

FACULTY OF ENGINEERING & INFORMATION TECHNOLOGY



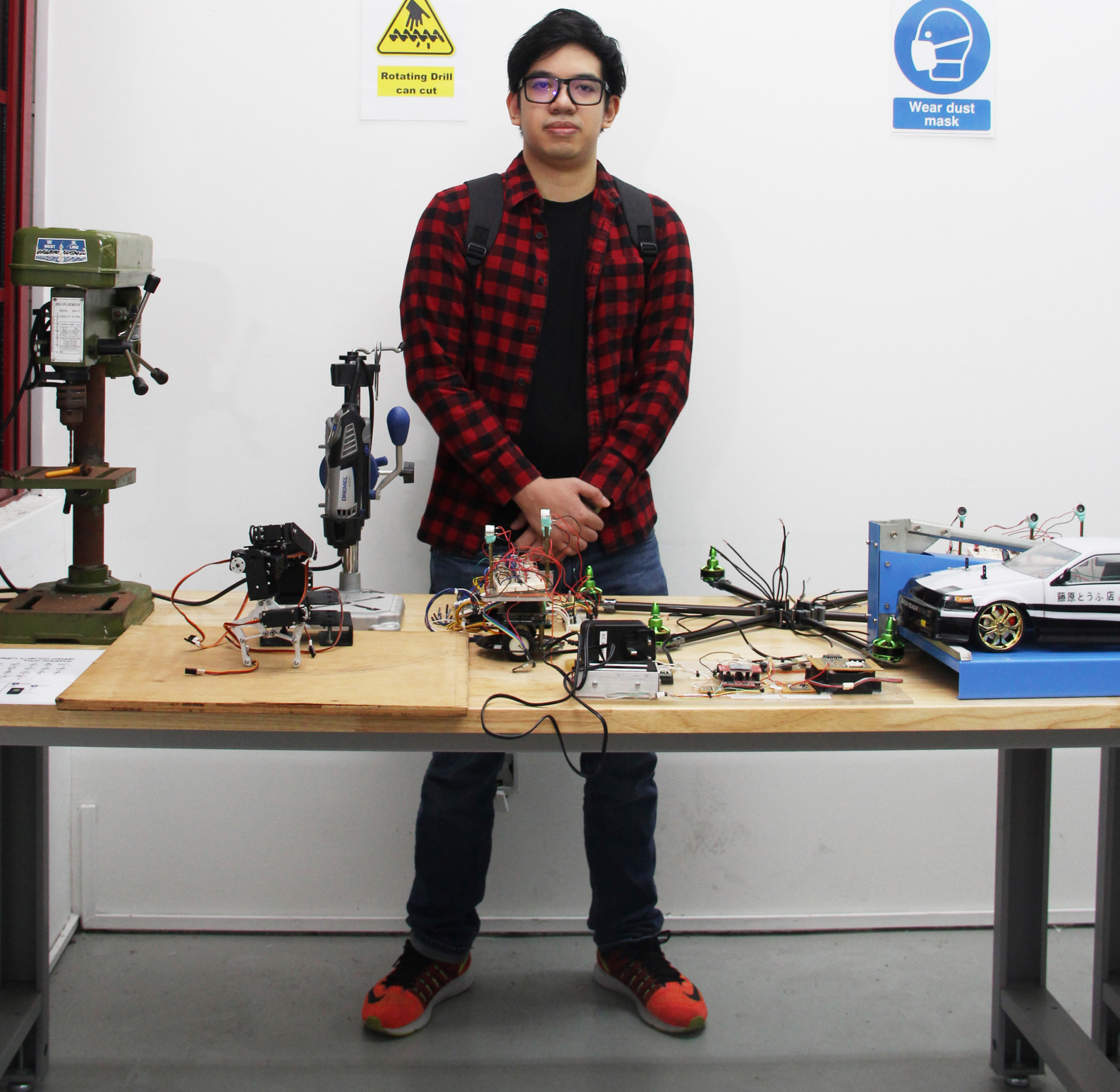
SOUTHERN
UNIVERSITY COLLEGE
南方大學學院



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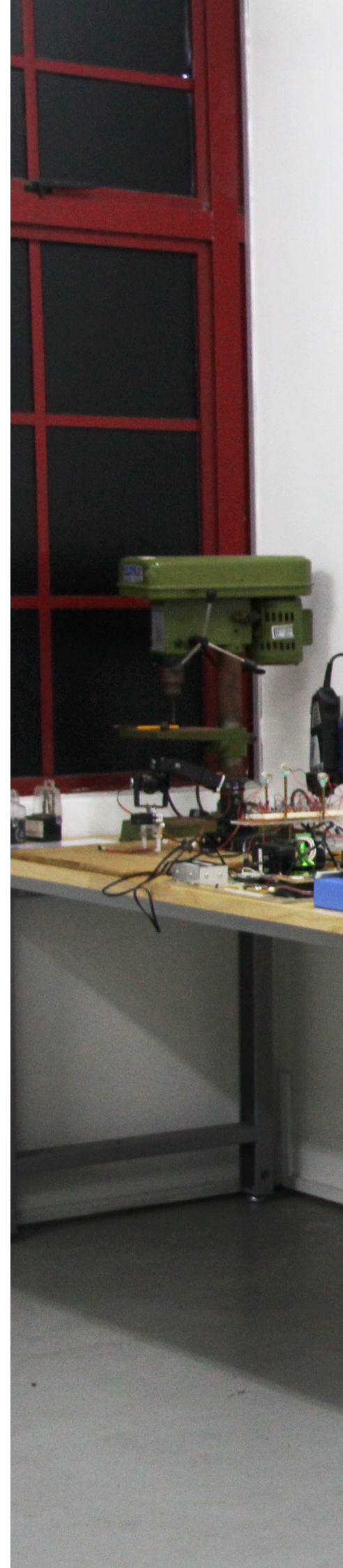
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Welcome

Welcome! The Faculty of Engineering and Information Technology (FEIT) serves as a platform through which higher education in engineering and information technology in specified areas is imparted to students. Our overarching goal is to cultivate students who are able to think out of the box in facing challenging problems. We have faith our graduates to be passionate engineers and IT experts who are committed to improving the quality of human life through the innovation of technology.

FEIT offers undergraduate degrees in two majors: Electronics Engineering (4 years' program) and Software Engineering (3 years' program). It comprises engineering mathematics, physics, basic electronics and programming for Electrical and Engineering students and logic, database, networking and programming for Software Engineering students. Our multifaceted 21st century curriculum provides EE and SE undergraduates adequate breadth and depth in each of the majors, and positions them to pursue rapidly evolving areas that interface with other disciplines. Throughout the 3-4 years of the study, student learning takes place through lectures, tutorials, problem solving, research and frequent interactions with experienced faculty members.





Courses

Diploma in **Computer Science**
Diploma in **Information Technology**
Diploma in **Electrical & Electronic Engineering**
Bachelor of **Software Engineering (Hons)**
Bachelor of **Electronic Engineering with Honours**

Faculty of Engineering & Information Technology

The Faculty of Engineering and Information Technology (FEIT) is one of the faculty established in Southern University College (SUC). The strong collaboration and industry linkages enabled us to groom future engineers and exposed students to real world issues from user study, analysis, software development, or even robotic development. FEIT serves as a platform through which higher education in engineering and information technology in specified areas is imparted to students. Our faculty offers undergraduate degrees in two majors: Electronics Engineering (4 years program) and Software Engineering (3 years program). Besides, we also offers three diploma programs: Diploma in Electrical & Electronic Engineering, Diploma in Information Technology, and Diploma in Computer Science. One key point to choose our faculty is that all our diploma and degree programs has gained the accreditation by the Malaysian Qualifications Agency (MQA). The recent

achievement of our faculty is that the degree program, Bachelor of Electronic Engineering with Honours has obtain the accreditation by the Engineering Accreditation Council Malaysia (EAC) (BEM/EAD/02-71/WA/03-2(002)). EAC accreditation is to ensure that graduates of the accredited engineering programmes satisfy the minimum academic requirements for registration as a graduate engineer with the Board of Engineers Malaysia (BEM) and for admission to graduate membership of IEM. Graduate Engineer with BEM and membership of IEM provide a eligible path for graduates to apply for Professional Engineer and Ir. status in the future. Currently, the faculty has 40% of the teaching staff who are Ph.D holders specializing in different fields of studies. For diploma programme, we are in the progress of applying accreditation from Engineering Technology Accreditation Council (ETAC).



Career Prospects

Department of Computer Science

Diploma in Computer Science is a study of how computers work, mostly from the theoretical and mathematical perspective. This course includes four major areas of computing: theory, algorithms, programming languages, and architecture. You should choose Computer Science if you like math and logic. Graduate from this programme may pursue a wide range of careers such as Programmer, Web Designer, Software Developer, Software Engineer, Systems Engineer, Systems Administrator, Database Analyst, Database Engineer, Database Specialist and so on.

Diploma in Information Technology is primarily focused on subjects such as software, databases, and networking. You should choose a course in IT if you want to get into a career such as Programmer, Web Designer, Software Developer, Network Engineer, System Engineer, IT Administrator, Database Engineer and so on.

Bachelor of Software Engineering (Hons) is a degree program to study of how software systems are developed, including topics such as different programming techniques, software design, software security assurances, mobile apps development, software testing, web development, software quality and etc. You should choose Software Engineering if you are more interested in hands-on approach and get the challenge into this technological era. Graduate from this programme may pursue a wide range of careers such as Software Engineers, Information System Engineers, Information System Officers, System Designers, IT Project Manager, Programmer, Software Tester, Academician, Software Architect, System Analyst, Test Engineer and etc.

Department of Electrical & Electronic Engineering

In **Diploma in Electrical & Electronic Engineering**, you will learn the necessary engineering concepts and applications to utilise and control electrical energy as well as design and build simple electronic devices. You will also pick up the essential IT skills to run analyses, simulations and tests with various computing software such as PSPICE, MATLAB and C++ programming. Graduate from this programme may pursue careers such as Technician, Technical Support Engineer, Assistance Engineer.

Bachelor of Electronic Engineering with Honours

let you gain a more comprehensive insight on various fundamental theories and concepts of electronics engineering. As a result, you will be able to conduct your own analysis and investigations on complex engineering problems and utilise modern engineering and IT tools to develop sustainable and feasible solutions. Upon completion of a recognised Electronic Engineering Degree, you will have to register with BEM as a Graduate Engineer in order to seek employment opportunities to offer professional engineering services. Graduate from this programme may pursue careers such as Electronic Engineer, Product Engineer, Design Engineer, Sales Engineer, Project Engineer, Software Engineer, Research Engineer, Development Engineer, Reliability Engineer, Systems Design Engineer, Field Engineer, Test Engineer, Control Engineer, Product Engineer, Quality Control Engineer.

Diploma in Information Technology

R2/482/4/0190(A10844)10/24

Course Duration: 2 Years 3 Months

Total Credits: 92 Credits

Course Introduction

Based on the information technology, business organization and industrial needs, the curriculums are designed to provide the student with the techniques and knowledge in the applications and process of Information technology, as well as to train the students to be excellent at organizational needs analysis and information. With both computer and business organization knowledge so that they will be able to enter into the employment market with the advantages of strong technical skills.

Course

Core Modules

- Fundamentals of Software Design and Development
- System Analysis and Design
- Database System Design
- Networking and Distributed System
- Computer Organization and Architecture
- Operating System
- System Security and Control
- Project I
- Project II

University College Core Modules

- Intermediate English
- Chinese / Basic Chinese
- Physical Education I
- Physical Education II
- Contemporary Literacy

Concentration Modules

- Business Information System
- Mathematics for Computing
- Calculus and Algebra
- Statistics and Probability
- Internet Application
- Introduction to Multimedia
- Software Development
- Object-oriented Programming
- Data Structure and Algorithm

- Project Management
- Web-based Systems

Elective Modules

Departmental Elective

- Multimedia Design
- Human Computer Interaction
- Software Engineering
- Strategic Information Systems

University College Elective

- Foundation English
- Fundamental of Mathematics
- Advanced Mathematics

Industrial Training

- Industrial Training

Career Opportunities

- Programmer
- Web Designer
- Software Developer
- Network Engineer
- System Engineer
- IT Administrator
- Database Administrator
- Database Engineer

Entry Requirement

- **SPM / O-Level:** 3 credits and including Mathematics;
- **UEC:** Grade B in 3 subjects and including Mathematics;
- Other recognized equivalent qualifications.

Diploma in Computer Science

R2/481/4/0270(A8297)10/22

Course Duration: 2 Years 3 Months

Total Credits: 92 Credits

Course Introduction

The course not only emphasizes on the academic theories and the practical applications, but it also takes into considerations of the career prospect and future development of the students. Therefore, it covers most of the aspects of Computer Science and mainly focuses on system analysis, programming and system development.

Course

Core Modules

- Introduction to Programming
- Discrete Mathematics
- System Analysis and Design
- Database System Design
- Project
- Computer Organization and Architecture
- Operating System
- Networking and Distributed System

University College Core Modules

- Intermediate English
- Chinese/ Basic Chinese
- Physical Education I
- Physical Education II
- Contemporary Literacy

Concentration Modules

- Computer System
- Mathematics for Computing
- Calculus
- Java Programming
- Advanced Java Programming
- Data Structure and Algorithm
- Human Computer Interaction
- Visual Basic.Net
- Internet Application
- Web-Based Systems

Elective Modules

Departmental Elective

- Introduction to Multimedia
- Business Information System
- Project Management
- Strategic Information System

University College Elective

- Foundation English
- Fundamental of Mathematics
- Advanced Mathematics

Industrial Training

- Industrial Training

Career Opportunities

- Programmer
- Web Designer
- Software Developer
- Software Engineer
- Systems Engineer
- Systems Administrator
- Database Analyst
- Database Engineer
- Database Specialist

Entry Requirement

- **SPM / O- Level:** 3 credits and including Mathematics;
- **UEC:** Grade B in 3 subjects and including Mathematics;
- Other recognized equivalent qualifications.

Diploma in Electrical & Electronic Engineering

R2/523/4/0308(A10067)04/24

Course Duration: 2 Years 6 Months

Total Credits: 94 Credits

Course Introduction

Founded in 2004, we have established a reputation in teaching electronics engineering courses to diploma and degree students in Southern region of Malaysia. The department has produced graduates that meet the needs of the country. In order for doing so, we have carefully designed and reviewed from time to time the course curriculums to meet the quality set by ETAC and MQA.

We have good reasons for students to consider our diploma and degree courses. Firstly, we have a strong team of teaching staff: they are either PhDs or Masters, having many years of teaching, research and working experience in diverse fields. Some of them even did their research in Europe and us. Secondly, we have up-to-date and good lab facilities: electronics labs, computer labs, and automation lab that worth over millions of ringgit. Thirdly, small class teaching style, this enables students to have a closer interaction with lectures. Fourthly, good teaching and learning environments.

Course

Core Courses

- C++ Programming
- Technical Mathematics
- Calculus I
- Calculus II
- Engineer and Society

Discipline Core

- Digital Techniques I
- Digital Techniques II
- Microprocessors
- Physics I
- Physics II
- Electric Circuits I
- Electric Circuits II
- Electronics I
- Electronics II
- Project & Practice I
- Project & Practice II
- Software application & Simulations
- PLCs
- Power Electronics and Electric Machines

Industrial Training

- Industrial Training

University College Elective

- Foundation English
- Fundamentals of Management

Career Opportunities

- Process Engineer
- Instrumentation Engineer
- IC Design Engineer
- Product Engineer
- E & E Engineer

Entry Requirement

- **SPM / O-Level:** 3 credits including Mathematics and Physics / Chemistry / Engineering related subject;
- **UEC:** Grade B in 3 subjects including Mathematics and Physics / Chemistry / Engineering related subject.
- Other recognized equivalent qualifications.

Bachelor of Software Engineering (Honours)

R/481/6/0275(MQA/FA2810)04/23

Course Duration: 3 Years 3 Months

Total Credits: 123 Credits

Course Introduction

The course will be delivered pedagogically to students by combining concepts, latest information, feasible methods and scientific ways. In doing so, students will learn the essence of software engineering, including the related fields of programming language, system analysis, software design and quality management. Related knowledge will be imparted professionally to students through basic theory, practical projects, and industrial training to enhance students' analytical, programming and software design skills.

Course

Core Subjects

- Java Programming I
- Java Programming II
- Discrete Mathematics
- Quantitative Methods
- Introduction to Information Technology
- Data Structure and Algorithm
- Database Systems
- Information Security and Assurance
- Software Engineering
- Computer Organization and Architecture
- Human Computer Interaction
- Object-Oriented Programming
- Software Testing
- Introduction to Networks and Communication Systems
- Operating System
- Software Design
- Software Evolution and Maintenance
- Software Process
- Social and Professional Issues

Specialization

- Project Management
- Software Quality
- Object-Oriented System Modeling and Analysis
- Web Development

Departmental Electives

- English for Specific Purpose: Business English
- Advanced Networks & Communications

- Entrepreneurship
- Principle of Public Relation
- Mobile Application Development
- Fundamental of Image Processing
- Multimedia Design
- Principle of Management
- Artificial Intelligence
- Introduction to Advertising
- Digital Media Marketing
- Internet Applications

Final Year Project

- Final Year Project I
- Final Year Project II

Industrial Training

- Industrial Training

Career Opportunities

- Programmer
- Software Engineer
- Software Developer
- Project Manager
- System Analyst
- Software Quality Executive
- IT Consultant
- System Support and Maintenance

Entry Requirement

- **STPM / A-Level:** 2 principal passes and credit in Additional Mathematics in SPM;
- **UEC:** Grade B in 5 subjects, including Advanced Mathematics;
- **Foundation:** Pass with minimum CGPA of 2.0 and credit in Additional Mathematics in SPM;
- **Diploma:** Pass with minimum CGPA of 2.5 and credit in Additional Mathematics in SPM;
- Other recognized equivalent qualifications.

Bachelor of Electronic Engineering with Honours

R/523/6/0170(MQA/FA4009)11/24

Course Duration: 4 Years

Total Credits: 139 Credits

Course Introduction

This course is designed for those who wish to broaden their knowledge in electronics engineering. It's main objectives are to train students in the aspects of analysis and design, practical and project handling and problem solving skills. In doing so, we hope our graduates will be equipped with a solid foundation upon joining employment and with the necessary skills to meet the challenges in the fields of engineering today.

Course

Common Core

- Engineering Mathematics I
- Engineering Mathematics II
- Engineering Mathematics III
- Physics for Engineering Students
- Entrepreneurship

Discipline Core

- Basic Control Theory
- C Programming
- Digital Electronics I
- Digital Electronics II
- Engineer and Society
- Digital Signal Processing
- Electric Circuit I
- Electric Circuit II
- Electronic Circuit I
- Electronic Circuit II
- Electronic Instrumentation and Measurements
- Embedded System Design
- Engineering Economics & Finance
- Engineering Electromagnetic
- Engineering Statistics
- Fundamentals of Telecommunication
- Logic System Design
- Microcontrollers & Microprocessor Systems
- Microelectronics
- Basic Power System & Electric Machines
- Power Electronics
- Programmable Logic Controllers
- Project & Practice I
- Project & Practice II
- VLSI System Design
- Capstone Project I
- Capstone Project II

Elective Subjects

- Artificial Intelligence
- Computer Organization & Architecture
- Embedded System Design
- Object Oriented Programming with C++
- Digital Image Processing
- Power System Analysis
- Power Transmission & Distribution
- Principles of Management
- Modern Control System

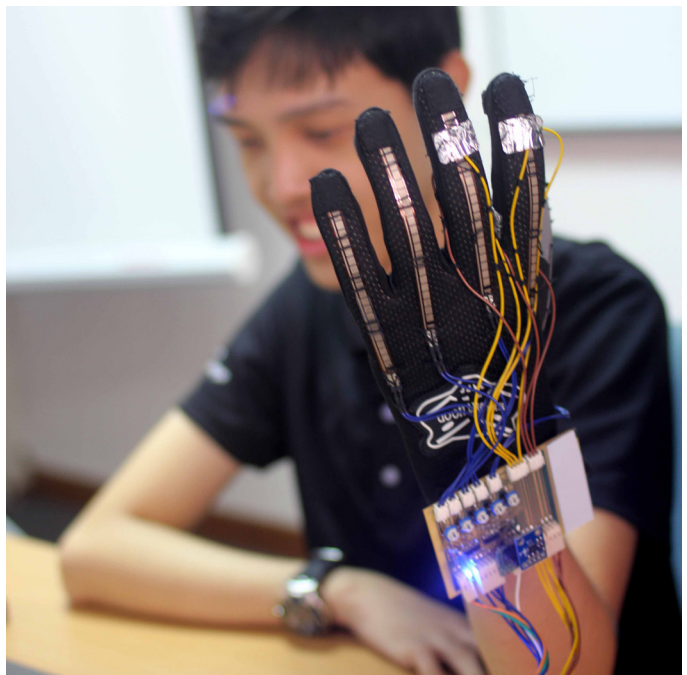
Career Opportunities

- Process Engineer
- Instrumentation Engineer
- IC Design Engineer
- Product Engineer
- Electrical & Electronic Engineer

Entry Requirement

- **STPM / A-Level:** 2 principal passes and including Mathematics and Physics / Chemistry subjects;
- **UEC:** Grade B in 5 subjects, including Mathematics and Physics / Chemistry / Engineering related subject;
- **Foundation:** Pass with minimum CGPA ≥ 2.0 ;
- **Diploma:** Pass with minimum CGPA ≥ 2.0
- Other recognized equivalent qualifications.

Facilities and Activities of Faculty





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