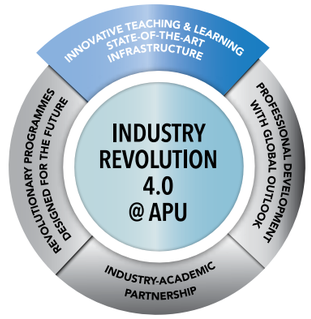
New waves of technological disruptions and the emergence of advanced technologies have resulted in the Fourth Industrial Revolution (IR4.0), where Robotics, Artificial Intelligence (AI), Machine Learning, Virtual Reality (VR), Cloud Engineering, Internet of Things (IoT), Data Science are going to transform 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.



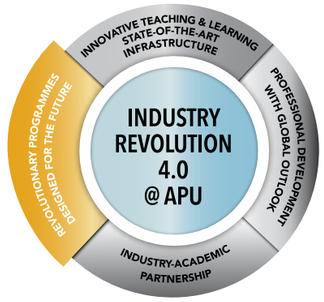



## INDUSTRY REVOLUTION 4.0 @ APU



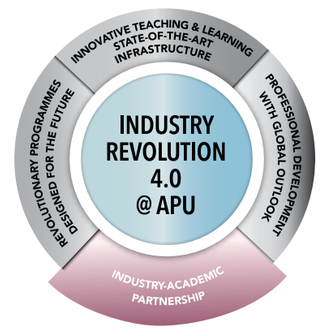

### INNOVATIVE TEACHING & LEARNING STATE-OF-THE-ART INFRASTRUCTURE

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.



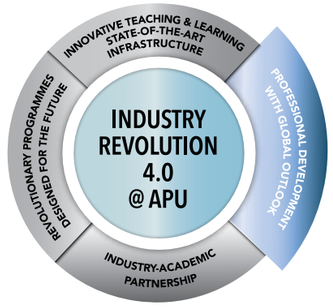

### REVOLUTIONARY PROGRAMMES DESIGNED FOR THE FUTURE

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), Artificial Intelligence (AI), Digital Leadership, Digital Transformation, Sustainable Computing, VR/AR, Financial Technology (FinTech), Accounting Technology (AccTech), Digital Marketing, E-Business, Mechatronic, Computer Engineering, Cloud Engineering and more.



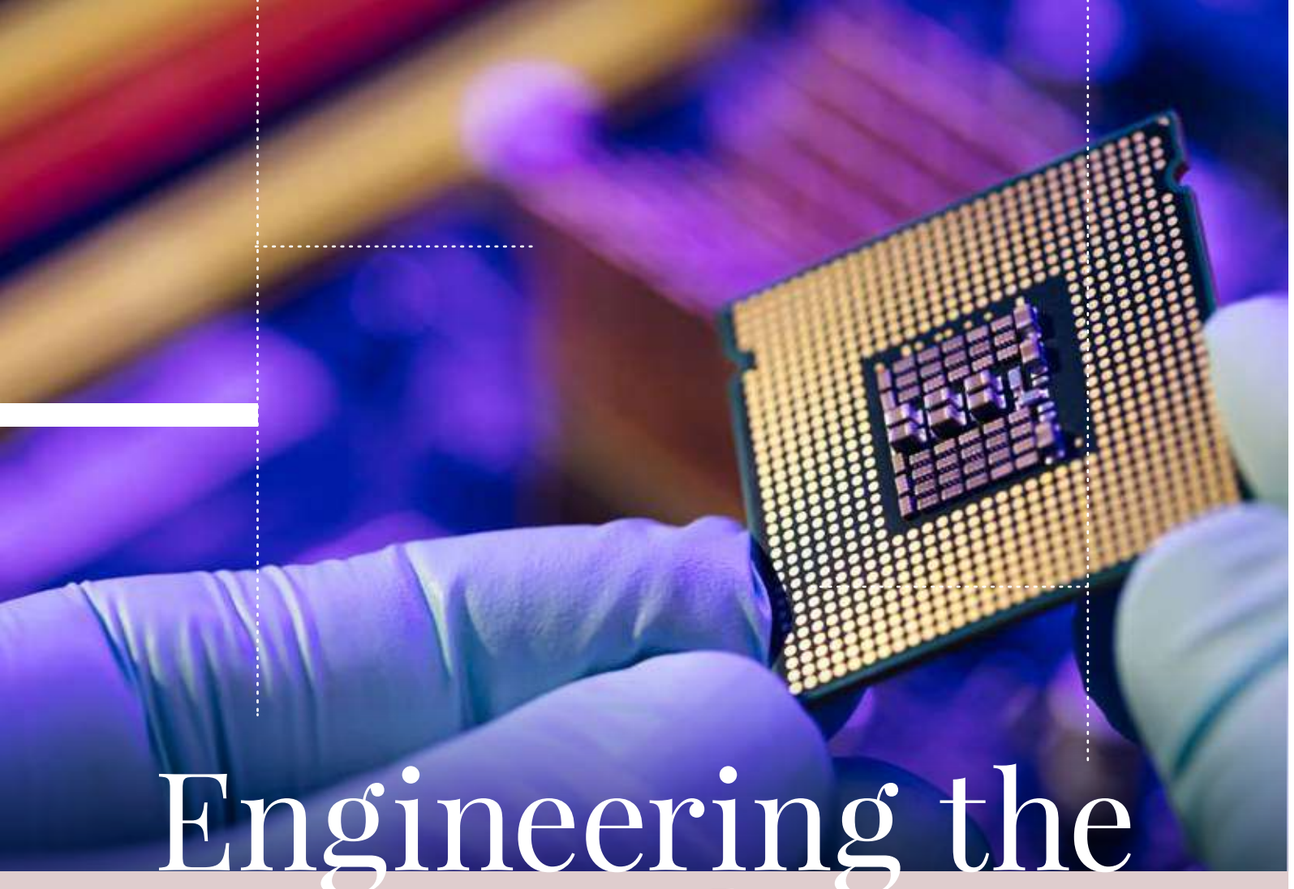

### INDUSTRY-ACADEMIC PARTNERSHIP

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 students from over 130 countries.



# Engineering the Semiconductor Future @ APU

## APU ENGINEERING DEGREES - IC DESIGN AND MANUFACTURING EXTENSION PATHWAY

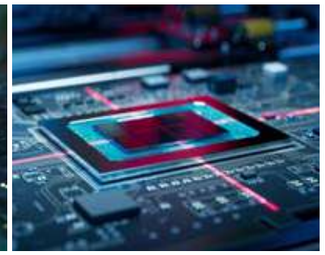
**Specialise in Semiconductor & IC Technologies**

The IC Design and Manufacturing Extension Pathway at APU is embedded within recognised and accredited engineering degrees, ensuring students graduate with strong academic foundations while gaining specialised high-demand semiconductor design and manufacturing skills such as chip fabrication which includes photolithography, lift off, electrode patterning and other contemporary techniques employing niche technology.

Latest developments in software applications will include LT Spice and Cadence. The industry-aligned curriculum is designed to reflect real-world practices and evolving technological needs, providing a clear pathway into careers within the semiconductor industry or advanced postgraduate studies. By aligning closely with national and global industry priorities and the National Semiconductor Strategy Framework, this extension also supports Malaysia's rapidly growing semiconductor ecosystem, enabling graduates to contribute meaningfully to one of the world's most critical and future-focused technology sectors.









This pathway allows students to specialise in semiconductor and integrated circuit (IC) design and manufacturing during the year 3 and final year of study.

- Bachelor of Electrical and Electronic Engineering with Honours
- Bachelor of Computer Engineering with Honours
- Bachelor of Mechatronic Engineering with Honours

Students opt for the extension in their advanced years, building on core engineering knowledge while gaining industry-focused semiconductor expertise.

This extension pathway integrates specialised semiconductor modules aligned with real-world IC design and manufacturing practices, including:

- Analogue & digital IC design
- Chip architecture and system integration
- Semiconductor design tools and workflows
- CAD / CAM and EDA applications
- VLSI design methodologies (Computer Engineering)
- AI Applications in chip design

### Career Pathways

Graduates are well-prepared for roles in high-growth semiconductor and electronics industries, such as:

- IC Design Engineer
- VLSI / ASIC / SoC Engineer
- Semiconductor Process Engineer
- Hardware & Embedded Systems Engineer
- CAD / CAM Engineer
- R&D Engineer (Microelectronics)

### Key Modules

- Analogue Integrated Circuits and Systems
- Computer Aided Design / Computer Aided Manufacturing (CAD/CAM)
- Analogue and Digital Integrated Circuit Design
- VLSI Design (Very Large Scale Integration) – For Computer Engineering

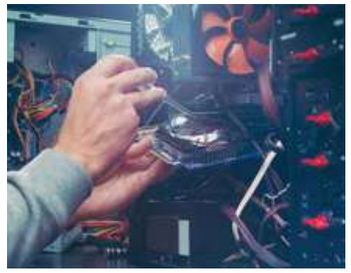
### National Semiconductor Strategy (NSS) and the New Industrial Master Plan 2030 (NIMP 2030)

Malaysia's semiconductor drive, guided by the National Semiconductor Strategy (NSS) and New Industrial Master Plan 2030 (NIMP 2030), focuses on moving up the value chain from assembly to design and R&D, attracting RM500 billion in investments, developing 60,000 skilled talents, and fostering local champions via initiatives like IC design parks, tax incentives, and grants, leveraging its neutrality and existing strong assembly base to become a high-tech hub.

Universities are crucial for developing technical expertise, supporting Malaysia's semiconductor growth, and ensuring talent meets the demands of global investors for high-tech roles.







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

(R3/0712/6/0015)(02/29)(MQA/FA4013

**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 Engineeer
- Sales Engineer
- Support Engineer
- R&D Engineer
- Power Plant Engineer
- Optical Engineer
- Transmission Engineer



## At a glance

**YEAR 1**

Students will understand the basic principles of engineering in the areas of Circuit Analysis, Engineering Materials 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 entrepreneurship. 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, Machine Vision & Intelligence, Communication Engineering Principles, Microprocessor Systems & Embedded Software, Digital Signal Processing, Generation, Transmission and Distribution of Electrical Power, 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**
- Engineering Materials
- Instrumentation & Measurement
- Programming with Python
- Engineering Mathematics 1
- Introduction to C Programming
- Engineering Mathematics 2
- Analysis of Circuits
- Fundamentals of Entrepreneurship

**YEAR 2**
**Common Modules**
- Digital Electronics
- Engineering Mathematics 3
- Engineering Software & Applications
- Innovation Process
- Analogue Electronics
- Electromagnetic Field Theory
- Signals & Linear Systems

**Specialised Modules**
- Electrical Machines 1
- Electrical Machines 2
- Electrical Power Utilization

**YEAR 3**
**Common Modules**
- Control Engineering
- Venture Building
- Engineering Mathematics 4
- Communication Engineering Principles
- Microprocessor Systems & Embedded Software
- Digital Signal Processing
- Engineering Project Management

**Specialised Modules**
- Generation, Transmission & Distribution of Electrical Power
- Power Electronics & Drives

***In the 2nd Semester of Year 3***
**Minor/ Extension Pathway (Choose 1)**
- Choose **1 module from Minor Pathway OR Extension Pathway** as described in the table.

**INTERNSHIP** (16 weeks)

**YEAR 4**
**Common Modules**
- Project Phase 1 (Investigation)
- Group Design Project 1
- Group Design Project 2
- Project Phase 2 (Implementation)
- Engineer in Society

**Specialised Modules**
- Switchgears & Protection
- Power System Analysis
- High Voltage Engineering

**Minor/ Extension Pathway (Continuation)**
- Choose **1 module from Minor Pathway OR Extension Pathway** as a continuation from the module selected in Year 3 Semester 2 as described in the Table.

**MQA Compulsory Subjects***
- Appreciation of Ethics and Civilisation (M'sian Students)
- Malay Communication Language (Int'l Students)
- Philosophy and Current Issues
- Workplace Professional Skills
- Integrity and Anti-corruption
- Co-Curriculum



# ELECTRICAL & ELECTRONIC ENGINEERING MINOR/ EXTENSION PATHWAYS

*Future Proof Engineers for the Real World*

In APU, employment and it's continual sustainability is of paramount importance to us. The range of minor and extensions offered to all students within the School of Engineering will craft a formidable way forward for the young aspiring engineers of tomorrow. These options allow students to embark on a journey of exploration either within the engineering fraternity by extending into greater depth (extensions) niche knowledge, skills and attributes required for the practice of contemporary engineering or explore wider options (minor) that are pivotal in the fundamental proliferation of the engineering profession as a while when coupled with other current multidisciplinary fields of expertise. Successful completion of either pathways future proof the students allowing them to embark on a journey of rewarding careers within an engineering discipline of their choice.

**Minor Pathway –** Gain breadth of knowledge by taking 3 set modules outside of a particular major field of study. There are minor packages available undertaken from Year 3 Semester 2 Year 4 Semester 1 and Year 4 Semester 2.

**MINOR PATHWAY**

| NAME OF MINOR | Year 3 Semester 2 | Year 4 Semester 1 | Year 4 Semester 2 |
|---|---|---|---|
| **IoT** | Knowledge Discovery and Big Data Analytics | Internet of Things: Concepts and Applications | Emergent Technology |
| **FinTech** | FinTech Governance, Risk Management & Compliance | Digital Finance | Robo Advisor |
| **Digital Transformation** | Digital Execution | Digital Strategy & Analytics | Emergent Technology |
| **Data Analytics** | Knowledge Discovery and Big Data Analytics | Behavioral Science and Marketing Analytics | Optimization & Deep Learning |
| **Artificial Intelligence** | Machine Vision Intelligence (MVI) | Text Analysis & Sentiment Analysis | Emergent Technology |

**Extension Pathway –** Expand depth of knowledge by taking three (3) set modules in a specific area within a certain field of study. There are extensions available undertaken from Year 3 Semester 2, Year 4 Semester 1 and Year 4 Semester 2.

**EXTENSION PATHWAY**

| NAME OF EXTENSION | Year 3 Semester 2 | Year 4 Semester 1 | Year 4 Semester 2 |
|---|---|---|---|
| **Smart Drones** | Robotic Technology | Robot Operating Systems | Drone Technology |
| **Smart Manufacturing** | Robotic Technology | Robot Operating Systems | Product Creation Technology |
| **Drilling Technology** | Drilling Fluids & Hydraulics | Directional Drilling & Surveying | Well Control |
| **Intelligent Design and Manufacturing Technologies** | Machine Vision Intelligence | CAD/CAM | Product Creation Technology |
| **Oil and Gas Operations** | Gas Engineering | Petroleum Economics | Drilling Fluids & Hydraulics |
| **EV Technology** | Machine Vision Intelligence | EV Energy Management Strategies | Automotive Vehicle Modelling |
| **5G Wireless Technology** | Machine Vision Intelligence | 5G Concepts and Applications | Emergent Technology |
| **Mining and Blasting** | Drilling Fluids & Hydraulics | Directional Drilling & Surveying | Mining and Blasting |
| **Prompt Engineering** | Machine Vision Intelligence | Prompt Concepts and Applications | Deep Learning |
| **Agri Tech** | Machine Vision Intelligence | Mapping and Navigation | Crop Health Monitoring |







# Bachelor of **MECHATRONIC ENGINEERING**
with Honours

(R3/0713/6/0005)(02/29)(MQA/FA4084)

**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



## At a glance

**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 entrepreneurship. 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, Microprocessor Systems & Embedded Software, Machine Design, Fluid Mechanics, Industrial Automation 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
- Fundamentals of Entrepreneurship
- Engineering Mathematics 1
- Engineering Mathematics 2
- Introduction to C Programming
- Programming with Python
- 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
- Innovation Processes

**Specialised Modules**
- Fluid Mechanics
- Thermodynamics and Heat Transfer
- Sensors & Actuators

**YEAR 3**
**Common Modules**
- Control Engineering
- Communication Engineering Principles
- Engineering Mathematics 4
- Microprocessor Systems & Embedded Software
- Engineering Project Management
- Venture Building

**Specialised Modules**
- Mechanics of Machines
- Industrial Automation
- Robotics Technology

***In the 2nd Semester of Year 3***
**Minor/ Extension Pathway (Choose 1)**
- Choose **1 module from Minor Pathway OR Extension Pathway** as described in the table.

**INTERNSHIP** (16 weeks)

**YEAR 4**
**Common Modules**
- Project Phase 1 (Investigation)
- Group Design Project 1
- Project Phase 2 (Implementation)
- Engineer in Society
- Group Design Project 2

**Specialised Modules**
- CAD/CAM

**Minor/ Extension Pathway (Continuation)**
- Choose **1 module from Minor Pathway OR Extension Pathway** as a continuation from the module selected in Year 3 Semester 2 as described in the Table.

**MQA Compulsory Subjects***
- Appreciation of Ethics and Civilisation (M'sian Students)
- Malay Communication Language (Int'l Students)
- Philosophy and Current Issues
- Workplace Professional Skills
- Integrity and Anti-corruption
- Co-Curriculum



# MECHATRONIC ENGINEERING MINOR/ EXTENSION PATHWAYS

## *Future Proof Engineers for the Real World*

In APU, employment and it's continual sustainability is of paramount importance to us. The range of minor and extensions offered to all students within the School of Engineering will craft a formidable way forward for the young aspiring engineers of tomorrow. These options allow students to embark on a journey of exploration either within the engineering fraternity by extending into greater depth (extensions) niche knowledge, skills and attributes required for the practice of contemporary engineering or explore wider options (minor) that are pivotal in the fundamental proliferation of the engineering profession as a while when coupled with other current multidisciplinary fields of expertise. Successful completion of either pathways future proof the students allowing them to embark on a journey of rewarding careers within an engineering discipline of their choice.

**Minor Pathway –** Gain breadth of knowledge by taking 3 set modules outside of a particular major field of study. There are minor packages available undertaken from Year 3 Semester 2 Year 4 Semester 1 and Year 4 Semester 2.

**MINOR PATHWAY**

| NAME OF MINOR | Year 3 Semester 2 | Year 4 Semester 1 | Year 4 Semester 2 |
|---|---|---|---|
| **IoT** | Knowledge Discovery and Big Data Analytics | Internet of Things: Concepts and Applications | Emergent Technology |
| **FinTech** | FinTech Governance, Risk Management & Compliance | Digital Finance | Robo Advisor |
| **Digital Transformation** | Digital Execution | Digital Strategy & Analytics | Emergent Technology |
| **Data Analytics** | Knowledge Discovery and Big Data Analytics | Behavioral Science and Marketing Analytics | Optimization & Deep Learning |
| **Artificial Intelligence** | Machine Vision Intelligence (MVI) | Text Analysis & Sentiment Analysis | Emergent Technology |

**Extension Pathway –** Expand depth of knowledge by taking three (3) set modules in a specific area within a certain field of study. There are extensions available undertaken from Year 3 Semester 2, Year 4 Semester 1 and Year 4 Semester 2.

**EXTENSION PATHWAY**

| NAME OF EXTENSION | Year 3 Semester 2 | Year 4 Semester 1 | Year 4 Semester 2 |
|---|---|---|---|
| **Unmanned Aerial Vehicles** | Machine Vision Intelligence | Robot Operating Systems | Drone Technology |
| **Drilling Technology** | Drilling Fluids & Hydraulics | Directional Drilling & Surveying | Well Control |
| **Oil and Gas Operations** | Gas Engineering | Petroleum Economics | Drilling Fluids & Hydraulics |
| **Smart Robotics** | Machine Vision Intelligence | Robot Operating Systems | Product Creation Technology |
| **EV Technology** | Machine Vision Intelligence | EV Energy Management Strategies | Automotive Vehicle Modelling |
| **5G Wireless Technology** | Machine Vision Intelligence | 5G Concepts and Applications | Emergent Technology |
| **Mining and Blasting** | Drilling Fluids & Hydraulics | Directional Drilling & Surveying | Mining and Blasting |
| **Prompt Engineering** | Machine Vision Intelligence | Prompt Concepts and Applications | Deep Learning |
| **Agri Tech** | Machine Vision Intelligence | Mapping and Navigation | Crop Health Monitoring |



**Duration:**
4 years full-time

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

- High quality internationally recognised and accredited engineering education through a robust curriculum that is firmly grounded with the fundamentals of contemporary practices of Mechanical engineering.
- In-depth knowledge of Mechanical Engineering principles through comprehensive yet contemporary coursework and hands-on projects coupled with the opportunity to work and gain experience with state-of-the-art facilities that assist in the promotion of deep and well-grounded understanding of mechanical engineering principles.
- The practical skill on how to ideate, plan, design and realise mechanical systems or prototypes through internationally recognised industry-standard software for simulations promoting the opportunity for a seamless integration with a fast moving forward workforce.

**Career options**

- Mechanical Engineer
- Product Development Engineer
- HVAC (heating, ventilation, and air conditioning) Engineer
- Automotive Engineer
- Aerospace Engineer
- Energy Engineer
- Manufacturing Engineer
- Robotics Engineer
- Research and Development Engineer
- Process Engineer
- Value Engineer
- Steam Engineer
- Automation Engineer
- Oil and Gas Engineer
- Drilling Engineer



# Bachelor of **MECHANICAL ENGINEERING** with Honours

(N/0714/6/0005)(07/30)(MQA/PA16763)

## At a glance

**YEAR 1**

Students will understand the basic principles of engineering in the areas of Instrumentation and Measurement, Engineering Design, Engineering Materials and Manufacturing Technology. 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 entrepreneurship. 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 Mechanical Engineering with modules such as Strength of Materials, Fluids Mechanics, Safety in Oil and Gas Engineering, and Formation Evaluation and Well Logging and Petroleum Geochemistry.

**YEAR 3**

Specialised knowledge and skills in the areas of Control Engineering, Venture Building, Mechanics of Machine, Machine Design, Industrial Automation, Microprocessor Systems & Embedded Software, Advanced Manufacturing Technology, Computer Aided Engineering are the critical focus of this level. Elective modules included Machine Vision and Intelligence, Gas Engineering, Enhanced Oil Recovery 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.

## Module outline

**YEAR 1**
**Common Modules**
- Engineering Materials
- Instrumentation and Measurement
- Programming with Python
- Engineering Design
- Engineering Mathematics 1
- Manufacturing Technology
- Engineering Mathematics 2
- Engineering Statics and Dynamics
- Thermodynamics
- Fundamentals of Entrepreneurship

**YEAR 2**
**Common Modules**
- Digital Electronics
- Engineering Mathematics 3
- Introduction to Electrical Systems
- Strength of Materials
- Fluid Mechanics
- Innovation Processes
- Safety in Oil and Gas Engineering
- Formation Evaluation and Well Logging
- Petroleum Geochemistry

**YEAR 3**
**Common Modules**
- Control Engineering
- Venture Building
- Mechanics of Machine
- Machine Design
- Industrial Automation
- Microprocessor Systems & Embedded Software
- Advanced Manufacturing Technology
- Computer Aided Engineering
- Engineering Project Management

***In the 2nd Semester of Year 3***
**Minor/ Extension Pathway (Choose 1)**
- Choose **1 module from Minor Pathway OR Extension Pathway** as described in the table.

**INTERNSHIP** (16 weeks)

**YEAR 4**
**Common Modules**
- Project Phase I (Investigation)
- Project Phase II (Implementation)
- Group Design Project I
- Group Design Project II
- Engineering Vibration
- Heat Transfer
- Engineer in Society

**Minor/ Extension Pathway (Continuation)**
- Choose **1 module from Minor Pathway OR Extension Pathway** as a continuation from the module selected in Year 3 Semester 2 as described in the Table.

**MQA Compulsory Subjects***
- Appreciation of Ethics and Civilisation (M'sian Students)
- Malay Communication Language (Int'l Students)
- Philosophy and Current Issues
- Workplace Professional Skills
- Integrity and Anti-corruption
- Co-Curriculum

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



# MECHANICAL ENGINEERING MINOR/ EXTENSION PATHWAYS

## *Future Proof Engineers for the Real World*

In APU, employment and it's continual sustainability is of paramount importance to us. The range of minor and extensions offered to all students within the School of Engineering will craft a formidable way forward for the young aspiring engineers of tomorrow. These options allow students to embark on a journey of exploration either within the engineering fraternity by extending into greater depth (extensions) niche knowledge, skills and attributes required for the practice of contemporary engineering or explore wider options (minor) that are pivotal in the fundamental proliferation of the engineering profession as a while when coupled with other current multidisciplinary fields of expertise. Successful completion of either pathways future proof the students allowing them to embark on a journey of rewarding careers within an engineering discipline of their choice.

**Minor Pathway –** Gain breadth of knowledge by taking 3 set modules outside of a particular major field of study. There are minor packages available undertaken from Year 3 Semester 2 Year 4 Semester 1 and Year 4 Semester 2.

**MINOR PATHWAY**

| NAME OF MINOR | Year 3 Semester 2 | Year 4 Semester 1 | Year 4 Semester 2 |
|---|---|---|---|
| **IoT** | Knowledge Discovery and Big Data Analytics | Internet of Things: Concepts and Applications | Emergent Technology |
| **FinTech** | FinTech Governance, Risk Management & Compliance | Digital Finance | Robo Advisor |
| **Digital Transformation** | Digital Execution | Digital Strategy & Analytics | Emergent Technology |
| **Data Analytics** | Knowledge Discovery and Big Data Analytics | Behavioral Science and Marketing Analytics | Optimization & Deep Learning |
| **Artificial Intelligence** | Machine Vision Intelligence (MVI) | Text Analysis & Sentiment Analysis | Emergent Technology |

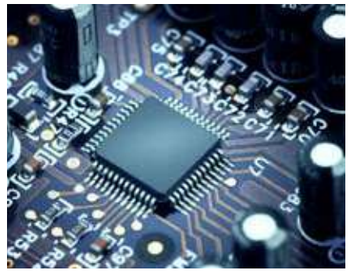
**Extension Pathway –** Expand depth of knowledge by taking three (3) set modules in a specific area within a certain field of study. There are extensions available undertaken from Year 3 Semester 2, Year 4 Semester 1 and Year 4 Semester 2.

**EXTENSION PATHWAY**

| NAME OF EXTENSION | Year 3 Semester 2 | Year 4 Semester 1 | Year 4 Semester 2 |
|---|---|---|---|
| **Unmanned Aerial Vehicles** | Machine Vision Intelligence | Robot Operating Systems | Drone Technology |
| **Drilling Technology** | Drilling Fluids & Hydraulics | Directional Drilling & Surveying | Well Control |
| **Oil and Gas Operations** | Gas Engineering | Petroleum Economics | Drilling Fluids & Hydraulics |
| **Smart Robotics** | Machine Vision Intelligence | Robot Operating Systems | Product Creation Technology |
| **EV Technology** | Machine Vision Intelligence | EV Energy Management Strategies | Automotive Vehicle Modelling |
| **Mining and Blasting** | Drilling Fluids & Hydraulics | Directional Drilling & Surveying | Mining and Blasting |
| **Prompt Engineering** | Machine Vision Intelligence | Prompt Concepts and Applications | Deep Learning |







# Bachelor of **COMPUTER ENGINEERING** with Honours

(R3/0713/6/0016)(02/29)(MQA/FA5127)

**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
- AI/ML Engineer
- IoT Engineer



## At a glance

**YEAR 1**

Students will understand the basic principles of engineering in the areas of Circuit Analysis, Instrumentation & Measurement, C Programming, Programming with Python, Engineering Materials, Engineering Design and Networking. Other modules aim to provide the basic demands of employers, as well as thorough grounding in principles of IT and entrepreneurship. 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, Communication Engineering Principles, VLSI Design, 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**
- Instrumentation & Measurement
- Engineering Materials
- Programming with Python
- Engineering Mathematics 1
- Introduction to C Programming
- Engineering Mathematics 2
- Analysis of Circuits
- Fundamentals of Entrepreneurship

**Specialised Modules**
- Introduction to Networking

**YEAR 2**
**Common Modules**
- Digital Electronics
- Introduction to Electrical Systems
- Engineering Mathematics 3
- Engineering Software & Applications
- Innovation Process
- Analogue Electronics
- Electromagnetic Field Theory
- Signals & Linear Systems

**Specialised Modules**
- Human Computer Interaction
- Object Oriented Development with Java
- Fundamentals of Integrated Circuits Design

**YEAR 3**
**Common Modules**
- Control Engineering
- Engineering Mathematics 4
- Communication Engineering Principles
- Venture Building
- Microprocessor Systems & Embedded Software
- Digital Signal Processing
- Engineering Project Management

**Specialised Modules**
- Modern Communication Systems
- VLSI Design
- Analogue Integrated Circuits & Systems

***In the 2nd Semester of Year 3***
**Minor/ Extension Pathway (Choose 1)**
- Choose **1 module from Minor Pathway OR Extension Pathway** as a continuation from the module selected in Year 3 Semester 2 as described in the Table.

**INTERNSHIP** (16 weeks)

**YEAR 4**
**Common Modules**
- Project Phase 1 (Investigation)
- Group Design Project 1
- Project Phase 2 (Implementation)
- Engineer in Society
- Group Design Project 2

**Specialised Modules**
- Computer Systems Security
- User Experience

**Minor/ Extension Pathway (Continuation)**
- Choose **1 module from Minor Pathway OR Extension Pathway** as a continuation from the module selected in Year 3 Semester 2 as described in the Table.

**MQA Compulsory Subjects***
- Appreciation of Ethics and Civilisation (M'sian Students)
- Malay Communication Language (Int'l Students)
- Philosophy and Current Issues
- Workplace Professional Skills
- Integrity and Anti-corruption
- Co-Curriculum



# COMPUTER ENGINEERING EXTENSION PATHWAYS

## *Future Proof Engineers for the Real World*

In APU, employment and it's continual sustainability is of paramount importance to us. The range of minor and extensions offered to all students within the School of Engineering will craft a formidable way forward for the young aspiring engineers of tomorrow. These options allow students to embark on a journey of exploration either within the engineering fraternity by extending into greater depth (extensions) niche knowledge, skills and attributes required for the practice of contemporary engineering or explore wider options (minor) that are pivotal in the fundamental proliferation of the engineering profession as a while when coupled with other current multidisciplinary fields of expertise. Successful completion of either pathways future proof the students allowing them to embark on a journey of rewarding careers within an engineering discipline of their choice.

**Extension Pathway –** Expand depth of knowledge by taking three (3) set modules in a specific area within a certain field of study. There are extensions available undertaken from Year 3 Semester 2, Year 4 Semester 1 and Year 4 Semester 2.

**EXTENSION PATHWAY**

| NAME OF EXTENSION | Year 3 Semester 2 | Year 4 Semester 1 | Year 4 Semester 2 |
|---|---|---|---|
| **Cloud Computing** | Designing and Developing Applications on Cloud | Cloud Infrastructure and Services | Emergent Technology |
| **IoT** | Knowledge Discovery and Big Data Analytics | Internet of Things: Concepts and Applications | Emergent Technology |
| **FinTech** | FinTech Governance, Risk Management & Compliance | Digital Finance | Robo Advisor |
| **Digital Transformation** | Digital Execution | Digital Strategy & Analytics | Emergent Technology |
| **Data Analytics** | Knowledge Discovery and Big Data Analytics | Behavioral Science and Marketing Analytics | Optimization & Deep Learning |
| **Artificial Intelligence** | Machine Vision Intelligence (MVI) | Text Analysis & Sentiment Analysis | Emergent Technology |
| **EV Technology** | Machine Vision Intelligence | EV Energy Management Strategies | Automotive Vehicle Modelling |
| **5G Wireless Technology** | Machine Vision Intelligence | 5G Concepts and Applications | Emergent Technology |
| **Prompt Engineering** | Machine Vision Intelligence | Prompt Concepts and Applications | Deep Learning |
| **Agri Tech** | Machine Vision Intelligence | Mapping and Navigation | Crop Health Monitoring |
| **Quantum Computing** | Fundamentals of Quantum Computing | Quantum Circuits and Algorithms | Advanced Quantum Computing |







**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

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

(R/0724/6/0001)(10/27)(MQA/FA6546)

## At a glance

**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 entrepreneurship. 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 Engineering Software and Applications is used to provide better understanding of software 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 and Gas Engineering 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.

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

## Module outline

**YEAR 1**
**Common Modules**
- Engineering Materials
- Programming with Python
- Engineering Mathematics 1
- Introduction to C Programming
- Engineering Mathematics 2
- Engineering Statics and Dynamics
- Fundamentals of Entrepreneurship
- Engineering Design

**Specialised Modules**
- Fundamental of Petroleum Engineering
- Petroleum Geology

**YEAR 2**
**Common Modules**
- Engineering Mathematics 3
- Engineering Software & Applications
- Innovation Process
- Fluid Mechanics
- Thermodynamics and Heat Transfer

**Specialised Modules**
- Elements of Reservoir Rock and Fluid Properties
- Safety in Oil and Gas Engineering
- Fluid Flow in Porous Media
- Petroleum Geochemistry
- Formation Evaluation and Well Logging

**YEAR 3**
**Common Modules**
- Venture Building
- Engineering Mathematics 4
- Engineering Project Management

**Specialised Modules**
- Reservoir Simulation
- Production Engineering
- Reservoir Engineering
- Well Testing
- Gas Engineering
- Enhanced Oil Recovery
- Well Engineering

***In the 2nd Semester of Year 3***
**Minor/ Extension Pathway (Choose 1)**
- Choose **1 module from Minor Pathway OR Extension Pathway** as a continuation from the module selected in Year 3 Semester 2 as described in the Table.

**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

**Minor/ Extension Pathway (Continuation)**
- Choose **1 module from Minor Pathway OR Extension Pathway** as a continuation from the module selected in Year 3 Semester 2 as described in the Table.

**MQA Compulsory Subjects***
- Appreciation of Ethics and Civilisation (M'sian Students)
- Malay Communication Language (Int'l Students)
- Philosophy and Current Issues
- Workplace Professional Skills
- Integrity and Anti-corruption
- Co-Curriculum

*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 organisations 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.



# PETROLEUM ENGINEERING MINOR/ EXTENSION PATHWAYS
## *Future Proof Engineers for the Real World*

In APU, employment and it's continual sustainability is of paramount importance to us. The range of minor and extensions offered to all students within the School of Engineering will craft a formidable way forward for the young aspiring engineers of tomorrow. These options allow students to embark on a journey of exploration either within the engineering fraternity by extending into greater depth (extensions) niche knowledge, skills and attributes required for the practice of contemporary engineering or explore wider options (minor) that are pivotal in the fundamental proliferation of the engineering profession as a while when coupled with other current multidisciplinary fields of expertise. Successful completion of either pathways future proof the students allowing them to embark on a journey of rewarding careers within an engineering discipline of their choice.

**Minor Pathway –** Gain breadth of knowledge by taking 3 set modules outside of a particular major field of study. There are minor packages available undertaken from Year 3 Semester 2 Year 4 Semester 1 and Year 4 Semester 2.

**MINOR PATHWAY**

| NAME OF MINOR | Year 3 Semester 2 | Year 4 Semester 1 | Year 4 Semester 2 |
|---|---|---|---|
| **IoT** | Knowledge Discovery and Big Data Analytics | Internet of Things: Concepts and Applications | Emergent Technology |
| **FinTech** | FinTech Governance, Risk Management & Compliance | Digital Finance | Robo Advisor |
| **Digital Transformation** | Digital Execution | Digital Strategy & Analytics | Emergent Technology |
| **Data Analytics** | Knowledge Discovery and Big Data Analytics | Behavioral Science and Marketing Analytics | Optimization & Deep Learning |
| **Artificial Intelligence** | Machine Vision Intelligence (MVI) | Text Analysis & Sentiment Analysis | Emergent Technology |

**Extension Pathway –** Expand depth of knowledge by taking three (3) set modules in a specific area within a certain field of study. There are extensions available undertaken from Year 3 Semester 2, Year 4 Semester 1 and Year 4 Semester 2.

**EXTENSION PATHWAY**

| NAME OF EXTENSION | Year 3 Semester 2 | Year 4 Semester 1 | Year 4 Semester 2 |
|---|---|---|---|
| **Smart Drones** | Robotic Technology | Robot Operating Systems | Drone Technology |
| **Smart Manufacturing** | Robotic Technology | Robot Operating Systems | Product Creation Technology |
| **Intelligent Design and Manufacturing Technologies** | Machine Vision Intelligence | CAD/CAM | Product Creation Technology |
| **Drilling Technology** | Drilling Fluids & Hydraulics | Directional Drilling & Surveying | Well Control |
| **Mining and Blasting** | Drilling Fluids & Hydraulics | Directional Drilling & Surveying | Mining and Blasting |




**The International Association of Drilling Contractors (IADC)** is founded in 1940, that serves as a global leader for the oil, gas, and geothermal drilling industry. IADC represents drilling contractors, oil/gas producers, and service companies, aiming to advance safe, efficient, and environmentally sound drilling operations worldwide.

**International Association of Drilling Contractor WellSharp University (IADC)** benefitted Petroleum Engineering students by exposing them to real world drilling engineering procedures providing them with a certificate each issued by IADC International.

APU is now officially the 1st in the world to become a IADC WSU Certified Training Center.



# 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



## 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 curriculum allows students to own their own future through the deployment of a robust yet turgid curriculum that allows students to expand their horizon into other fraternities (minors) or to deep dive within the engineering fraternity (extensions).

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 organise monthly technical events in collaboration with IEM, to boost students' managerial skills, innovation and presentation skills while learning to manage and organise professional-standard events from A to Z.













# I am APU

## WHAT DO OUR ALUMNI SAY...

**NICHOLAS TAN OOI KIAT** (Malaysia)
**B.Eng (Hons) in Mechatronic Engineering, Class of 2016**
**Assistant Manager, Engineering - Top Glove Corp Bhd, Malaysia**

"I landed my first job at my still present employer pretty much immediately after completing my studies at APU. In a time when it is common to hear "you will only ever use 10% of your degree knowledge", I was pleasantly surprised to experience the exact opposite; every skill, every lesson, and every module covered in my Mechatronic programme came into use in my career. Years after graduation, I still find myself going back to the basics regularly, referencing knowledge from all four years of the course. What's more, thanks to the voluminous practical knowledge gained from carrying out numerous courseworks and lab assignments under expert lecturers, I was much better equipped than many of my industry peers to execute engineering & technology research projects, and most importantly, seeing them through to completion. Now in a leadership position myself, come recruiting time, I always put APU grads at the top of the list. Even my colleagues want to tap into the supply as well!."

**ALEX LOOI TINK HUEY** (Malaysia)
**B.Eng (Hons) in Electrical & Electronic Engineering, Class of 2015**
**Head of Projects, Registered Electrical Energy Manager (EC), Assoc. ASEAN Engineer - MALIM Consulting Engineers Sdn Bhd**

"The Engineering and Computing programme at APU has been an amazing learning experience of having great intellectual capital and a nurturing environment for students. What sets APU apart from others is that students are dressed in full professional attire during school session which I believe transforms students positively (including myself) and take pride as a young professional, ready to engage with the rest of the world. APU brings out the best in students in providing a conducive and nurturing environment to excel in their respective fields and passions.."



## WHAT DO OUR ALUMNI SAY...

**MOHAMMAD FAWZAN ALIM** (Bangladesh)
**Bachelor of Computer Engineering with Honours, Class of 2025**
**Master's Degree Student - Tsinghua University**

"Choosing APU's engineering programme is something I will always be grateful for. More than technical knowledge, it transformed the way I learn and solve problems. Through challenging projects and assignments, I developed the confidence to tackle unfamiliar subjects and persist until I find solutions. That mindset has continued to benefit me in advanced academic pursuits and entrepreneurial projects, and remains one of the most valuable things I gained from my time at APU.."

**MOHAMMAD HUSSAIN** (India)
**B. Eng (Hons) in Electrical and Electronic Engineering, Class of 2019**
**Trans Ops Specialist - Relay Operations Centre (ROC) at Amazon, India**

"I am eternally grateful for being awarded the APU Merit Scholarship throughout my academic years. The diverse and progressive learning culture at APU helped me develop essential skills which continue to reward me in my career today."

**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."

**MAHSOOM RASEEN ABDUL CAREEM** (Sri Lanka)
**B.Eng (Hons) in Electrical and Electronics Engineering, Class of 2017**
**Project Lead, Business Consultant at Sysco LABS**

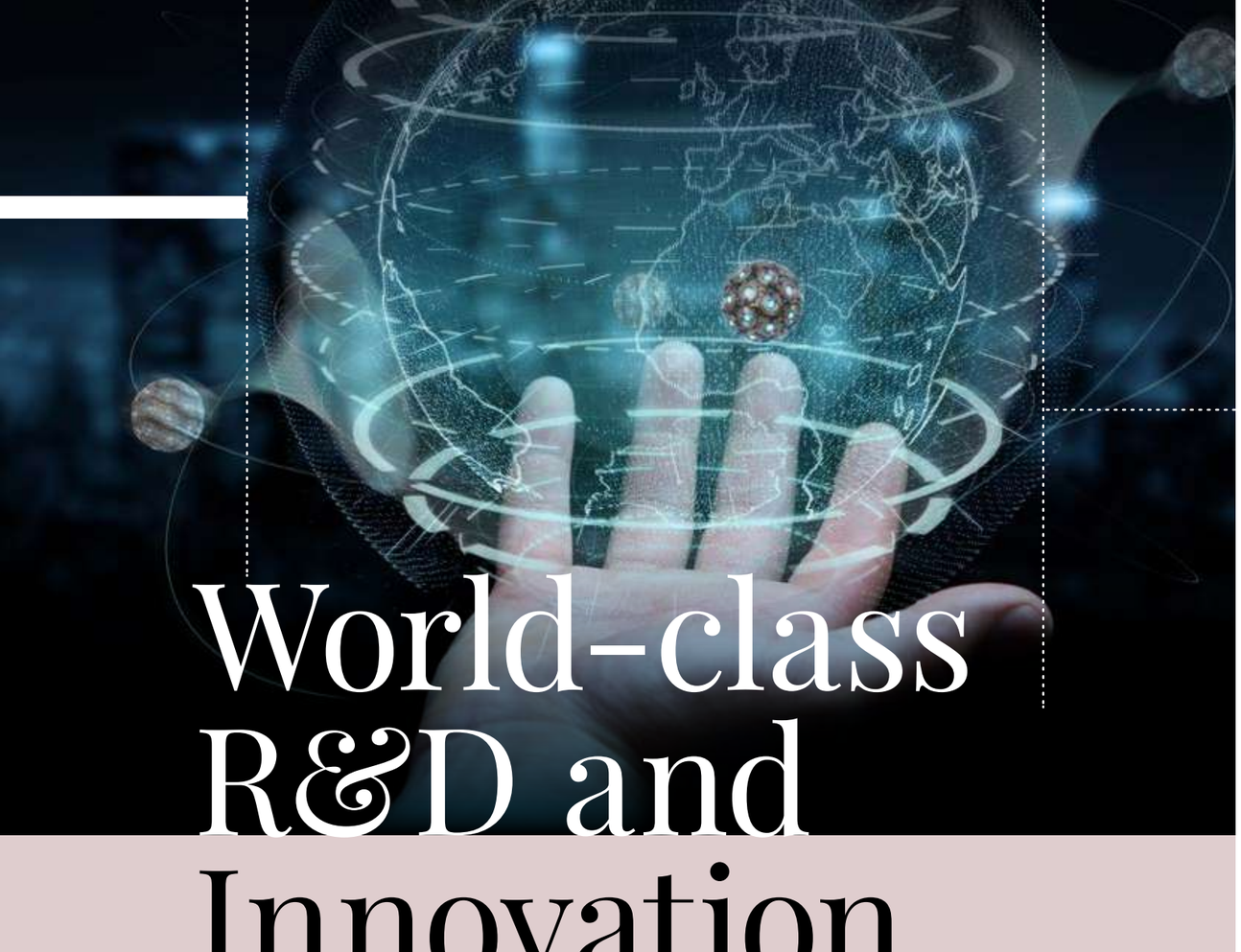
"This was an educational journey that played the role of establishing my trait as a professional. The University's discipline and conduct groomed us into better folk to succeed in growing industries while encouraging our creativity with the cutting-edge facilities provided by the campus."

**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 studetns 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 commercialisation 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.

### Visionary AI Studio

The Visionary AI Studio at Asia Pacific University of Technology and Innovation serves as a pioneering hub for artificial intelligence research across diverse disciplines. The studio champions interdisciplinary initiatives in engineering, computing, psychology, finance, and business, with a core emphasis on Applied AI — translating theoretical advances into practical, real-world solutions. Focusing on Machine Learning Mastery, Artificial Intelligence Innovations, Data Science Discovery, and AI Ethics and Governance, VAS develops cutting-edge algorithms and data-driven insights while ensuring ethical considerations guide all research endeavors. Through collaborative efforts, the studio bridges the gap between AI theory and application, addressing complex challenges, driving positive societal impact, and empowering future generations of AI practitioners.

### APU 5G Research Lab

The APU-5G research lab was established to serve as a platform for members from academia, business and industry to collaborate on 5G research to create market ready, innovative 5G technology solutions, applications and business ventures. The APU-5G research lab facilitates research at circuit, system and network level in 5G technologies and also is focused to the pathway for 6G technology to develop a powerful, faster, greener, sustainable network which will be smarter with infusion of AI, ML and Reinforcement learning.

The research lab aims at exploring the cutting edge technologies such as SDN, NFV, mm/THz Wave Band, Radio Access, Massive MIMO, D2D Communication, Ultra Densification, IoT, Big Data, Mobile Computing and fusion of AI and ML for development of 5G core and Radio Access Network Infrastructure. The developed 5G Network Infrastructure will be a platform to develop and test a range of use cases of primary, secondary and tertiary industries and business that are built on communication infrastructure. The 5G lab in association with the other research centers of APU will facilitate research in 5G network security, Network Data Collection and Analysis for Smarter 5G/6GNetwork and Highspeed Sensor Networks for Autonomous Industry.

# INNOVATIVE INDUSTRY-BASED RESEARCH CENTRES @ APU

### 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.

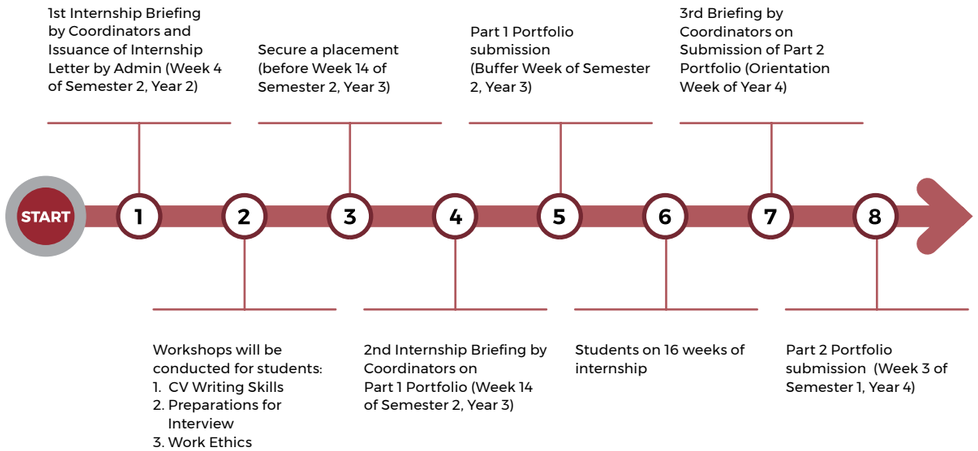
Taking this exposure as an important element in the curriculum APU ensures the smooth process of facilitation by starting the process a semester by guiding and nurturing the students via workshops and classes dedicated to;

1 - Development of a CV

2 - Attending Interviews

3 - Working professionally and ethically at a organisation

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-the-art* Engineering Equipment

















# It's all going on @APU

Students from over 130 countries ☆




















# Award-Winning University

268 Awards at Local, Regional and International Levels in 2025

## Recent Awards

**MYStartup Hackathon X DNB**
– Winner

**GOOGLE 30-Hour No-Code Hackathon**
– Champion

**Intel & Crest Industry-University Challenge**
– Grand Prize

**APU-AWS DeepRacer Competition**
– Champions

**Microsoft's Code; Without Barriers Hackathon**
– Champions

**Shell Selamat Sampai Varsity Challenge**
– Champion

**PETRONAS Inter-University Capture The Flag Challenge**
– Champion

# MAKING HISTORY - AWARDS AND ACHIEVEMENTS

Awards received by the university and our students at local, regional and international competitions are a testimony to their knowledge, skills and professional attributes.















**Intel AI Global Impact Festival**
- Champion

**ImpactHack by Standard Chartered**
- Champion

**Asia Pacific, Japan, and China (APJC) Cisco Netriders Competition**
- Champion

**Asia Pacific ICT Alliance (APICTA) Awards**
- National Champion

**MDEC PDTI Awards Winners**
- Outstanding Faculty Award (University Category)
- Outstanding Faculty Member Awards (3rd Place)
- Outstanding Student Awards (1st Place, 2nd Place, & Consolation Prize)

**PayNet Digital Campus 2.0 Campaign**
- Champion

**HILTI Global IT Challenge**
- Champion

**James Dyson Award Malaysia**
- National Champion

**Cybersecurity Excellence Awards**
- Gold Winner

**Institute of Engineers Malaysia (IEM) Award**
- Gold Award

**Society Of Petroleum Engineers (SPE) International Award**
- Outstanding Student Chapter & Excellence Award



# MAKING HISTORY - AWARDS AND ACHIEVEMENTS

**Malaysia Techlympics: Data Science Challenge**
- Champion

**Ethereum Blockchain Hackathon at ETH Seoul**
- Winner

**Young CEO X-Factor Challenge (ESTECH)**
- Champion

**World of Robotics Championship**
- Champion

**ZTE NextGen 5G Hackathon**
- First Runner-Up

**Global Robot Challenge in Beijing**
- Champion

**SME Bank Sandbox Swiss Innovation Challenge**
- Champion

**World Genius Convention (WGC)Japan**
- Gold Medal Award

**Asia Fintech Awards**
- Rising Star of the Year award

**The Art of Wheels: Rim Design Challenge**
- Champion

**KC7 Blue Team Cyber Security Challenge**
- Champion

**KL Selangor Furniture Association (KSFA) Golden Axe Award**
- Platinum Award

**Asian Compact Sedan Design Challenge (ACSDC)**
- Champion

*For more awards listing, please visit APU website.*



