
www.ucti.edu.my
SCHOOL OF
Engineering
U·C·T·I
ASIA PACIFIC UNIVERSITY
COLLEGE OF TECHNOLOGY & INNOVATION
PRE-UNIVERSITY PROGRAMME
Degree Foundation Programme
DIPLOMA PROGRAMME
Diploma in Electrical & Electronic Engineering
DEGREE PROGRAMMES
B. Eng (Hons) in Electrical & Electronic Engineering
B. Eng (Hons) in Electronic Engineering
with specialism in Information Technology
B. Eng (Hons) in Telecommunication Engineering
B. Eng (Hons) in Mechatronic Engineering
Our Partner
in Quality
STAFFORDSHIRE
UNIVERSITY
Degrees awarded in association with Staffordshire University

U·C·T·I
ASIA PACIFIC UNIVERSITY
COLLEGE OF TECHNOLOGY & INNOVATION

UCTI - An Award-Winning University

The Asia Pacific University College of Technology & Innovation (UCTI) stands tall among Malaysia's premier Institutions of Higher Learning - this is a University where a unique fusion of technology, innovation and creativity works effectively towards preparing graduates for significant roles in business and society globally.

Originally established as the Asia Pacific Institute of Information Technology (APIIT) in 1993 and funded by the SAPURA Group, UCTI'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 70 countries studying in its Malaysian campus, UCTI offers a truly cosmopolitan learning environment which prepares students well for the global challenges which lie ahead.

UCTI offers a wide range of degrees with Technology as a common core. It is UCTI'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.

UCTI's achievements in winning a host of prestigious awards at national and regional levels over the years bear testimony to our commitment to excellence in higher education and training, as well as innovative research and development and comercialisation. UCTI (through APIIT) is Malaysia's first Institution to achieve Multimedia Super Corridor (MSC) Company Status, as well as the only Institution to have won the prestigious MSC Asia Pacific ICT Awards every year since the inception of the awards in 1999.

Through our network of APIIT branch campuses established in Sri Lanka, India and Pakistan, UCTI 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.

UCTI's academic programmes are all approved by the Ministry of Higher Education of Malaysia and the qualifications are accredited by the Malaysian Qualifications Agency (MQA).

Staffordshire University - Our Partner in Quality

Staffordshire University has over 17,000 students that make up a dynamic and vibrant community at their campuses in the United Kingdom. Over 5,000 students study overseas on Staffordshire University programmes in China, Malaysia, Singapore, the Middle East, Hong Kong, Pakistan, India, Sri Lanka, Greece, Spain and France.

Some facts about Staffordshire University are:

- A leader among English universities ahead of Oxford and Cambridge Universities in providing one of the best learning experiences for students in England (based on analysis of QAA Institutional Audit 2005)
- Ranked in the top 3 in England based on analysis of the UK Quality Assurance Agency (QAA) Audit on Good Practice & Recommendations
- Recognised for eight areas of 'good practice', placing the University among the very best performers in the whole of the UK's higher education sector
- Offers some of the most innovative courses including business, engineering, broadcast media, computer games design and football technology
- Rated as the best new University by employers - Staffordshire University has a better rating than Oxford University

All of UCTI's programmes are Quality Assured by Staffordshire University. Our solid relationship with Staffordshire University is among the strongest and most successful foreign collaborations in Malaysia, and is particularly notable in our strong shared mission of producing highly employable graduates.

" Staffordshire's teaching and facilities are designed to equip you for the world of work; the proportion getting graduate-level jobs is high, ranking the university in the top 25 in the UK." *- The Sunday Times, September 2009*

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

This approved programme is designed to meet the accreditation requirements of the Engineering Accreditation Council of the Board of Engineers Malaysia.

Learning for Employability

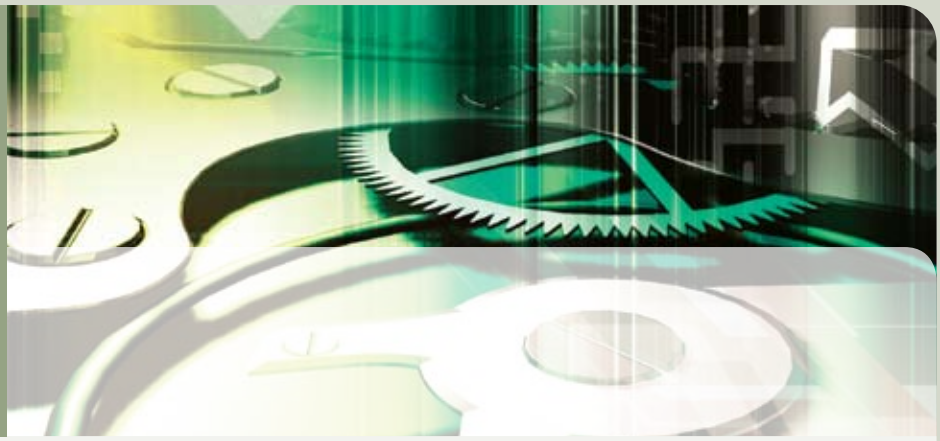
Employers look for qualified people who have the technical know-how and the ability to communicate and work in teams.

At UCTI, 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™

- **Innovation** through the design of curriculum, the module content and the learning approaches
- **Integration** through developing your capabilities to interrelate knowledge and to work in multidisciplinary teams
- **Information** through developing your knowledge and also your abilities to communicate effectively and persuasively
- **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
- **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 UCTI degree are as follow:

B. Eng (Hons) in Electrical and 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 specialism in Information Technology	This Electronic Engineering programmme with a specialisation in Information Technology endeavours to produce competent engineers who can interface computer technology with electronics for controlling and monitoring physical devices. Computer systems engineers harness the exponential growth in the capabilities of computer hardware through devices, machines, and appropriate applications. Graduates are ideally suited to jobs involving the development of hardware / software systems for communications, electronics or process control, with work in such diverse industries as telecommunications, power, defence or games technology.
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 course 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.

Pathways @ UCTI

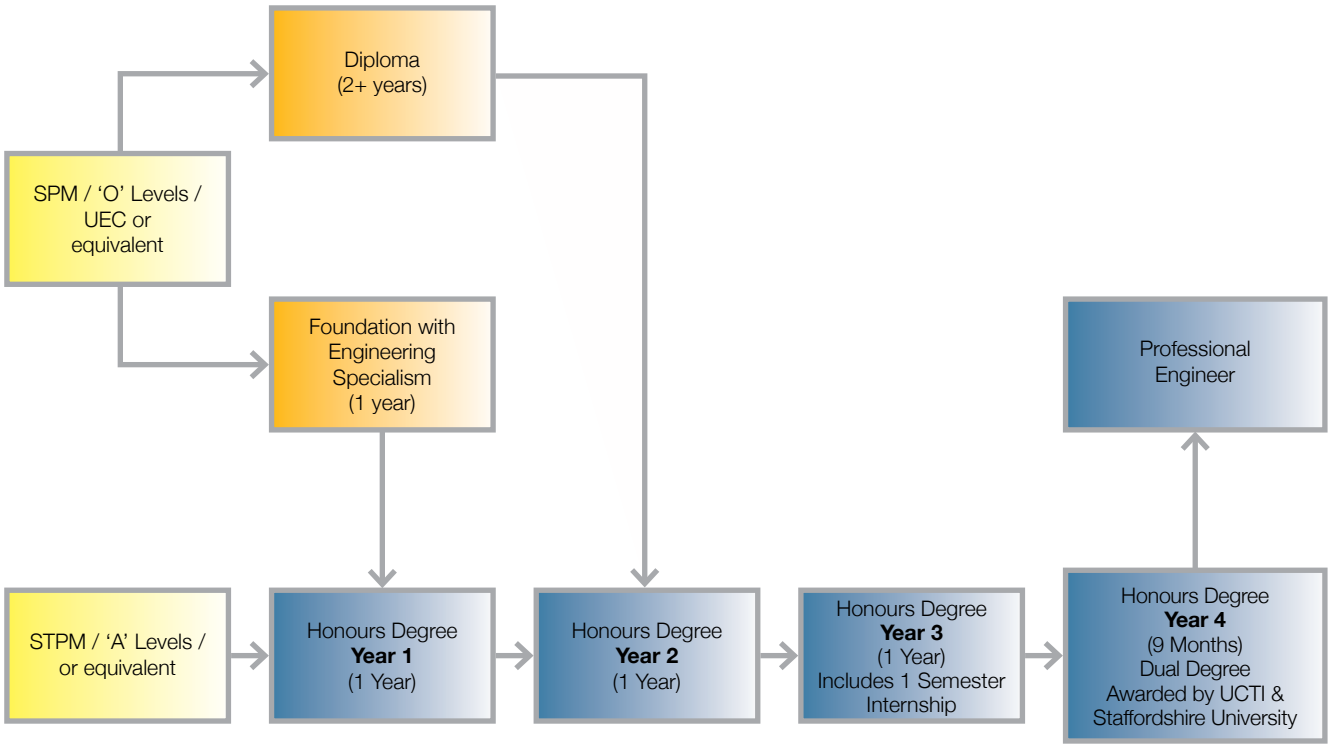
Whether you join UCTI immediately after your secondary education or transfer to us from another institution of higher learning, we offer programmes at several levels and entry points, depending on your prior qualifications and experience.

There will be a clear progression of your learning to ensure that you will be empowered with the necessary skills and knowledge to enter the corporate world.

At UCTI, 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



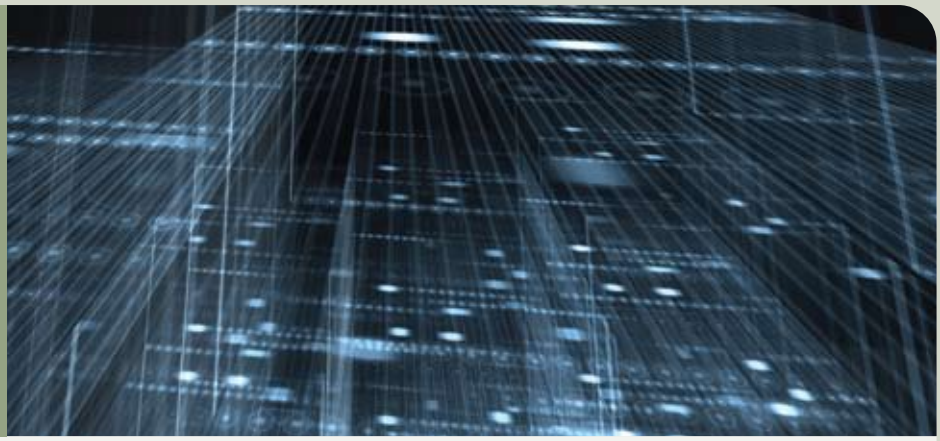
Overall Programme Structure

Foundation
3 semesters / 1 year full-time

Diploma
6 semesters / 2+ years full-time

Accredited Honours Degree
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.

ADMISSION REQUIREMENTS:

- An overall credit pass in at least 5 subjects at SPM level and a minimum of a pass in Bahasa Malaysia; or
- 5 grade C passes at 'O' Level / GCSE; or
- A qualification that UCTI accepts as equivalent to the above.

Diploma Programmes

ADMISSION REQUIREMENTS:

- An overall credit pass in 3 subjects, including Mathematics, at SPM level; or
- 3 grade C passes, including Mathematics at 'O' Levels / GCSE; or
- a qualification that APIIT accepts as equivalent to the above

Bachelors (Hons) Degree Programmes

ADMISSION REQUIREMENTS:

Direct Entry to Level 1 of the Degree:

- Good principal passes at STPM level in Mathematics and Physics and 4 credit passes at SPM; or
- Good passes at 'A' Levels in Mathematics and Physics and 4 Grade C passes at 'O' Levels / GCSE; or
- The UCTI Foundation or equivalent; or
- A qualification that UCTI 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 UCTI Academic Board)

* *(Note that for the programmes listed here, a pass in Bahasa Malaysia at SPM level is required for all Malaysian students).*

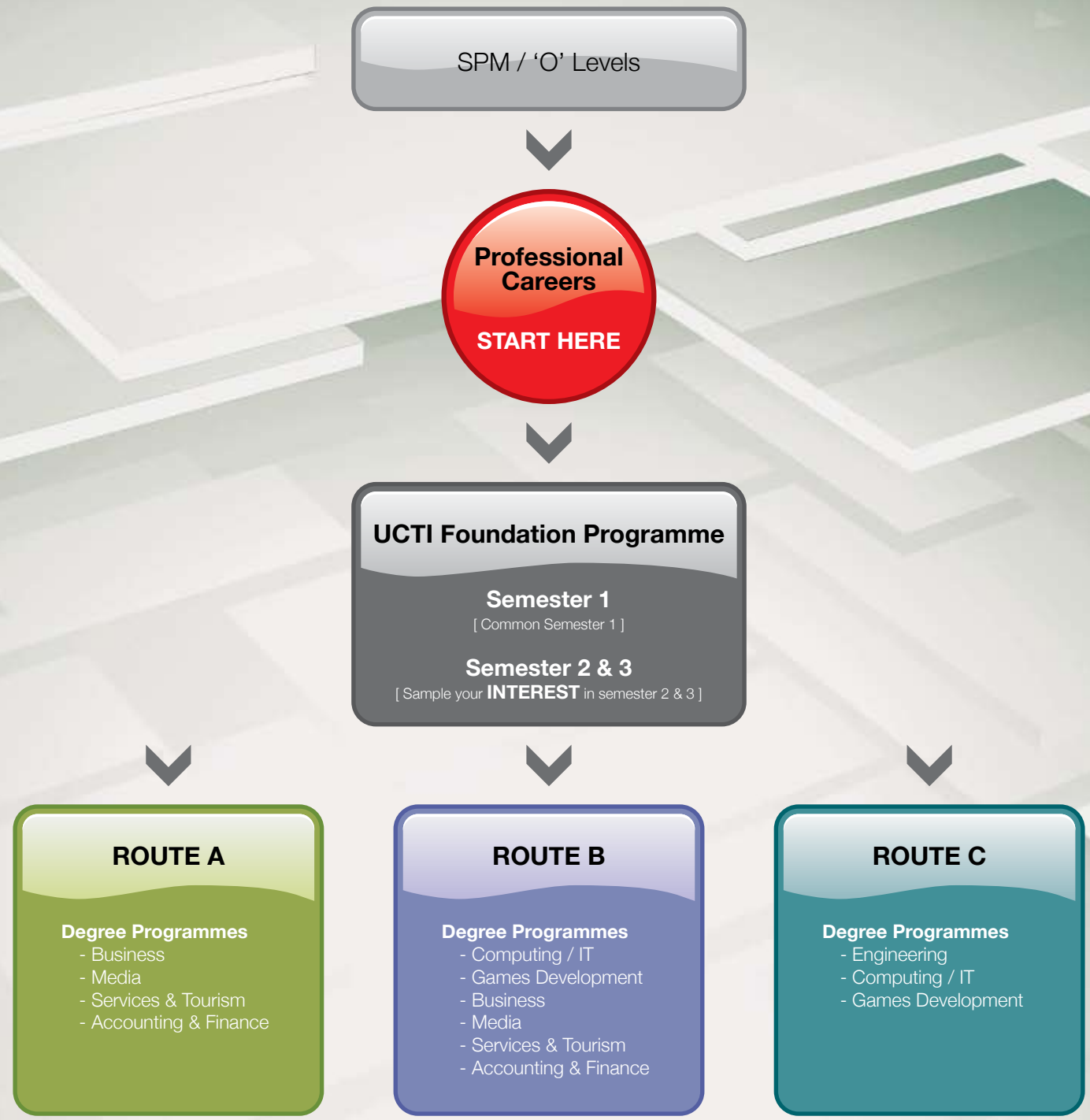
The Foundation Programme

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 UCTI, related to this area or other relevant areas based on your foundation experience.



The Foundation Programme

Modules You Study

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, 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

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, Technology, Media, Information Technology or Engineering. The modules are:

Semester 1

- English *(4 credits)*
- Mathematics *(3 credits)*
- Personal Development & Study Methods *(4 credits)*
- Organisational and Social Environments *(4 credits)*
- MQA Compulsory 1

Semester 2

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

ROUTE A	ROUTE B	ROUTE C
• Global Business Trends *(3 credits)* • Research Methods for Degree Study *(4 credits)*	• Further Mathematics *(3 credits)* • Research Methods for Degree Study *(4 credits)*	• Further Mathematics *(3 credits)* • Electrical and Electronic Principles *(3 credits)*
**You must have previously studied science based subjects to select the Electrical and Electronic Principles module*		

Semester 3

ROUTE A	ROUTE B	ROUTE C
• Introduction to Business *(4 credits)* • Computing & IT *(4 credits)* • Perspectives in Technology *(4 credits)* • MQA Compulsory 3	• Introduction to Business *(4 credits)* • Computing & IT *(4 credits)* • Perspectives in Technology *(4 credits)* • MQA Compulsory 3	• Research Methods for Degree Study *(4 credits)* • Engineering Science *(3 credits)* • Mechanical Science *(3 credits)* • Engineering Mathematics *(3 credits)* • MQA Compulsory 3

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 - Business Management - E-Business - International Business Management - Marketing - Human Resource Management • Tourism Management • Services Management • Accounting & Finance • Media Marketing • Technopreneurship • Media Informatics	• Information Technology - Information Systems Security - Intelligent Systems - Network Computing - Forensic Computing - Mobile Computing - Business Information Systems • Software Engineering • Internet Technology • Enterprise Computing • E-Commerce Technology • Technopreneurship • Computer Games Development • Multimedia Technology • Web Media Technology • Media Informatics • Business - Business Management - E-Business - International Business Management - Marketing - Human Resource Management • Tourism Management • Services Management • Accounting & Finance • Media Marketing	• Engineering - Electrical & Electronic Engineering - Electronic Engineering with IT - Telecommunication Engineering - Mechatronic Engineering • Information Technology - Information Systems Security - Intelligent Systems - Network Computing - Forensic Computing - Mobile Computing - Business Information Systems • Software Engineering • Internet Technology • Enterprise Computing • E-Commerce Technology • Computer Games Development • Multimedia Technology • Web Media Technology

MQA Compulsory Modules
(only applicable for Malaysian Students)

- Bahasa Melayu (Malay Language)
- Pengajian Malaysia (Malaysian Studies)
- Pendidikan Moral (Moral Studies); or Pendidikan Islam (Islamic Studies)

School of Engineering

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

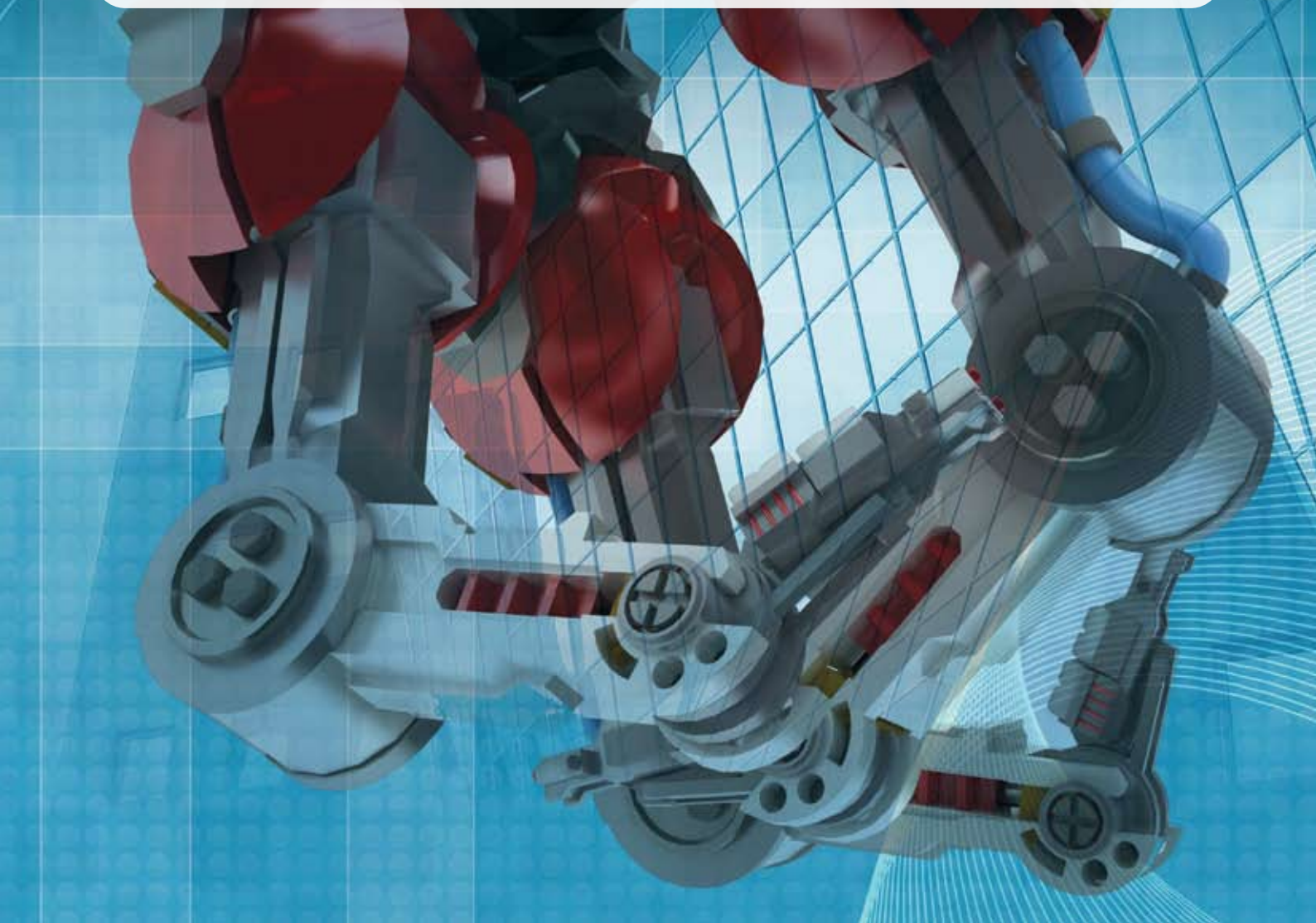
U·C·T·I
ASIA PACIFIC UNIVERSITY
COLLEGE OF TECHNOLOGY & INNOVATION

STAFFORDSHIRE UNIVERSITY

The School of Engineering at UCTI 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, UCTI 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.



Engineering Study Pathways

DIPLOMA
(Diploma awarded by UCTI & Quality Assured by Staffordshire University, UK)

Common Part 1	Programmes
Specialised Part 1	Diploma in Electrical & Electronic Engineering

DEGREES
(DUAL Degrees awarded by UCTI & Staffordshire University, United Kingdom)

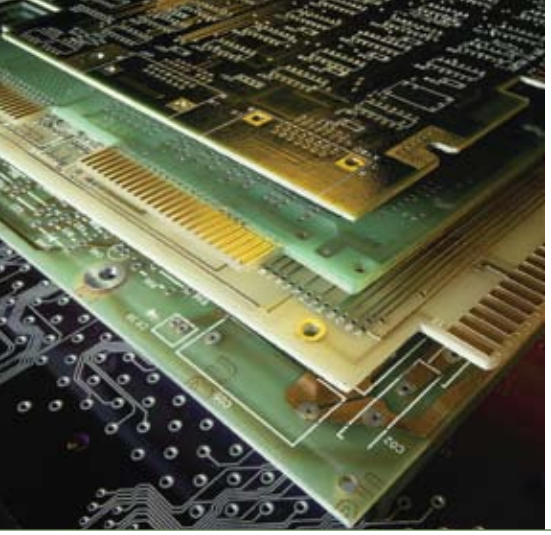
Common Level 1	Programmes
Common Level 1	B. Eng (Hons) in Electrical & Electronic Engineering B. Eng (Hons) in Electronic Engineering with specialism in Information Technology B. Eng (Hons) in Telecommunication Engineering B. Eng (Hons) in Mechatronic Engineering

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 UCTI, 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.



Diploma in Electrical & Electronic Engineering

The Diploma in Electrical and 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 and electronic engineering.

- A full range of modules in the electrical and 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 and 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 studied

- Practical English
- Mathematics
- Professional Communications
- Applied Mechanics
- Practical IT Skills
- Business Environment
- Electrical & Electronic Principles
- Engineering Materials
- Engineering Mathematics 1
- Engineering Mathematics 2
- Compulsory MQA modules

PART 2

The modules provided in Part 2 of the Diploma in Electrical and 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, telecommunication and communication engineering, microprocessor and programming technology. This makes your job opportunities much wider.

- Instrumentation & Measurements
- Control & Automation
- Power Devices & Applications
- Microprocessor Systems
- Electrical Machines & Drives
- Organisational Behaviour
- Problem Solving & Program Design Using C
- Telecommunications
- Analogue Electronics
- Digital Electronics
- Communication Engineering
- 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 UCTI:

- B. Eng (Hons) in Electrical & Electronic Engineering
- B. Eng (Hons) in Electronic Engineering with specialism in 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 and Electronic Engineering programme provides the balance required to achieve this.

The career prospects for holders of the Diploma in Electrical and 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

The 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:
- Computer systems, data and telecommunication networks including the Internet
- Mobile telecommunications and wireless networks, optical and microwave communications
- Integrated electronic systems
- Advanced robotics and intelligent machines
- Generation, transmission and distribution of electric power, renewable energy systems and solar energy conversion
- Biomedical instruments and applications, such as medical imaging scanners, the cochlear implant (bionic ear), pacemakers and hearing aids

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

As computer technology is applied to an ever-widening range of electronic engineering applications, it is becoming increasingly important to have engineers who understand both hardware and software, and their interaction, to build the next generation of computer-based electronic systems.

The major areas of electronic engineering with information technology include:
- Telecommunications programming
- Database design and implementation
- Operating system maintenance
- Implementing embedded systems
- Electronic control systems
- Fundamental and applied research

The B. Eng (Hons) in Telecommunication Engineering

Telecommunication Engineers design, develop, test and maintain telecommunications systems.

Telecommunications Engineering will appeal to those who are interested in the following fields:
- Satellite communications and mobile satellite communications
- Signal and image processing
- Optical fibres and photonics
- Data networks, data coding, compression, encryption and transmission
- Microelectronic devices and systems
- Real-time embedded systems

The 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:
- Project management - multidisciplinary approach to getting projects completed
- Fundamental design and build - ways of embedding intelligence and interfacing to the real world
- Fit and forget - construction of machines to run autonomously
- Process control - plant condition monitoring and control
- Consultation - advice in optimal methods of building systems and connecting subsystems together
- Entrepreneurial attitude - invention, manufacture and marketing of new intelligent machines

B. Eng (Hons) in Electrical & Electronic Engineering

This programme provides:

- 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, Analogue and Digital Electronics, Engineering Materials, Applied Mechanics and Design Principles. In addition, a thorough grounding in principles of IT and management are provided by the Introduction to C Programming and Management modules. Modules such as Engineering Mathematics and Business and Communication Skills 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.

Modules studied

- Analysis of Circuits
- Applied Mechanics
- Business and Communication Skills
- Design Principles
- Engineering Materials
- Engineering Mathematics 1
- Engineering Mathematics 2
- Introduction to C Programming
- Introduction to Analogue and Digital Electronics
- Introduction to Management

(Plus 3 MQA subjects. Only applicable for Malaysian students.)

YEAR 2

Here, you start specialising in modules that develop the necessary underlying knowledge and skills in Electrical & Electronic Engineering. Further, in-depth Electrical and Electronic skills are developed here with modules such as Analogue Electronics, Digital Electronics, Control Engineering, Communication Engineering, Power, Fields and Devices and Physical Electronics. Engineering Mathematics is provided for the better understanding of the engineering modules. A common theme that underlines all the awards is the development of innovative thinking with the Creativity & Innovation module.

Independent learning continues in all modules.

- Analogue Electronics
- Communication Engineering 1
- Digital Electronics
- Artificial Intelligence Methods
- Engineering Mathematics 3
- Control Engineering
- Physical Electronics
- Power, Fields and Devices
- Creativity and Innovation
- Devices and Fields

YEAR 3

Specialised knowledge and skills in the areas of Power System Analysis and Digital System Design 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. Your personal and professional development is enhanced by the module in Project Management. You will enhance your technical capability and understand how to innovate, generate and manage the creation of new ideas.

Being an approved programme, additional modules to meet the accreditation requirement of the Engineering Accreditation Council of the Board of Engineers Malaysia are included. This is achieved by providing industrial placement experience. Independent learning continues in all modules but is a particular focus and requirement in the Research Methods module.

- Research Methods
- Communication Engineering 2
- Digital System Design
- Project Management
- Power System Analysis

INTERNSHIP

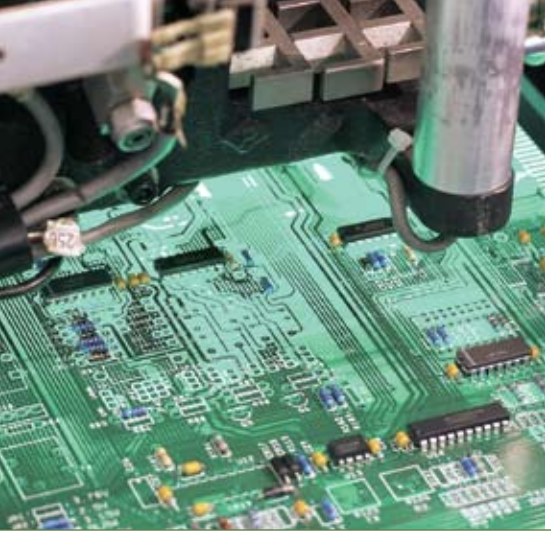
YEAR 4

The final year Engineering modules provide the necessary industry application technological skills which will become very useful for employment upon graduation. These modules include: Digital Signal Processing, Signals and Linear Systems, Microprocessor Systems and Embedded Software. The Investigations in Electrical & Electronic Engineering module and Innovation Management & New Product Development will enable students to take on R&D with commercialisation.

The Electrical & Electronic Engineering project 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.

Being an approved programme, additional modules to meet the accreditation requirement of the Engineering Accreditation Council of the Board of Engineers Malaysia are included. This is achieved by the inclusion of a module dealing with the role of the engineer in society.

- Investigations in Electrical & Electronic Engineering
- Instrumentation
- Innovation Management & New Product Development
- Engineer in Society
- Project - Electrical and Electronics
- Analogue Integrated Circuits and Systems
- Power Electronics and Machines
- Microprocessor Systems and Embedded Software
- Signals and Linear Systems
- Digital Signal Processing



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

This programme provides:

- 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, Analogue and Digital Electronics, Engineering Materials, Applied Mechanics and Design Principles. In addition, a thorough grounding in principles of IT and management are provided by the Introduction to C Programming and Management modules. Modules such as Engineering Mathematics and Business and Communication Skills provide the basic academic skills required. Important and relevant skills for managing activities and for your own independent learning are also introduced.

Modules studied

- Analysis of Circuits
- Applied Mechanics
- Business and Communication Skills
- Design Principles
- Engineering Materials
- Engineering Mathematics 1
- Engineering Mathematics 2
- Introduction to C Programming
- Introduction to Analogue and Digital Electronics
- Introduction to Management

(Plus 3 MQA subjects. Only applicable for Malaysian students.)

YEAR 2

Here, you start specialising in modules that develop the necessary underlying knowledge and skills in Electronics with specialisation in Information Technology. Further, in-depth Electronic and Computing skills are developed here with modules such as Control Engineering, Digital Electronics, Analogue Electronics, Communication Engineering, Artificial Intelligence Methods, Systems Programming and Computer Control, Computer Systems Low Level Techniques and Devices and Fields. Engineering Mathematics is provided for the better understanding of the engineering modules. A common theme that underlines all the awards is the development of innovative thinking with the Creativity & Innovation module.

Independent learning continues in all modules.

- Analogue Electronics
- Digital Electronics
- Devices and Fields
- Artificial Intelligence Methods
- Communication Engineering 1
- Engineering Mathematics 3
- Computer Systems Low Level Techniques
- Control Engineering
- Creativity and Innovation
- Systems Programming and Computer Control

YEAR 3

This specialism develops skills and applications required for you to function as a professional in the field of Electronics with Information Technology via suitable modules such as Programming concepts in C++, Digital System Design and Communication Engineering.

There is further development of the ability to apply relevant engineering skills with strong critical thinking and analysis. Your personal and professional development is enhanced by the module in Project Management. You will enhance your technical capability and understand how to innovate, generate and manage the creation of new ideas.

Being an approved programme, additional modules to meet the accreditation requirement of the Engineering Accreditation Council of the Board of Engineers Malaysia are included. This is achieved by providing industrial placement experience. Independent learning continues in all modules but is a particular focus and requirement in the Research Methods module.

- Programming Concepts in C++
- Communication Engineering 2
- Research Methods
- Project Management
- Digital System Design

INTERNSHIP

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, Power Electronics and Machines, Advanced Programming Language Concepts, VHDL and Logic Synthesis, Instrumentation, Signals and Linear Systems, Microprocessor Systems and Embedded Software.

Further, the Investigations in Electronic Engineering with Information Technology module and Innovation Management & New Product Development will enable students to take on R&D with commercialisation.

The Electronic Engineering with Information Technology project 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.

Being an approved programme, additional modules to meet the accreditation requirement of the Engineering Accreditation Council of the Board of Engineers Malaysia are included. This is achieved by providing industrial placement experience and the inclusion of a module dealing with the role of the engineer in society.

- Advanced Programming Language Concepts
- VHDL and Logic Synthesis
- Instrumentation
- Engineer in Society
- Power Electronic Engineering and Machines
- Project - Electronics with IT
- Microprocessor Systems and Embedded Software
- Signals and Linear Systems
- Investigations in Electronic Engineering with Information Technology
- Innovation Management & New Product Development

B. Eng (Hons) in Telecommunication Engineering

This programme provides:

- 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, Analogue and Digital Electronics, Engineering Materials, Applied Mechanics and Design Principles. In addition, a thorough grounding in principles of IT and management are provided by the Introduction to C Programming and Management modules. Modules such as Engineering Mathematics and Business and Communication Skills provide the basic academic skills required. Important and relevant skills for managing activities and for your own independent learning are also introduced.

Modules studied

- Analysis of Circuits
- Applied Mechanics
- Business and Communication Skills
- Design Principles
- Engineering Materials
- Engineering Mathematics 1
- Engineering Mathematics 2
- Introduction to C Programming
- Introduction to Analogue and Digital Electronics
- Introduction to Management

(Plus 3 MQA subjects. Only applicable for Malaysian students.)

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 Control Engineering, Communication Engineering Principles, Analogue Electronics and Digital Electronics, Microwave and Optical Transmission, Devices and Fields and Fundamentals of Mobile Computing. Engineering Mathematics is provided for the better understanding of the engineering modules. A common theme that underlines all the awards is the development of innovative thinking with the Creativity & Innovation module.

Independent learning continues in all modules.

- Analogue Electronics
- Digital Electronics
- Communication Engineering Principles
- Control Engineering
- Engineering Mathematics 3
- Creativity and Innovation
- Devices and Fields
- Fundamentals of Mobile Computing
- Microwave and Optical Transmission
- Signals and Linear Systems

YEAR 3

Specialised knowledge and skills in the areas of, Digital System Design, Modern Communications, 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. Your personal and professional development is enhanced by the module in Project Management. You will enhance your technical capability and understand how to innovate, generate and manage the creation of new ideas.

Being an approved programme, additional modules to meet the accreditation requirement of the Engineering Accreditation Council of the Board of Engineers Malaysia are included. This is achieved by providing industrial placement experience. Independent learning continues in all modules but is a particular focus and requirement in the Research Methods module.

- Digital System Design
- Research Methods
- Project Management
- Modern Communication System
- Microprocessor Systems and Embedded Software

INTERNSHIP

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, Digital Signal Processing, VHDL and Logic Synthesis, Analogue and RF, Antenna and Propagation, Instrumentation, and Satellite and Personal Communications. The Investigations in Telecommunication Engineering module and Innovation Management & New Product Development will enable students to take on R&D with commercialisation.

The Telecommunication Engineering project 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.

Being an approved programme, additional modules to meet the accreditation requirement of the Engineering Accreditation Council of the Board of Engineers Malaysia are included. This is achieved by providing industrial placement experience and the inclusion of a module dealing with the role of the engineer in society.

- VHDL and Logic Synthesis
- Engineer in Society
- Innovation Management & New Product Development
- Project - Telecommunication
- Antenna and Propagation
- Digital Signal Processing
- Analogue and RF
- Investigations in Telecommunication Engineering
- Satellite and Personal Communications
- Instrumentation

B. Eng (Hons) in Mechatronic Engineering

This programme provides:

- 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 computers, sensors and actuators for robotic 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, Analogue and Digital Electronics, Engineering Materials, Applied Mechanics and Design Principles. In addition, a thorough grounding in principles of IT and management are provided by the Introduction to C Programming and Management modules. Modules such as Engineering Mathematics and Business and Communication Skills provide the basic academic skills required. Important and relevant skills for managing activities and for your own independent learning are also introduced.

Modules studied

- Analysis of Circuits
- Applied Mechanics
- Business and Communication Skills
- Design Principles
- Engineering Materials
- Engineering Mathematics 1
- Engineering Mathematics 2
- Introduction to C Programming
- Introduction to Analogue and Digital Electronics
- Introduction to Management

(Plus 3 MQA subjects. Only applicable for Malaysian students.)

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 Control Engineering, Communication Engineering, Analogue Electronics and Digital Electronics, Mechanical Principles, Intermediate Robotics, CAD/CAM and Analogue Electronics and Digital Electronics. Engineering Mathematics is provided for the better understanding of the engineering modules. A common theme that underlines all the awards is the development of innovative thinking with the Creativity & Innovation module.

Independent learning continues in all modules.

- Analogue Electronics
- Digital Electronics
- Communication Engineering Principles
- Control Engineering
- Creativity and Innovation
- Engineering Mathematics 3
- Devices and Fields
- Intermediate Robotics
- Mechanical Principles
- CAD / CAM

YEAR 3

Specialised knowledge and skills in the areas of Product Creation Technology, Sensors and Actuators, and Advanced Robotics 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. Your personal and professional development is enhanced by the module in Project Management. You will enhance your technical capability and understand how to innovate, generate and manage the creation of new ideas.

Being an approved programme, additional modules to meet the accreditation requirement of the Engineering Accreditation Council of the Board of Engineers Malaysia are included. This is achieved by providing industrial placement experience. Independent learning continues in all modules but is a particular focus and requirement in the Research Methods module.

- Product creation Technology
- Research Methods
- Advanced Robotics
- Sensors and Actuators
- Project Management

INTERNSHIP

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, Microprocessor Systems and Embedded Software, Power Electronics and Machines, Mechatronic Design, Analogue and Integrated Circuits, Thermofluids and Instrumentation. The Investigation in Mechatronic Engineering module and Innovation Management & New Product Development will enable students to take on R&D with commercialisation.

The Mechatronic Engineering project 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.

Being an approved programme, additional modules to meet the accreditation requirement of the Engineering Accreditation Council of the Board of Engineers Malaysia are included. This is achieved by providing industrial placement experience and the inclusion of a module dealing with the role of the engineer in society.

- Thermofluids
- Engineer in Society
- Power Electronics and Machines
- Analogue Integrated Circuits and Systems
- Project - Mechatronics
- Instrumentation
- Microprocessor Systems and Embedded Software
- Investigations in Mechatronic Engineering
- Innovation Management & New Product Design
- Mechatronic Design

UCTI 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 it at conferences worldwide. Some of the areas of research include :

- Embedded Systems & RFID
- Biometrics
- Games Engines
- 3D Graphics and Virtual Reality
- Security
- New Media Technologies
- Knowledge Management
- Mobile Learning
- Detecting Pornographic Images
- Adding Facial Expressions to Talking Head Models
- Marketing Professional Services
- Two and Three Dimension Audio-Visual Speech Synthesis
- Handwritten Signature Verification Using a Single Master Signature
- Customer Care
- E-Learning
- Entrepreneurial Business
- Various Aspects of Accounting
- International Marketing
- Generation of Business Ideas
- Organisational Culture Change
- Strategic Diversification Evaluation

World Class Facilities

Accolades for UCTI

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

Asia Pacific ICT Awards (APICTA) Malaysia
(Multimedia Development Corporation)
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'

Asia Pacific ICT Awards (APICTA) Hong Kong
2004 - Merit Award for 'Best of Education & Training'
2004 - Merit Award for 'Best of Applications & Infrastructure Tools'

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

PIKOM - Computimes ICT Awards 2004
(Association of Computer Industry in Malaysia)
2005 - Product of the Year Award for 'URL Checker'
2004 - Product of the Year Award for 'Screenshield Suite'

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

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

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

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

Microsoft Imagine Cup
(Microsoft Inc.)
2004 - 3rd Prize Award for 'System Government Elections Software' software application

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

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

Malaysia Cybersecurity Awards
(Cybersecurity Malaysia)
2009 - Award for 'Information Security Training Provider of the Year'

ITEX 2009 Awards - Won by UCTI Graduates
(International Invention, Innovation & Technology Exhibition)
2009 - Gold Award for 'Best Invention - SmartSurface'
2009 - Special Award for Corporate Invention

Stanford University's Global Innovation Tournament 2009
(Won by UCTI Student)
2009 - Winner for Global Innovation Tournament Global Challenge

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

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

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)
2005 - Grand prize for Business Idea Category
2005 - Merit prize for Business Plan Category

Dare to be Digital Programming Competition
(British Council / University of Abertay, Dundee)
2003 - 1st Prize Award for a Multiplayer Online Game
2003 - 3rd Prize Award for a Role Playing Strategy Game

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

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