Temasek
POLYTECHNIC

Computer Engineering

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Computer Engineering

Overview

With emerging Smart Nation trends such as the Internet of Things (IoT), data analytics, artificial intelligence, intelligent automation, cyber security and smart manufacturing – there's definitely a great demand for computer engineers skilled in these enabling technologies.

This course will empower you to become part of this vital Smart Nation talent pool. The unique blend of electronics and computer science in the curriculum will ensure that you are proficient in both hardware and software, as well as the integration of both. This enables you to become total solution providers with a competitive edge over those who are purely software or purely hardware trained.
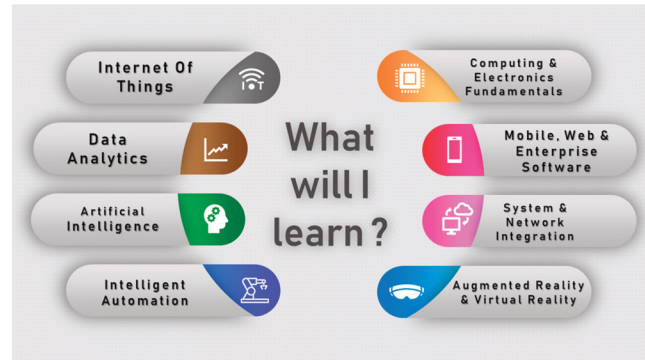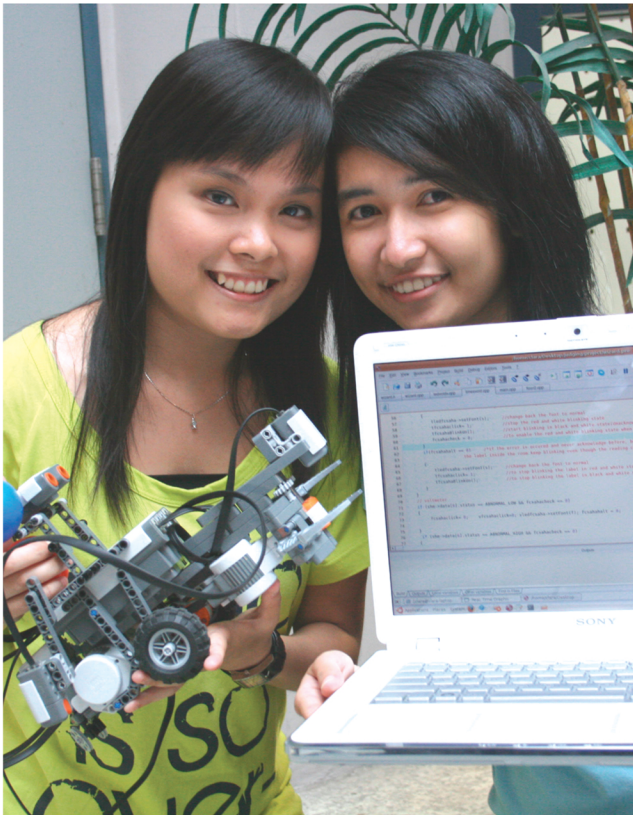
Career Opportunities

Due to the versatility of the skills acquired, the course opens the doors to wider and better job opportunities in many industries. You can look forward to careers as:

- Computer Systems Engineers
- Data Analytics Specialists
- Embedded Systems Engineers
- Hardware Engineers
- Integration Engineers
- Internet of Things Systems Engineers
- Software / Web / Mobile Application Developers

Entry Requirements

5 GCE 'O' Level subjects comprising:

English Language (EL1)	(Grades 1-7)
Mathematics (E or A Maths)	(Grades 1-6)
One of the following subjects *	(Grades 1-6)
Any two other subjects (except CCA)	--

Biology, Biotechnology, Chemistry, Combined Science, Computing / Computer Studies, Design & Technology, Electronics / Fundamentals of Electronics, Physics / Engineering Science, Science (Chemistry, Biology), Science (Physics, Biology), Science (Physics, Chemistry) / Physical Science.

Note: Applicants should not be suffering from severe colour vision deficiency, uncontrolled epilepsy, profound hearing loss or severe vision impairment.

Diploma Core Subjects

Year 1:
- Circuit Analysis
- Computer Programming for Problem Solving
- Digital Fundamentals 1 & 2
- Electronic Devices & Circuits
- Electronic Prototyping
- Engineering Mathematics 1 & 2
- Engineering Physics

Year 2:
- Artificial Intelligence & Machine Learning
- Data Visualisation & Analytics
- Engineering Mathematics 3
- Full Stack Development
- Intelligent Automation
- Internet of Things Project
- Microcontroller Applications
- Object-oriented Programming

Elective Subjects:
- 3D Modelling for Virtual Reality
- Distribution Centre Management
- System & Network Integration

Year 3:
- Major Project

Elective Subjects:
- Interactive Programming for Virtual Reality
- IoT Security
- Mobile Device Applications Development
- TP-SUTD University Pathway Programme

Further Studies

You can gain admission into a wide range of degree programmes at local and overseas universities such as those in USA, UK, Australia and New Zealand. Advance standing for specific modules or up to 2 years exemption may be given depending on the relevance of the degree programme.

You can also join the University Pathway Programme which allows you to take university modules in your final year of this course, and get a one-year exemption for selected degree courses at local universities.

Success Stories

Luke Lim, who graduated from the Diploma in Computer Engineering in 2011, is now a successful entrepreneur and Managing Director of Glass Security Pte Ltd, a company he set up in 2015 to sell the device which he invented – the "Shatter Alert". This patented device, which started as his final-year major project, is a transparent sticker-sensor that can be pasted onto glass doors or window screens to detect cracks in the surface and alert the user. It can also be attached to concrete surfaces to serve as an alert system to warn the authorities about cracks in buildings and bridges which might pose a danger.

"My diploma training enabled me to analyse problems systematically and think of viable solutions, while giving me the technical skills to develop the Shatter Alert," says Luke, whose invention is now commercially available in Singapore and Malaysia.

Core Strengths

This is one of the few diploma courses that equips you with the knowledge and skills in integrating hardware systems with software applications. The demand for professionals with such skill sets is evident in the numerous industry-linked projects that were offered to our students during their course of study.

In your final year, you will have the opportunity to gain real-life working experience at GovTech under a one-year internship programme, where you will be assigned to work with industry experts on actual projects.

Computer Engineering students won Gold at the WorldSkills Singapore competition 2014

This diploma's rigorous training ensures that Computer Engineering students are highly skilled in their fields of study. In the "Mobile Robotics" category of the World Skills Singapore (WSS) competition – the highest national test of skills excellence – they won the Gold medal in 2014, as well as Bronze medals in both 2016 and 2018.

Student Life & Facilities

Your life on campus will be varied and vibrant. Sporting competitions, artistic pursuits, adventure learning programmes, team building games, student club gatherings, as well as the annual Campus Care Network Day carnival when students and staff join forces to raise funds, are some of the many colourful and exciting activities that will pepper your life as a student.

Located in a picturesque environment that is close to nature, the campus provides you with the ideal setting for work, play and recreation

Always at the forefront of technology, the School emphasises innovation, creativity, problem-based learning and a practical, hands-on approach. With a wide range of modern and well-equipped facilities, and a rigorous and industry-relevant curriculum, we are well positioned to prepare you for a bright future.

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School of Engineering

The information in this brochure is accurate at the time of printing
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