Electronic with IT

Electrical & Electronic Engineering

Mechatronic

Telecommunication

EMBRACE THE SPIRIT OF CHALLENGE

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

SCHOOL OF
ENGINEERING

www.apu.edu.my

■ **PRE-UNIVERSITY PROGRAMME**
Degree Foundation Programme

■ **DIPLOMA PROGRAMMES**
APIIT Diploma in Electrical & Electronic Engineering

■ **DEGREE PROGRAMMES**
B. Eng (Hons) in Electrical & Electronic Engineering
B. Eng (Hons) in Electronic Engineering
with Information Technology
B. Eng (Hons) in Telecommunication Engineering
B. Eng (Hons) in Mechatronic Engineering

ALL DEGREE PROGRAMMES ARE
ACCREDITED
BOARD OF ENGINEERS
MALAYSIA

AN AWARD-WINNING UNIVERSITY

The 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 graduates for significant roles in business and society globally. 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.

Originally established as the Asia Pacific Institute of Information Technology (APIIT) in 1993 and Asia Pacific University College of Technology & Innovation (UCTI) in 2004, APU's sound approach to nurturing school leavers into qualified professionals has resulted in our graduates being highly sought after by employers. With an international student community from more than 100 countries studying in its Malaysian campus, APU offers a truly cosmopolitan learning environment which prepares students well for the global challenges which lie ahead. APU offers a wide range of degrees with Technology as a common core.

> APU's future purpose-built state-of-the-art campus in TPM.

It is APU's aim to nurture and encourage innovation through our programmes of study, with the intention of producing individuals who will learn, adapt and think differently in new and better ways.

The Asia Pacific University has and always will, continue to develop and deliver its academic programmes through unique and well-established international partnerships, particularly with Staffordshire University UK but also with other partners throughout the world. This formidable combination of Malaysian homegrown programmes fortified with international benchmarking, provides our students with the assurance that the qualifications gained from APU truly meet international quality standards.

APU was announced as among the Highest Rated Universities in Malaysia, being rated at TIER 5 (EXCELLENT) under the SETARA 2011 Ratings by the Ministry of Higher Education (MOHE) and Malaysian Qualifications Agency (MQA) which was announced by the Y.Bhg. Minister of Higher Education on 1st November 2012.

APU's achievements bear testimony to our commitment to excellence in higher education and training, as well as innovative research and development and commercialisation. APU (via APIIT) is Malaysia's first Institution to achieve Multimedia Super Corridor (MSC) Company Status. Through our network of APIIT Education Group branch campuses established in Sri Lanka and India, APU also reaches out to young aspiring professionals in these countries, providing them with a unique opportunity of experiencing international best practices in higher education using curricula, processes, resources and systems which have been developed in Malaysia. APU's academic programmes are approved by the Ministry of Education Malaysia and the qualifications are accredited by the Malaysian Qualifications Agency (MQA).

TIER 5
EXCELLENT RATING

APU amongst the Highest Rated Universities
Rated at Tier 5 (Excellent) by Ministry of Higher Education / Malaysian Qualifications Agency under SETARA 2011

APIIT Education Group is the proud recipient of

Prime Minister's Award
and Export Excellence Award (Services)
for Industry Excellence Awards - March 2011

The APIIT Education Group received the prestigious Prime Minister's Industry Excellence Award from the Prime Minister of Malaysia, Dato' Seri Mohd Najib Tun Razak. Only one organisation was selected to receive the Prime Minister's Industry Excellence Award from among nearly 30 other award recipients in 8 different categories.

The Industry Excellence Awards, organised by the Ministry of International Trade & Industry (MITI), recognises and rewards organisations for organisational excellence including competitiveness, innovativeness, market presence and export performance. Winning the Prime Minister's Industry Excellence Award is a significant milestone and an honour for APU as a leader in higher education. The award truly reflects our commitment and focus on quality, innovation, graduate employability and internationalisation.

SCHOOL OF ENGINEERING

- • **APIIT Diploma in Electrical & Electronic Engineering**
- • **B. Eng (Hons) in Electrical & Electronic Engineering**
- • **B. Eng (Hons) in Electronic Engineering with Information Technology**
- • **B. Eng (Hons) in Telecommunication Engineering**
- • **B. Eng (Hons) in Mechatronic Engineering**

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 four 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 help to provide internship training placements for students. Internships are compulsory for all students as per the requirement of the Board of Engineers Malaysia.

Recognition Under Washington Accord

International Recognition – Engineering Degrees Accredited Under The Washington Accord

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

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

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

International Recognition

APU Engineering Degrees are Accredited Professionally by the Board of Engineers Malaysia (BEM) and are therefore recognized internationally under the Washington Accord. Recognition under the Washington Accord allows for APU engineering programmes to be recognized by countries such as Australia, Canada, Taiwan, Hong Kong, Ireland, Japan, South Korea, Malaysia, New Zealand, Singapore, South Africa, Turkey, Russia, 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 recognizing Engineering Degrees.

ALL DEGREE PROGRAMMES ARE

ACCREDITED

BOARD OF ENGINEERS MALAYSIA
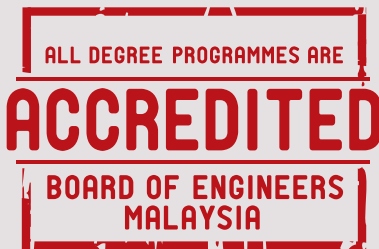
With this achievement, recognition under the Washington Accord enables APU Engineering graduates to work in any country in the world who are also a signatory to the Accord, without the need to re-qualify.

If they choose to work in Malaysia, APU graduates will have the opportunity to register as Graduate Engineers with Board of Engineers Malaysia (BEM), if they choose to work overseas in Washington Accord signatory countries; they can also register as Graduate Engineers.

The recognition is of utmost importance to the engineering education in Malaysia as graduates from accredited engineering degree programmes from Washington Accord signatory countries are considered as meeting the academic standard for practices in engineering at the international level.

Please refer to http://www.bem.org.my/v3/listofaccreditedprogrammes.html

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

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

http://www.ieagreements.org/Washington-Accord/signatories.cfm

- Australia - Represented by Engineers Australia (1989)
- Canada - Represented by Engineers Canada (1989)
- Chinese Taipei - Represented by Institute of Engineering Education Taiwan (2007)
- Hong Kong China - Represented by The Hong Kong Institution of Engineers (1995)
- Ireland - Represented by Engineers Ireland (1989)
- Japan - Represented by Japan Accreditation Board for Engineering Education (2005)
- Korea - Represented by Accreditation Board for Engineering Education of Korea (2007)
- Malaysia - Represented by Board of Engineers Malaysia (2009)
- New Zealand - Represented by Institution of Professional Engineers NZ (1989)
- Russia - Represented by Association for Engineering Education of Russia (2012)
- Singapore - Represented by Institution of Engineers Singapore (2006)
- South Africa - Represented by Engineering Council of South Africa (1999)
- Turkey - Represented by MUDEK (2011)
- United Kingdom - Represented by Engineering Council UK (1989)
- United States - Represented by 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"

http://www.ieagreements.org/Washington-Accord/signatories.cfm

- Bangladesh - Represented by Board of Accreditation for Engineering and Technical Education
- China - Represented by China Association for Science and Technology
- India - Represented by National Board of Accreditation
- Pakistan - Represented by Pakistan Engineering Council
- Philippines - Represented by Philippine Technological Council
- Sri Lanka - Represented by Institution of Engineers Sri Lanka

The aims of the Engineering Programmes are to provide:

- 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
- Specialized 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)**.

Learning for Employability

Employers look for qualified people who have the technical know-how and the ability to communicate, work in teams and other personal skills.

At APU, our programmes are developed to provide you not only with interesting and stimulating modules to develop your mind, but also to enhance your knowledge and skills and increase your ability to compete for that dream job. You also need to possess the ability to learn, develop and adapt. Much of what is current knowledge will soon be out-of-date and the reality is that to succeed you need to be adaptable and innovative. We achieve this through the Five "I"s Model™:

The Five "I"s Model™

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

Careers in Engineering

There are many possible careers in Engineering depending not only on your degree but also on your personal skills and preferences. That is why a part of the course involves helping you to develop a career plan. Today a wide variety of organisations need more efficient, effective and competitive operations. Depending on your choice of degree your contribution to this can span many manufacturing and construction sectors as well as other sectors that need highly skilled employees. Some examples of such careers depending on your choice of APU degree are as follow:

B. Eng (Hons) in Electrical & Electronic Engineering

From geographical information systems that can continuously provide the location of a vehicle to giant electric power generators, electrical and electronics engineers are responsible for a wide range of technologies. A degree in Electrical & Electronics Engineering offers challenging opportunities over a wide range of activities from research and design to operations, management and planning. Career choices are in diverse areas such as Power Systems, Electrical equipment manufacturing and testing, Biomedical Engineering and Computer Systems Engineering and also as technical experts on engineering projects in the Banking and Finance Industry.

B. Eng (Hons) in Electronic Engineering with Information Technology

This Electronic Engineering programme with a specialisation in Information Technology is in essence, an integration of electronics hardware with computer software in systems design. It concerns with the design of integrated systems of embedded electronic components, networking of distributed computing environments and the development of software for communication between various entities (human to machine, or, machine to machine). A graduate in this programme can expect to be of high demand in such diverse industries as telecommunications, power, defence, oil and gas, automotive and aerospace.

B. Eng (Hons) in Telecommunication Engineering

Telecommunication Engineering is the most rapidly developing and dynamic field of Engineering. Rapid growth in the telecommunication sector is evident from the deep penetration of the Internet and mobile phones in every corner of the world. Careers include design engineers of telecommunication and signal processing systems that provide essential electronic support networks for information technology industries and mobile/wireless and communication engineers. Graduates would also be employable in sectors such as broadcasting and general telecommunication services.

**B. Eng (Hons) in Mechatronic Engineering**

The Mechatronic Engineering programme provides the technical and creative know-how needed to achieve the best possible engineering career path. Graduates are also sought after for management positions because of their broad skill base and knowledge of state-of-the-art technology. Careers span the range of fields which are normally covered by mechanical, electrical and computer engineering. Roles include designing consumer machines, industrial machines, robotics and automation for advanced manufacturing, robot control systems or aviation electronics, software and hardware development for real-time computer control systems among others.

PATHWAY @ APU

Whether you join APU immediately after your secondary education or transfer to us from another institution of higher learning, we offer programmes at several levels and entry points, depending on your prior qualifications and experience.

At APU, our Engineering programmes are designed to provide flexibility and choice. The Engineering Degree Programmes all have the same modules in the first year so that you can decide which of our Engineering degrees you would like to choose in the second year and continue in the third year and final year to graduation. On graduation with an accredited degree you will be able to register as a Graduate Member with the Board of Engineers Malaysia. After sufficient working experience and on fulfilling their requirements this will lead to becoming a Professional Engineer. This will allow you to use the title 'Ir.' (Ingeneiur).

If you enter our foundation course first you will take a range of engineering modules together with other IT, business and skills modules to help you when you enter the degree and also to help you decide which of our degrees you want to select. At all times, our staff will be able to advise you on the choices available at each stage of your studies.

Your Study Progression
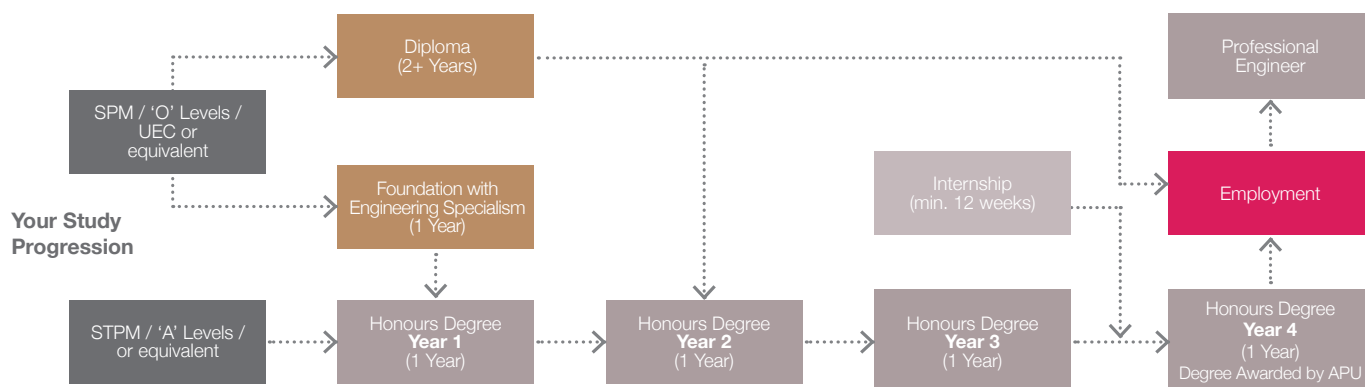
Overall Programme Structure

Foundation	Diploma	Honours Degree
3 semesters / 1 year full-time	6 semesters / 2+ years full-time	8 semesters / 4 years full-time

Admission Requirements

FOUNDATION PROGRAMME

The Foundation programme gives you an opportunity to sample your future areas of study.
This helps you choose which Degree programme to pursue.

- An overall credit pass in 5 subjects at SPM level including Mathematics and Physics OR Chemistry, and a minimum of a pass in Bahasa Malaysia and Sejarah (History);
- 5 grade C passes at 'O' Level / GCSE which should include a credit in Mathematics and relevant Science subject; or
- A qualification that APU accepts as equivalent to the above.

DIPLOMA PROGRAMMES

- An overall credit pass in 3 subjects at SPM level including Mathematics and Physics OR Chemistry, and a minimum of a pass in Bahasa Malaysia and Sejarah (History); or
- Pass Sijil Tinggi Persekolahan Malaysia (STPM) or its equivalent with a pass in Mathematics, English and ONE (1) relevant science/technical/vocational subject at the SPM level;
- or Recognised Certificate in Engineering/Engineering Technology or its equivalent;
- or Recognised related Vocational and Technical/Skills Certificate or its equivalent with ONE (1) year of relevant work experience or a minimum of ONE (1) semester of a bridging programme.
- 3 grade C passes, including Mathematics, and one relevant science subject and a pass in English at 'O' Levels / GCSE; or
- a qualification that APU accepts as equivalent to the above

BACHELORS (HONS) DEGREE PROGRAMMES

Direct Entry to Level 1 of the Degree:
- Good principal passes at STPM level in Mathematics and Physics and 4 credit passes at SPM which should include a credit in Mathematics and Physics or Chemistry; or
- Good passes at 'A' Levels in Mathematics and Physics or Chemistry and 4 Grade C passes at 'O' Levels / GCSE which should include a credit in Mathematics and Physics or Chemistry; or
- 5 Grade B passes at UEC, with Mathematics and Physics with Grade B and pass in Bahasa Malaysia; or
- The APU Foundation or equivalent; or
- A qualification that APU accepts as equivalent to the above.

Direct Entry to Level 2 of the Degree:
- Students with Diploma or Higher National Diploma in Engineering from other colleges
- Successful completion of studies in another recognised institute with academic credits equivalent to Level 1 of an Honours degree
  (Subject to the approval of the APU Academic Board)

ENGLISH REQUIREMENTS
(only applicable for International Students)

Foundaton and Diploma Programmes
- IELTS : 5.5
- TOEFL : 65 (Internet Based Test), 513 (Paper Based Test), 183 (Computer Based Test)
- Other Certification or Evidence of English Proficiency that APU accepts as equivalent to the above

Applicants who do not possess the above will be required to sit for the APU English Placement Test, and based on the outcome of the test may be required to attend the APU Intensive English Programme (IEP) prior to commencement of the Foundation/Diploma programme.

Bachelors (Hons) Degree Programmes
- IELTS : 6.0
- TOEFL : 79-80 (Internet Based Test), 550 (Paper Based Test), 213 (Computer Based Test)
- Other Certification or Evidence of English Proficiency that APU accepts as equivalent to the above

Applicants who do not possess the above will be required to sit for the APU English Placement Test, and based on the outcome of the test may be required to attend the APU Intensive English Programme (IEP) prior to commencement of the Degree programme.

(Note that for the programmes listed here, a pass in Bahasa Malaysia and Sejarah (History) at SPM level is required for all Malaysian students).
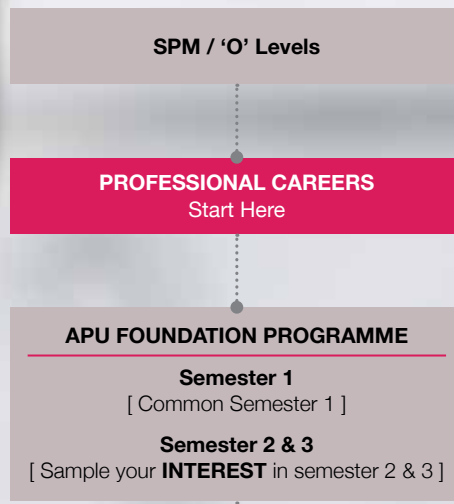
Flexibility of Choice

Our 12-month Foundation Programme is designed to prepare those with SPM, 'O' Levels or similar qualifications with the knowledge and skills to progress into the first year of a degree of their choice.

On completion of the Foundation Programme, you will be able to make an informed decision about your interest and pursue your degree of choice.

During the Foundation Programme, you are able to choose different routes depending on your area of interest. This will allow you to progress onto a specific degree programme at APU, related to this area or other relevant areas based on your foundation experience.

SPM / 'O' Levels

PROFESSIONAL CAREERS
Start Here

APU FOUNDATION PROGRAMME

Semester 1
[Common Semester 1]

Semester 2 & 3
[Sample your **INTEREST** in semester 2 & 3]

DEGREE PROGRAMMES

ROUTE A	ROUTE B	ROUTE C
Business & Finance	Technology and Business & Finance	Engineering & Technology
• Business	• Computing / IT	• Engineering
• Media	• Games Development	• Computing / IT
• Services & Tourism	• Business	• Games Development
• Accounting & Finance	• Media	• Actuarial Studies
• Banking & Finance	• Services & Tourism	• Management Science
• Social Media	• Accounting & Finance	• Insurance
	• Banking & Finance	
	• Actuarial Studies	
	• Management Science	
	• Social Media	
	• Insurance	

FOUNDATION PROGRAMME

This programme is designed to help those with SPM, 'O' Levels or similar qualifications to develop the skills and knowledge to progress into the first year of a degree of their choice.

LEARNING OUTCOMES

You will be able to:

- Enter Level 1 of degree study
- Make an informed choice about what degree you want to study
- Demonstrate an awareness of the concepts which underpin the study of Business, Technology, Media, Accounting, Banking and Finance, Quantitative Studies, IT or Engineering
- Communicate effectively verbally and in writing to a given audience
- Work effectively in a team
- Demonstrate English and other study skills appropriate to undergraduate learning
- Apply skills in numeracy, technology and communication
- Explain the essential elements of technology
- Use appropriate application software and the Internet

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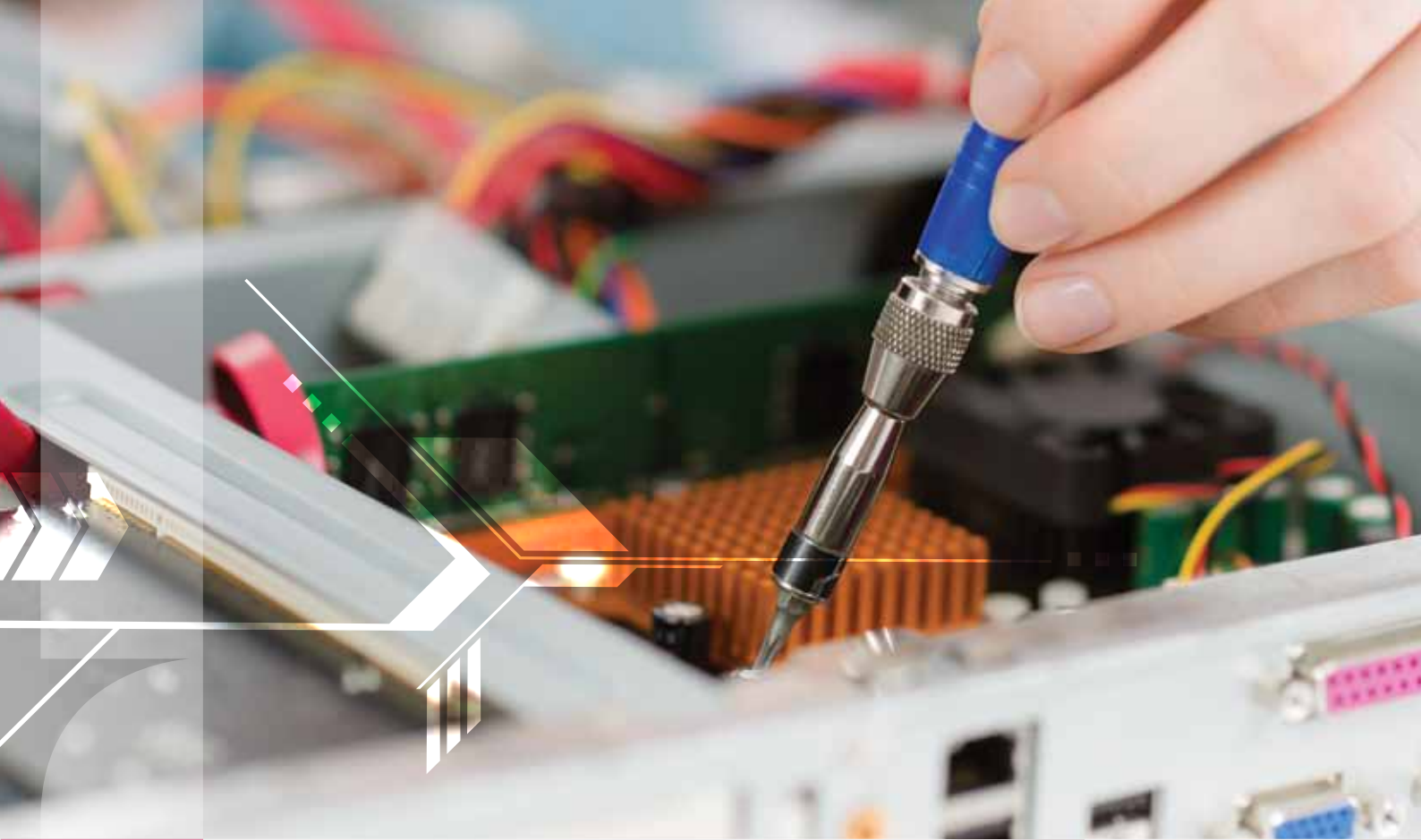
The Foundation Programme

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 Business, Accounting & Finance, Banking & Finance, Actuarial Studies, Media, Information Technology or Engineering. The modules are:

SEMESTER 1
- English for Academic Purposes *(4 credits)*
- Mathematics *(3 credits)*
- Personal Development & Study Methods *(4 credits)*
- Introduction to Business *(4 credits)*
- Individual, State and Society *(3 credits)*

SEMESTER 2
- Communication Skills *(4 credits)*
- IT Applications *(4 credits)*
- and choose Route A, B or C

ROUTE A	ROUTE B*	ROUTE C*
Business & Finance	Technology and Business & Finance	Engineering & Technology

ROUTE A — Business & Finance
- Global Business Trends *(3 credits)*
- Optional Modules [Choose ONE (1)]
  - Cultural & Visual Interpretation *(4 credits)*
  - Public Speaking in English *(4 credits)*
  - International Relations *(4 credits)*

ROUTE B* — Technology and Business & Finance
- Further Mathematics *(3 credits)*
- Optional Modules [Choose ONE (1)]
  - Cultural & Visual Interpretation *(4 credits)*
  - Public Speaking in English *(4 credits)*
  - International Relations *(4 credits)*

[*A credit pass in Mathematics at SPM / 'O' Levels is required]

ROUTE C* — Engineering & Technology
- Further Mathematics *(3 credits)*
- Engineering Mathematics *(4 credits)*

[*A credit pass in Mathematics and Physics OR Chemistry at SPM / 'O' Levels is required]

SEMESTER 3

ROUTE A	ROUTE B	ROUTE C
Business & Finance	Technology and Business & Finance	Engineering & Technology

ROUTE A — Business & Finance
- Economics for Business *(3 credits)*
- Principles of Accounts *(4 credits)*
- Perspectives in Technology *(4 credits)*
- Academic Research Skills *(4 credits)*
- Co-curricular *(2 credits)*

ROUTE B — Technology and Business & Finance
- Introduction to Multimedia Applications *(3 credits)*
- Computing & IT *(4 credits)*
- Perspectives in Technology *(4 credits)*
- Academic Research Skills *(4 credits)*
- Co-curricular *(2 credits)*

ROUTE C — Engineering & Technology
- Mechanical Science *(3 credits)*
- Engineering Science *(4 credits)*
- Electrical and Electronic Principles *(4 credits)*
- Academic Research Skills *(4 credits)*
- Co-curricular *(2 credits)*

PROGRAMME PATHWAYS

You may then proceed to LEVEL 1 of a Degree of your choice in the following pathways.

ROUTE A	ROUTE B	ROUTE C
Business & Finance	Technology and Business & Finance	Engineering & Technology

ROUTE A — Business & Finance
- Business
  - Business Management
  - E-Business
  - International Business Management
  - Marketing
  - Human Resource Management
- Tourism Management
- Services Management
- Media Marketing
  - Social Media
- Technopreneurship*
- Media Informatics
- Accounting & Finance*
  - Forensic Accounting
  - Taxation
  - Forex and Investments
- Banking & Finance*
  - Financial Planning
  - Investment and Risk Management
- Islamic Banking & Finance*

[*A credit pass in Mathematics at SPM / 'O' Levels is required for some programmes for entry to Degree.]

ROUTE B — Technology and Business & Finance
- Information Technology
  - Database Administration
  - Information System Security
  - Intelligent Systems
  - Network Computing
  - Forensic Computing
  - Mobile Technology
  - Business Information Systems
- Software Engineering
- Internet Technology
- Enterprise Computing
- Technopreneurship
- Computer Games Development
- Multimedia Technology
- Web Media Technology
  - Educational Technology
- Media Informatics
- Business
  - Business Management
  - E-Business
  - International Business Management
  - Marketing
  - Human Resource Management
- Tourism Management
- Services Management
- Media Marketing
  - Social Media
- Accounting & Finance
  - Forensic Accounting
  - Taxation
  - Forex and Investments
- Banking & Finance
  - Financial Planning
  - Investment and Risk Management
- Islamic Banking & Finance
- Actuarial Studies
- Insurance
- Management Science

ROUTE C — Engineering & Technology
- Engineering
  - Electrical & Electronic Engineering
  - Electronic Engineering with IT
  - Telecommunication Engineering
  - Mechatronic Engineering
- Information Technology
  - Database Administration
  - Information Systems Security
  - Intelligent Systems
  - Network Computing
  - Forensic Computing
  - Mobile Technology
  - Business Information Systems
- Software Engineering
- Internet Technology
- Enterprise Computing
- Computer Games Development
- Multimedia Technology
- Web Media Technology
  - Educational Technology

Students may also choose the following:
- Actuarial Studies
- Management Science
- Insurance

Engineering Study Pathways

DEGREE PROGRAMMES

COMMON LEVEL 1	PROGRAMMES
Common Level 1*	• B. Eng (Hons) in Electrical & Electronic Engineering
	• B. Eng (Hons) in Electronic Engineering with Information Technology
	• B. Eng (Hons) in Telecommunication Engineering
	• B. Eng (Hons) in Mechatronic Engineering

Note: * Although Level 1 is common for some programmes, students who are on scholarships or loans (e.g. PTPTN, MARA etc) are required to decide on your degree upon commencement and are not allowed to change to another programme unless approved by the Loan/Scholarship provider. International Students are required to re-apply for a new Student Pass (visa) should they decide to change the programme.

Internship

To meet the requirements of accreditation by the Engineering Accreditation Council of the Board of Engineers Malaysia and also to complement the theory and practical study at APU, a well structured internship programme in collaboration with industry has been incorporated into the curriculum. The main aims and objectives of the internship programme are to provide:

- **Enhanced Employability**
- **Interpersonal and Social Skills**
- **Interrelationships of Theory and Practice**
- **Career Preparation**
- **Insight into the World of Work**
- **Personal Development**
- **Technical Development**

This Internship programme will further enhance your employability. In many cases the same company at which you had internship training will offer you employment as soon as you graduate. In all cases you will gain an invaluable insight into the world of work as an Engineer and be better equipped to position yourself for the career you seek.

APIIT Diploma in
Electrical & Electronic Engineering

THIS PROGRAMME IS SPECIFICALLY DESIGNED TO PROVIDE:

The Diploma in Electrical & Electronic Engineering programme prepares you for careers in the Electrical, Electronics, Telecommunication, and Manufacturing environments. This programme offers a broad-based study in the areas of electrical & electronic engineering.

- A full range of modules in the electrical & electronic engineering spectrum is provided.
- Other skills necessary for the workplace are also provided. These include communication skills and life-long learning skills.
- You will be equipped with the knowledge and expertise to face the challenges of business development in a wide range of electrical and electronic industries.

PART 1

The modules offered in Part 1 of the Diploma in Electrical & Electronic Engineering programme will enable you to understand the electrical and electronic engineering fundamentals starting with the science of elementary particles called electrons. You will be able to apply theories and principles of science and mathematics to solve practical technical problems with basic knowledge and skills of the electrical elements, components and devices to construct simple electrical and electronic circuits. There are also modules that provide study skills as well as business and communication and information technology skills.

Modules
- English for Academic Purposes
- Foundation of Engineering Mathematics
- Professional Communications
- Engineering Mechanics
- Practical IT Skills
- Business Environment
- Electrical & Electronic Principles
- Engineering Materials
- Engineering Mathematics 1
- Engineering Mathematics 2

In addition to the above, all students are also required to successfully complete General Studies modules as stipulated by the Malaysian Qualification Agency, as well as fulfill credit requirements for Co-Curricular Activities.

PART 2

The modules provided in Part 2 of the Diploma in Electrical & Electronic Engineering programme provide you with knowledge of most electrical components, instruments and devices operation and behaviour such as electric and magnetic fields, analogue and digital electronics, machines and control, communication engineering, microprocessor and programming technology. This makes your job opportunities much wider.

Modules
- Instrumentation & Measurements
- Control Systems
- Generation Transmission & Protection
- Microprocessor and Microcontroller Systems
- Electrical Machines & Drives
- Organisational Behaviour
- Problem Solving & Program Design Using C
- Analysis of Circuits
- Analogue Electronics
- Digital Electronics
- Communication Engineering Principles
- Design Principles

FURTHER STUDIES

Upon successful completion of this programme, you will be eligible to progress into any of the following engineering degree programmes offered at APU:

- B. Eng (Hons) in Electrical & Electronic Engineering
- B. Eng (Hons) in Electronic Engineering with Information Technology
- B. Eng (Hons) in Telecommunication Engineering
- B. Eng (Hons) in Mechatronic Engineering

CAREER PROSPECTS

In today's workplace, employers are looking for individuals who possess the ability to anticipate and exceed their customer's needs and deliver quality service as well as technical skills. The Diploma in Electrical & Electronic Engineering programme provides the balance required to achieve this.

The career prospects for holders of the Diploma in Electrical & Electronic Engineering include working as technicians or engineering assistants. Your career could be in industries using low power applications including radio and television, computers and telephones to high power plant construction and design, or working in manufacturing industries including aerospace, electrical equipment, personal electronics, computer electronics, medical electronics and telecommunication equipment. There is also great demand in the marketing and sales areas of technical products where you could be employed as Sales Engineers doing marketing and sales of technical products. At the same time you can work as an Assistant Engineer. At this level, you conduct standardised tests, prepare data for reports, and perform other routine engineering tasks.

DEGREE PROGRAMMES
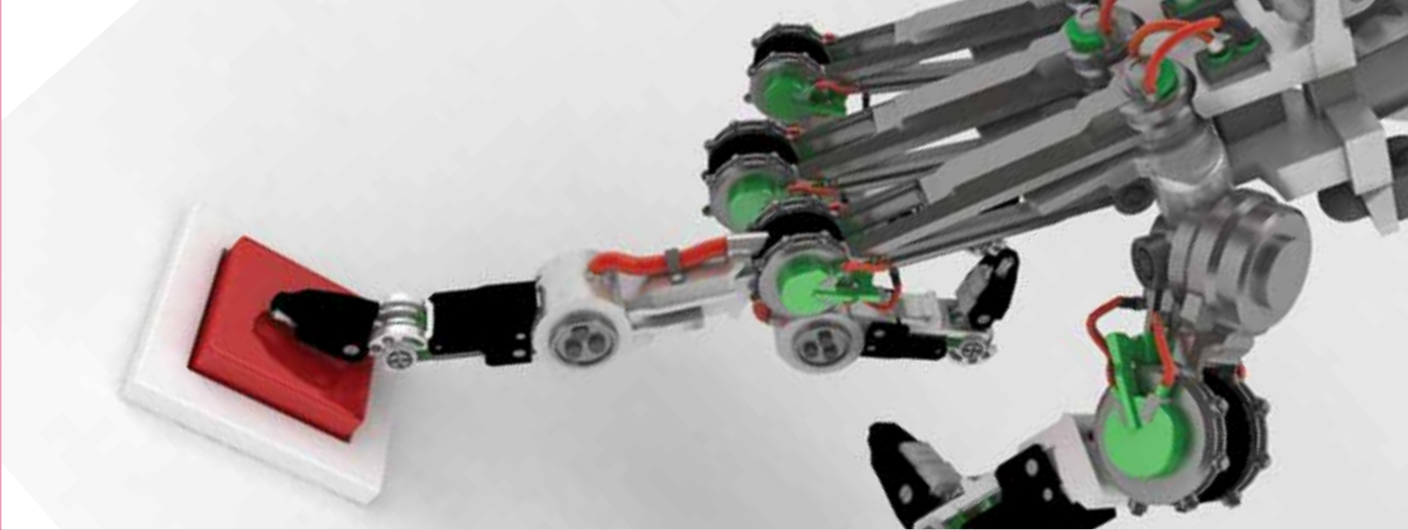
B. Eng (Hons) in Electrical & Electronic Engineering

An Electrical Engineer may be 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

B. Eng (Hons) in Electronic Engineering with Information Technology

A graduate of this programme is expected to be fundamentally skilled in embedded electronics systems. However, with today's advancements, hardware-software interfacing is heading towards the internet-based and wireless-based modes of operation. Thus he can no longer consider proficiency in Information Technology related fields such as Cyber Security and Cloud Computing outside of his domain. A student of this programme is therefore equipped to face environments in the following core areas:

- Embedded systems
- Machine language
- Networking
- Human-machine interaction
- Computer systems security
- Cloud infrastructure

B. Eng (Hons) in Telecommunication Engineering

Telecommunication Engineers design, develop, test and maintain telecommunication systems. Telecommunication engineering will appeal to those who are interested in the following field:

- Satellite and mobile communication
- Signal processing
- Optical fibres and photonics
- Data networks, data coding, compression, encryption and transmission
- Real-time embedded systems
- Telecommunication Engineers design, develop, test and maintain telecommunication systems

B. Eng (Hons) in Mechatronic Engineering

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

Programme Educational Objectives

PEO	Electrical & Electronic Engineering (EEE)	Electronic Engineering with Information Technology (EEIT)	Mechatronic Engineering (ME)	Telecommunication Engineering (TE)
PEO1	Be working as a practicing professional engineer in the field of Electrical & Electronic Engineering.	Be working as a practicing professional engineer in the field of Electronic Engineering with Information Technology.	Be working as a practicing professional engineer in the field of Mechatronic Engineering.	Be working as a practicing professional engineer in the field of Telecommunication Engineering.
PEO2	Have progressed in their Electrical & Electronic Engineering careers or other chosen profession and/or are engaged in advanced studies in Electrical & Electronic Engineering or other related fields.	Have progressed in their Electronic Engineering with Information Technology careers or other chosen profession and/or are engaged in advanced studies in Electronic Engineering with Information Technology or other related fields.	Have progressed in their Mechatronic Engineering careers or other chosen profession and/or are engaged in advanced studies in Mechatronic Engineering or other related fields.	Have progressed in their Telecommunication Engineering careers or other chosen profession and/or are engaged in advanced studies in Telecommunication Engineering or other related fields.

Programme Outcomes

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

PO1 - Ability to gain and apply basic principles of Mathematics, Science and Engineering.

PO2 - Ability to identify engineering problems and apply basic engineering principles to solve them.

PO3 - Ability to recognize and apply suitable tools and techniques for engineering practical applications.

PO4 - Ability to investigate complex engineering problems using research techniques.

PO5 - Ability to design solutions for complex engineering problems.

PO6 - Ability to communicate effectively and professionally.

PO7 - Ability to comprehend and demonstrate current good practices of engineering for sustainable development.

PO8 - Ability to practice safety, health, social, cultural, legal and environmental responsibilities as an engineer.

PO9 - Ability to execute the responsibilities of an Engineer professionally and ethically.

PO10 - Ability to function effectively as an individual or in a team.

PO11 - Ability to recognize the need for, and be able to engage in independent and life-long learning.

PO12 - Ability to demonstrate and apply the knowledge and understanding of engineering management principles.

JPT/BPP(U)1000-801/63/JLD.5(4)(PA6907)02/17

B. Eng (Hons) in Electrical & Electronic Engineering

THIS PROGRAMME IS SPECIFICALLY DESIGNED TO PROVIDE:

- 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.
- The technical skills required for the application in the fields of communication and the IT industry through a well balanced curriculum which includes the study of signals and computing.

YEAR 1

These modules provide an appropriate platform for an Engineering Professional to understand the basic principles of engineering in the areas of Circuit Analysis, Engineering Materials, Engineering Statics & Dynamics and Engineering Design.

In addition, a thorough grounding in principles of IT and management are provided by the Programming and Management modules. Modules such as Engineering Mathematics and Introduction to Management provide the basic academic skills required to meet the demands of employers. Important and relevant skills for managing activities and for your own independent learning are also introduced.

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

In addition to the above, all students are also required to successfully complete General Studies modules as stipulated by the Malaysian Qualification Agency, as well as fulfill credit requirements for Co-Curricular Activities.

YEAR 2

Here, you start specialising in modules that develop the necessary underlying knowledge and skills in Electrical & Electronic Engineering. Further, in-depth Electrical & Electronic skills are developed here with modules such as Electromagnetic Field Theory, Engineering Software & Applications, Analogue Electronics, Digital Electronics, Signals & Linear Systems, Electrical Machines 1& 2 and Electrical Power Utilisation. Engineering Mathematics is provided for the better understanding of the engineering modules.

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

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

YEAR 3

Specialised knowledge and skills in the areas of Control Engineering, Communication Engineering Principles, Multimedia Applications, Computer Architecture, Microprocessor Systems & Embedded Software, Numerical Methods and Statistics, Generation, Transmission and Distribution of Electrical Power, Power Electronics & Drives and Power System Analysis are the critical focus of this level. Students are also allowed select from a list of two modules to be studied as an elective at 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.

Common Modules
- Control Engineering
- Communication Engineering Principles
- Multimedia Applications
- Computer Architecture
- Numerical Methods & Statistics
- Microprocessor Systems & Embedded Software

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

Electives (Choose One)
- Digital Signal Processing
- Product Creation Technology

INTERNSHIP

Industry placement with a suitable organisation for a minimum period of 12 weeks.

INTERNSHIP
(After completing Year 3 and before commencement of Year 4.)

YEAR 4

The final year Engineering modules provide the necessary industry application and technological skills which become very useful for employment upon graduation. These modules include, Analogue Intergrated Circuits and Systems and High Voltage Engineering. Again, students are also allowed select from a list of two modules to be studied as an elective at this level. Your personal and professional development is enhanced by the modules Engineer in Society and Engineering Project Management. You will enhance your technical capability and understand how to innovate, generate and manage the creation of new ideas. Additionally, you will be involved in a group design project based on capstone design. This will provide you with a foretaste of real world engineering projects which are invariably inter-disciplinary in nature.

The Project Phase I (Investigation) in Electrical & Electronic Engineering will enable students to take on R&D with commercialization. The Electrical & Electronic Engineering Project Phase II (Implementation) also develops the academic and practical aspects of your chosen areas of study and reinforces your independent learning skills. This is where you will demonstrate higher level critical thinking, analysis and solutions development skills which will enhance your employability.
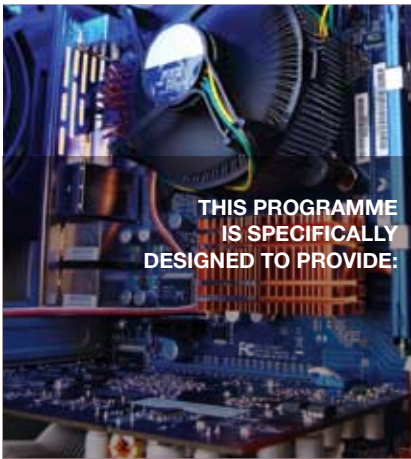
Common Modules
- Engineering Project Management
- Project Phase I (Investigation)
- Project Phase II (Implementation)
- Group Design Project
- Engineer in Society

Specialised Modules
- Analogue Integrated Circuits and Systems
- High Voltage Engineering

Electives (Choose One)
- Optical Communication and Networks
- VLSI Design

B. Eng (Hons) in Electronic Engineering with Information Technology

KPT/JPS/600-07/63/Jld.III(92) & JPT/BPP(U)100-801/63/Jld.3(3)(PA6908)02/13

THIS PROGRAMME IS SPECIFICALLY DESIGNED TO PROVIDE:

- High-quality undergraduate engineering education by providing students with a curriculum that is firmly grounded electronics engineering and IT fundamentals.
- A study in the areas of electronics coupled with computing, thus enabling students to excel in the development and design of real life software for electronic engineering applications.
- The technical skills to cover the ever demanding expertise in the communication industry, by the inclusion of the study of signals and digital systems.

YEAR 1

These modules provide an appropriate platform for an Engineering Professional to understand the basic principles of engineering in the areas of Circuit Analysis, Engineering Materials, Engineering Statics & Dynamics and Engineering Design.

In addition, a thorough grounding in principles of IT and management are provided by the Programming and Management modules. Modules such as Engineering Mathematics and Introduction to Management provide the basic academic skills required to meet the demands of employers. Important and relevant skills for managing activities and for your own independent learning are also introduced.

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

In addition to the above, all students are also required to successfully complete General Studies modules as stipulated by the Malaysian Qualification Agency, as well as fulfill credit requirements for Co-Curricular Activities.

YEAR 2

Here, you start specialising in modules that develop the necessary underlying knowledge and skills in Electronic Engineering with IT. Further in-depth Electronics and IT skills are developed here with modules such as Electromagnetic Field Theory, Engineering Software & Applications, Analogue Electronics, Digital Electronics, Signals & Linear Systems, Introduction to Power Systems, System Programming & Computer Control and Human Computer Interaction. Engineering Mathematics is provided for the better understanding of the engineering modules.

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

Specialised Modules
- Introduction to Power Systems
- System Programming & Computer Control
- Human Computer Interaction

YEAR 3

Specialised knowledge and skills in the areas of Control Engineering, Communication Engineering Principles, Multimedia Applications, Computer Architecture, Microprocessor Systems & Embedded Software, Digital Signal Processing, Numerical Methods and Statistics, Data Structures & Algorithms are the critical focus of this level. Students are also allowed select from a list of four IT based modules to be studied as an elective at 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.

Common Modules
- Control Engineering
- Communication Engineering Principles
- Multimedia Applications
- Computer Architecture
- Numerical Methods & Statistics
- Microprocessor Systems & Embedded Software
- Digital Signal Processing

Specialised Modules
- Data Structures & Algorithms
- Elective No. 1

INTERNSHIP

Industry placement with a suitable organisation for a minimum period of 12 weeks.

INTERNSHIP
(After completing Year 3 and before commencement of Year 4.)

YEAR 4

The final year Engineering modules provide the necessary industry application and technological skills which become very useful for employment upon graduation. These modules include, Analogue Intergrated Circuits and Systems and another IT-based module, selected from the list of electives. Your personal and professional development is enhanced by the modules Engineer in Society and Engineering Project Management. You will enhance your technical capability and understand how to innovate, generate and manage the creation of new ideas. Additionally, you will be involved in a group design project based on capstone design. This will provide you with a foretaste real world engineering projects which are invariably inter-disciplinary in nature.

The Project Phase I (Investigation) in Electronic Engineering with Information Technology will enable students to take on R&D with commercialisation. The Electronic Engineering with Information Technology Project Phase II (Implementation) also develops the academic and practical aspects of your chosen areas of study and reinforces your independent learning skills. This is where you will demonstrate higher level critical thinking, analysis and solutions development skills which will enhance your employability.

Common Modules
- Engineering Project Management
- Project Phase I (Investigation)
- Project Phase II (Implementation)
- Group Design Project
- Engineer in Society

Specialised Modules
- Analogue Integrated Circuits and Systems
- Elective No. 2

Electives
- Computer Systems Security
- Distributed Computer System
- HCI and Usability
- Cloud Infrastructure & Services

JPT/BPP(U)1000-801/63/JLD.5(4)(PA6909)02/17

B. Eng (Hons) in Telecommunication Engineering

THIS PROGRAMME IS SPECIFICALLY DESIGNED TO PROVIDE:

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

YEAR 1

These modules provide an appropriate platform for an Engineering Professional to understand the basic principles of engineering in the areas of Circuit Analysis, Engineering Materials, Instrumentation & Measurement and Engineering Design.

In addition, a thorough grounding in principles of IT and management are provided by the Programming and Management modules. Modules such as Engineering Mathematics and Introduction to Management provide the basic academic skills required to meet the demands of employers. Important and relevant skills for managing activities and for your own independent learning are also introduced.

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

In addition to the above, all students are also required to successfully complete General Studies modules as stipulated by the Malaysian Qualification Agency, as well as fulfill credit requirements for Co-Curricular Activities.

YEAR 2

Here, you start specialising in modules that develop the necessary underlying knowledge and skills in Telecommunication Engineering. Further, in-depth Electronic and Telecommunication skills are developed here with modules such as Electromagnetic Field Theory, Engineering Software & Applications, Analogue Electronics, Digital Electronics, Analogue Communication, Digital Communication, Signals & Linear Systems and Introduction to Power Systems. Engineering Mathematics is provided for the better understanding of the engineering modules.

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

Specialised Modules
- Analogue Communication
- Digital Communication

YEAR 3

Specialised knowledge and skills in the areas of, Control Engineering, Multimedia Applications, Computer Architecture, Microprocessor Systems & Embedded Software, Digital Signal Processing, Numerical Methods & Statistics, Antenna & Propagation, Modern Communication Systems, and Optical Communication & Networks are a 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.

Common Modules
- Control Engineering
- Multimedia Applications
- Computer Architecture
- Microprocessor Systems & Embedded Software
- Numerical Methods & Statistics
- Digital Signal Processing

Specialised Modules
- Antenna & Propagation
- Modern Communication System
- Optical Communication & Networks

INTERNSHIP

Industry placement with a suitable organisation for a minimum period of 12 weeks.

INTERNSHIP
(After completing Year 3 and before the commencement of Year 4)

YEAR 4

The final year Engineering modules provide the necessary industry application technological skills which will become very useful for employment upon graduation. These modules include, Analogue Integrated Circuits & Systems, Microwave & RF Communication and Satellite & Mobile Communication. Your personal and professional development is enhanced by the module in Engineer in Society, Group Design Project and Engineering Project Management. You will enhance your technical capability and understand how to innovate, generate and manage the creation of new ideas.

The Project Phase I (Investigation) in Telecommunication Engineering will enable students to take on R&D with commercialisation. The Telecommunication Engineering Project Phase II (Implementation) also develops the academic and practical aspects of your chosen areas of study and reinforces your independent learning skills. This is where you will demonstrate higher level critical thinking, analysis and solutions development skills which will enhance your employability.

Common Modules
- Engineering Project Management
- Project Phase I (Investigation)
- Group Design Project
- Analogue Integrated Circuits & Systems
- Project Phase II (Implementation)
- Engineer in Society

Specialised Modules
- Microwave & RF Communication
- Satellite & Mobile Communication

KPT/JPS/600-07/63/Jld.III(92) & JPT/BPP(U)1000-801/63/Jld.4(12)(PA6910)02/13

B. Eng (Hons) in Mechatronic Engineering

THIS PROGRAMME IS SPECIFICALLY DESIGNED TO PROVIDE:

- 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, electonics and computing engineering. Students will be to integrate these four diverse.
- The technical skills to design, analyse and test "intelligent" products or processes that incorporate suitable controller, sensor and mechatronic devices for robotics and automation.

YEAR 1

These modules provide an appropriate platform for an Engineering Professional to understand the basic principles of engineering in the areas of Circuit Analysis, Engineering Materials, Instrumentation & Measurement, Engineering Statics & Dynamics and Engineering Design.

In addition, a thorough grounding in principles of IT and management are provided by the Programming and Management modules. Modules such as Engineering Mathematics and Introduction to Management provide the basic academic skills required to meet the demands of employers. Important and relevant skills for managing activities and for your own independent learning are also introduced.

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

In addition to the above, all students are also required to successfully complete General Studies modules as stipulated by the Malaysian Qualification Agency, as well as fulfill credit requirements for Co-Curricular Activities.

YEAR 2

Here, you start specialising in modules that develop the necessary underlying knowledge and skills in Mechatronic Engineering. Further, in-depth Electronic and Mechanical skills are developed here with modules such as Electromagnetic Field Theory, Engineering Software & Applications, Analogue Electronics, Digital Electronics, Sensor & Actuators, Introduction to Power System, Signals & Linear Systems and Strength of Materials. Engineering Mathematics and Intermediate Robotics are provided for the better understanding of the engineering modules.

Common Modules
- Analogue Electronics
- Introduction to Power System
- Engineering Mathematics 3
- Electromagnetic Field Theory
- Digital Electronics
- Engineering Software & Applications
- Signals & Linear Systems

Specialised Modules
- Strength of Material
- Sensor & Actuators
- Intermediate Robotics

YEAR 3

Specialised knowledge and skills in the areas of Machine Design, CAD/CAM, Advance Robotics, Control Engineering, Communication Engineering Principle, Fluid Mechanics, PLC & Pneumatic System, Microprocessor Systems & Embedded Software, Power Electronic & Drives and Numerical Methods & Statistics, are a critical focus of this level. There is further development of the ability to apply relevant engineering skills with strong critical thinking and analysis.

Common Modules
- Control Engineering
- Communication Engineering Principles
- Microprocessor Systems & Embedded Software
- Numerical Methods & Statistics
- Power Electronic & Drives

Specialised Modules
- CAD/CAM
- Machine Design
- PLC & Pneumatic System
- Fluid Mechanics

Electives (Choose One)
- Advance Robotics
- Digital Signal Processing

INTERNSHIP

Industry placement with a suitable organisation for a minimum period of 12 weeks.

INTERNSHIP
(After completing Year 3 and before the commencement of Year 4)

YEAR 4

The final year Engineering modules provide the necessary industry application technological skills which will become very useful for employment upon graduation. These modules include, Product Creation Technology, Mechatronic Design, and Thermodynamics and Heat Transfer. Your personal and professional development is enhanced by the module in Engineer in Society and Engineering Project Management. You will enhance your technical capability and understand how to innovate, generate and manage the creation of new ideas.

The Project Phase I (Investigation) in Mechatronic Engineering will enable students to take on R&D with commercialisation. The Mechatronic Engineering Project Phase II (Implementation) also develops the academic and practical aspects of your chosen areas of study and reinforces your independent learning skills. This is where you will demonstrate higher level critical thinking, analysis and solutions development skills which will enhance your employability.

Common Modules
- Engineering Project Management
- Project Phase I (Investigation)
- Project Phase II (Implementation)
- Engineer in Society

Specialised Modules
- Mechatronics Design
- Product creation & Technology
- Thermodynamics and Heat Transfer

APU 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
- Active RFID System in Multi-Hop Wireless Sensor Network
- Automatic Object Retrieval Systems Based on Speech Dictation Technology
- Humanoid Robot development
- Robotics Haptic and Tactile Sensor development
- Robotics Vision development
- Biomedical Robotics
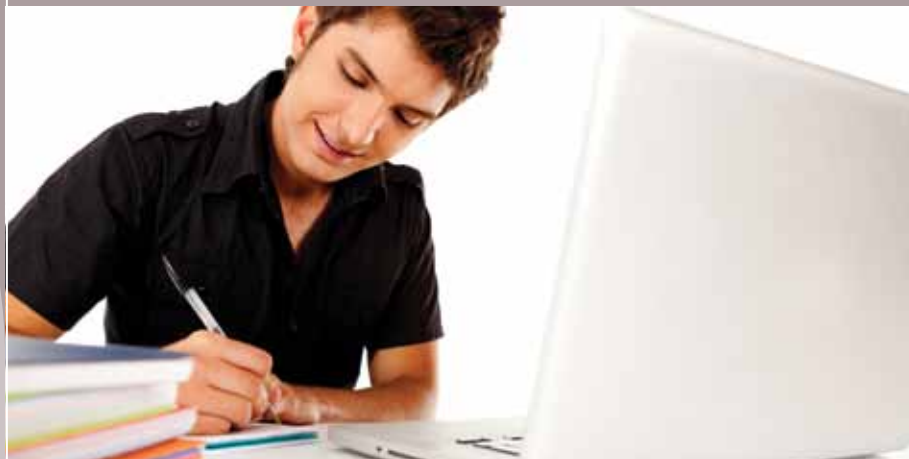
(APCoRE)   *(CASE)*   *(IASS)*

The Engineering Centres and Focus Groups are as follows:

APU Centre of Robotics Engineering (APCoRE)
APCoRE's objective is to develop robotics engineering and research in various areas of robotics especially Humanoid Robot Development, Robotic Sensors, Robotic Vision and Biomedical Robotics. The centre also involves industrial experts feeding into outcome based research and engineering. The centre is also a meeting point for students and lecturers to share ideas and assess their research work.

Centre for Awareness on Sustainability and the Environment (CASE)
CASE's objective is to engage academic staff and students in studies/research on sustainable development with specific reference to Climate Change, Energy Demands, Carbon Emissions, Government Legislations, Resource Management, Green computing, Green accounting and Sustainable Tourism.

APU Motorsports Club
The Club focuses on performance and eco-friendly competitions. The academic staff and students work on constructing efficient cars based on materials study, structural engineering, engine optimum performance and control mechanisms for local races such as EIMA, GT 128, IPMA and Formula Y.
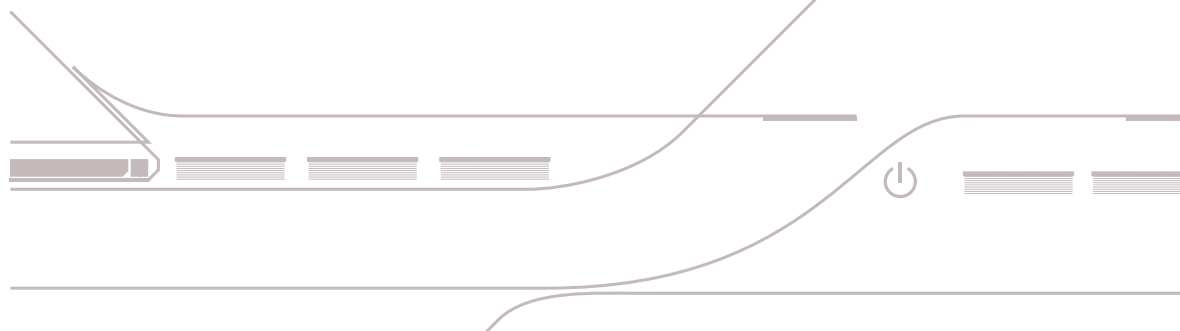
IEM-APU Student Chapter (IASS)
The is an official student chapter as approved by the Institute of Engineers Malaysia (IEM). The chapter manages all student engineering activities such as industrial talks by engineering experts, competitions, activities and industrial visits.

World Class Facilities

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

Industry Excellence 2011
2011 - Winner of Prime Minister's Industry Excellence Award
2011 - Winner of 'Special Jury Award' by the Prime Minister

Asia Pacific Ict Awards (APICTA) Malaysia
(Multimedia Development Corporation)
2013 - Top Award for 'Best of Tertiary Student Project'
2012 - Top Award for 'Best of Tertiary Student Project'
2011 - Winner of 'Special Jury Award' by the Prime Minister
2011 - Top Award for 'Best of Tertiary Student Project'
2011 - 2 Merit Awards for 'Best of Tertiary Student Project'
2010 - Top Award for 'Best of Tertiary Student Project'
2008 - Top Award for 'Best of e-Inclusion & e-Community'
2005 - Top Award for 'Best of Applications & Infrastructure Tools'
2004 - Top Award for 'Best of Education & Training'
2004 - Top Award for 'Best of Applications & Infrastructure Tools'
2004 - Merit Award for 'Best of Research & Development'
2003 - Merit Award for 'Best of Research & Development'
2002 - Merit Award for 'Best of Smart Learning Applications
2001 - Merit Award for 'Best of Smart Learning Applications'
2000 - Merit Award for 'Best of Smart Learning Applications'
2000 - Top Award for 'Best of Student Projects'
1999 - Merit Award for 'Best of Student Projects'

International Asia Pacific ICT Awards (APICTA)
2012 - Merit Award for 'Best of Tertiary Student Project'
2011 - Merit Award for 'Best of Tertiary Student Project'
2010 - Merit Award for 'Best of Tertiary Student Project'
2004 - Merit Award for 'Best of Education & Training'
2004 - Merit Award for 'Best of Applications & Infrastructure Tools'

Malaysian Greentech Awards
(Ministry of Energy, Green Technology & Water)
2012 - Silver Award for 'GreenTech University'

NAPEI Awards (National Association of Private Education Institutions, Malaysia)
2011 - Award for Educational Excellence
2007 - Award for Educational Excellence
2004 - Award for Educational Excellence

Stanford University's Global Innovation Tournament 2009
2009 - Winner for Global Innovation Tournament Global Challenge

Microsoft Imagine Cup (Microsoft Inc.)
2012 - Winner of Microsoft Imagine Cup (Malaysia)
2012 - Top Award for 'MDeC Special Innovation'
2011 - Winner of Microsoft Imagine Cup (Malaysia)
2011 - 1st Runner-up of Microsoft Imagine Cup (Malaysia)
2011 - 2nd Runner-up of Microsoft Imagine Cup (Malaysia)
2011 - Top Award for 'MDeC Special Innovation'
2011 - Top Award for 'Presentation Superstars'
2010 - Winner of Microsoft Imagine Cup (Malaysia)
2010 - Top 6 finalists at World Championship in Poland
2010 - Top Award for 'Best Presentation Team'
2010 - Top Award for 'Best Implementation of Multipoint'
2004 - 3rd Prize Award for 'System Government Elections Software'

HEP-IPTS Debate Competition (Ministry of Higher Education Malaysia)
2012 - Champion of HEP- IPTS Debate Competition
2012 - Best Speaker Award
2011 - Champion of HEP- IPTS Debate Competition

i-Hack Competition 2013 - by Malaysian Communications and Multimedia Commission (MCMC)
2013 - Champion for Forensic Challenge

Hack In The Box (HITB) International Competition 2010
2010 - 2nd Prize for 'Weapon of Mass Destruction'

Malaysia Frost & Sullivan Technology Innovation Award 2010
2010 - Award for 'Emerging Human Computer Interface Technologies'

World University Debates Championship 2010
2010 - Runner-up in the Grand Final

MSC Malaysia Creative Industry Awards 2009
(Games Category - Student)
2009 - Award for 'Best Game Design'
2009 - Award for 'Best Technical'

ITEX Awards (International Invention, Innovation & Technology Exhibition)
2014 - Gold and Bronze Medals for the Invention, Innovation and Technology category
2013 - 2 Silver Medals for the Invention, Innovation and Technology category
2013 - 2 Gold medals for the innovator category
2009 - Gold Award for 'Best Invention - SmartSurface'
2009 - Special Award for Corporate Invention
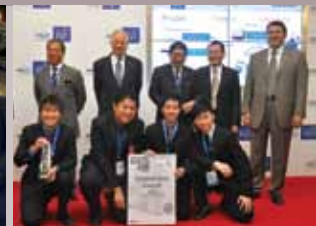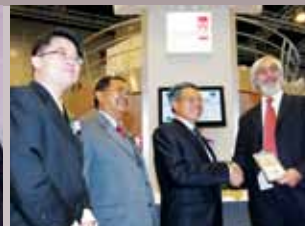
Malaysia Cybersecurity Awards (Cybersecurity Malaysia)
2013 - Award for 'Cyber Security Education and Training Provider of the Year'
2012 - Award for 'Information Security Training Provider of the Year'
2009 - Award for 'Information Security Training Provider of the Year'

Ministry of Higher Education Malaysia Awards
2008 - Top Award for 'Best Website Design'

Asian Innovation Awards (Far Eastern Economic Review, Singapore)
2004 - Only Malaysian Finalist

PRIME MINISTER'S GOLDEN HANDS AWARD
(Ministry of Works Malaysia)
2004 - Top Award in Network and PC Maintenance category

Ministry of Education Excellence Awards
(Ministry of Education, Malaysia)
2003 - Award of Excellence in Research & Development
2003 - Award of Excellence for Development of Overseas Centres

Enterprise 50 Awards (Accenture & SMI Devt Corp)
1998, 1999, 2000 - 3rd position in 2000 among top 50 Malaysian organisations

Asia Student .NET Awards (Microsoft Inc.)
2003 - 3rd Prize Award for 'Automobile Manufacture Service' software application
2003 - 5th Prize Award for 'i-Mall' software application

Forum Nokia Mobile Challenge Java Competition (Nokia Inc.)
2002 - Top 3 winners worldwide for a Java-based e-mail client application for Nokia devices using J2ME (Java 2 Micro Edition)

The Brandlaureate – Smes Best Brands Awards
2012 - Winner of Corporate Branding Award in Education

1Malaysia Innovation Tournament (1MIT) 2010
2010 - Winner for 'Best Animated Award'
2010 - Winner for 'Most Scariest Video Award'

Kopitiam Ekonomi Debate Challenge
2013 - Champions

Hackathon Competitions
2013 - Winner for Water Drone Challenge
2013 - Winner for Creativity and Awesomeness Challenge

Makeweekend Robotics Challenge
2013 - Winner of Water Drone Competition
2013 - Winner of Awesomeness Challenge

Innoserve International ICT Innovative Services Contest
2013 - Second Price of Innoserve International ICT Innovative Services Contest 2013
2013 - Best Innovation Award

Deloitte Inter-University Tax Competition
2013 - First Runner Up
2012 - First Runner Up (Individual Category)
2012 - 6th Place (Individual Category)

Business Excellence Award (Malaysia Canada Business Council)
2006 - Bronze award for Industry Excellence for Education

DKSH-CSSC Award
2006 - First Prize for DKSH-CSSC Media Challenge 2006

E-Genting Programming Competition (R&D Division, Egenting)
2006 - First Prize for 'Software Program Design and Development'
2004 - First Prize for 'Software Program Design and Development'
2003 - First Prize for 'Software Program Design and Development'
2002 - Merit Award for 'Software Program Design and Development'

HSBC Young It Entrepreneur Awards (Hong Kong Bank)
2004 - Gold Award for 'Universal Wireless Charging' solution
2004 - Judges Award for 'Security Transmitter & Detector' device
2002 - Silver Award for 'Business Edutainment Access Medium' Business Plan

MSC-IHL Business Plan Competition (Institutions of Higher Learning Business Plan Competition by Multimedia Development Corporation)
2012 - Merit prize for Business Idea Category
2005 - Grand prize for Business Idea Category
2005 - Merit prize for Business Plan Category

ACCOLADES FOR APU

Asia Pacific University of Technology & Innovation (APU)
Formerly known as UCTI - Asia Pacific University College of Technology & Innovation
(A Member of the APIIT Education Group) Company no. 672203-A

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