

# Programmes

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## BEng (Hons) in Computer Engineering 電子計算機工程學榮譽工學士

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**Application period for direct applicants: 8 Dec 06 - 28 Feb 07**

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Programme code: <b>BECE</b>	Full-time: <b>3 years</b>	JUPAS code: <b>15</b>
Programme Leader:	Dr Andrew C S Leung	
Associate Programme Leader:	Dr H C So	

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### Programme Aim

The programme aims to provide a structure within which students are exposed to the developments in computer technology, in addition to the theoretical aspects of both hardware and software. The primary goal is to produce engineers who possess the skills necessary for the design and implementation of digital and computer related systems. Graduates are also equipped with sufficient background to pursue postgraduate.

此課程注重電腦硬件及軟件的理論和應用上的均衡培訓，並透過對電腦、互聯網及多媒體系統的訓練，培育能迎合未來科技發展的專業電腦工程師。

### Career Prospect

The rapid development of computers in business, banking, telecommunication, logistics and multimedia entertainment providers demands a great deal of computer engineers to supply

design and services of computer systems and application software. In addition, the popularity of using hand held personal devices and game machines in recent years also provides excellent opportunities for our graduates

- **Our Graduates**

Since its establishment in 1984, the Department has graduated 5,044 students at various levels. They are able to excel in different sectors including government, education, industry and manufacturing, as well as commerce and business. Click [here](#) for Career Opportunities from Graduates.

- **Job Nature of Graduates**

Computer Engineer/Design Engineer, Technical Support Engineer, Telecommunications Engineer, Software Engineer, Programmer, System Analyst / IT Support Analyst, Systems Consultant / Technologist. Academic Researcher, Marketing and Sales Executive, etc.

- **Potential Employers**

Internet and mobile related companies; Computer manufacturers; Multimedia content production houses for education, training and entertainment.

- **Graduate Employment Survey 2005**

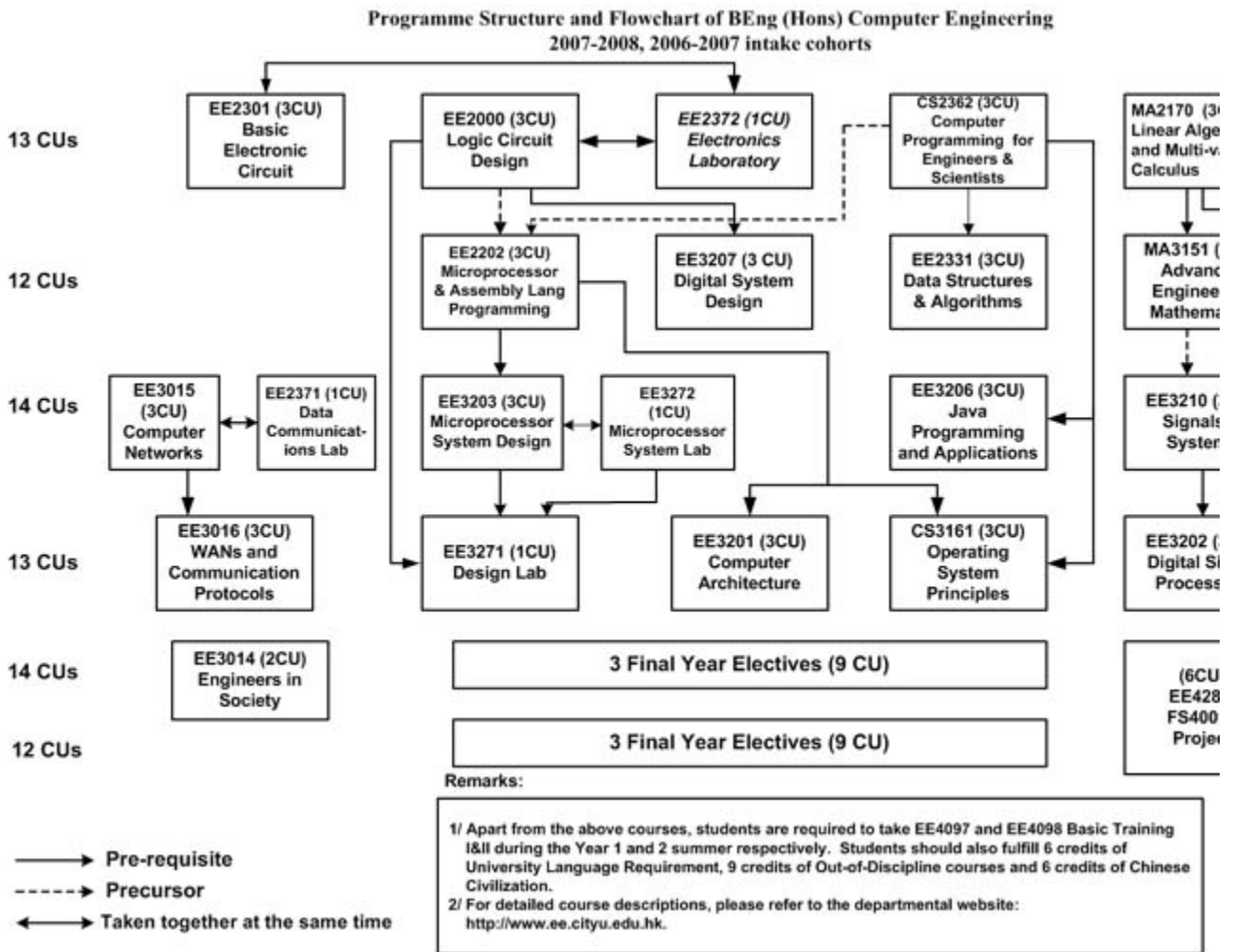
99 % of graduates were engaged in employment and full-time postgraduate studies a few months after graduation. Click [here](#) for details

## Programme Features

The curriculum is structured as shown in the figure below. The first two years focus on fundamental core aspects of 1) electronic circuits; 2) mathematics; 3) computer programming; 4) microprocessor digital system design; 5) signals and systems; and 6) computer network.

In the third year, students are allowed to specialize in different areas of interest for career development. Students have the greatest flexibility to design their own studies by selecting elective courses in computing, digital image and audio technology, computer graphics and games, security technology, high speed computer network and internet technology, etc.

## Curriculum Structure



## Professional Recognition

The programme has been accredited by the Hong Kong Institution of Engineers, one of the requirements for obtaining Charter status. Based on the 'Washington Accord', graduates receive reciprocal recognition from the equivalent bodies in Australia, Canada, Israel, New Zealand, the United Kingdom, and the United States of America.

## Bonus Features

### Industrial Attachment Scheme

Want to get a head start for your career? Through tailor-made training programmes carefully worked out between professors and partner companies, students can gain working experience and understand the functioning of corporations before graduating. This greatly enhances graduates' career prospects.

### Co-operative Education Scheme (CES)

The CES is a 9 to 12-month placement programme for final year science and engineering students. During this placement period, students are released by the partner companies to attend classes. In some cases, students were even offered jobs by the training companies immediately after the placement.

## Student Exchange

The Department strongly supports [student exchange](#) as a way for students to broaden their and enhance life experience. In 2005/06, some 12 students will embark on exchange programmes at prestigious universities in USA, Canada, UK, France, Singapore and China. Starting from 2006, students have been able to secure funding from the Government to participate in the [IT Exchange Programmes](#) in USA, UK and Australia.

.....[More](#)

## Scholarships

Building on our strong link with industry, many scholarships are offered to students every year.

.....[More](#)

## Student Achievements

CityU's Electronic Engineering students win almost all top prizes in the annual open project competitions organized by the Institution of Electrical Engineers (IEE) and other professional organizations. Join us and you can become a winner too! Click [here](#) for more information.

## Teaching Quality

Six of our professors have been awarded CityU's Teaching Excellence Awards since its inception in 1994. CityU-EE also received highly favourable comments from the University Grants Commission's 2003 Teaching and Learning Quality Process Review.

## Entrance Requirements and Admissions

### Hong Kong Advanced Level Examination Qualifications

Apart from meeting the University's language proficiency requirements (English and Chinese language), students must satisfy the following requirements for the purpose of admission:

E or above in A-level **Applied Mathematics or Pure Mathematics or Physics or Engineering Science PLUS** one of the following requirements:

- E or above in one other A-level subject; or
- E or above in two AS-level subjects (excluding AS-level Use of English, and Chinese Language Culture)

### Direct Applicants

A higher diploma or associate degree in an engineering or a science discipline; or an equivalent qualification.

Click [here](#) for articulated higher diploma programmes.

Credit Transfer: Credit transfer may be granted upon admission for articulated higher diploma or associate programmes. Successful applicants may also apply for credit transfer for particular courses once they have registered. Any credits awarded will contribute to the total required for the award of an honours degree.

## Admissions

Application materials are available:

- Click [here](#) for online application (Application fee HK\$100)
- Click [here](#) for the hard copy application form and application guide (Application fee HK\$200)
- At the Distribution Counter located at the University Concourse, Floor 4, Academic Building, (Mon to Fri: 9:00am – 6:00pm; Sat: 9:00am – 1:00pm) during the application period.

## Articulated Higher Diploma (HD) / Associate Degree (AD) Programmes

The following articulations are applicable to the 2007 HD / AD graduates.

- **City University of Hong Kong**
  1. Associate of Science in Computer Studies
  2. Associate of Science in Information Technology
  3. Associate of Science in Web Technology
- **Hong Kong Institute of Vocational Studies at Kwun Tong**
  1. Higher Diploma in Entertainment Electronics
  2. Higher Diploma in Computer and Information Engineering [2006 Graduates]
- **Hong Kong Institute of Vocational Studies at Shatin**
  1. Higher Diploma in Computer and Information Engineering [2006 Graduates]
  2. Higher Diploma in Electronic and Communication Engineering [2006 Graduates]
  3. Higher Diploma in Internet & Multimedia Engineering
- **Hong Kong Institute of Vocational Studies at Tsing Yi**
  1. Higher Diploma in Telecommunications and Networking(3-Year)
  2. Higher Diploma in Telecommunications and Networking(2-Year)

- **Hong Kong Institute of Vocational Studies at Tuen Mun**
  1. Higher Diploma in Telecommunications and Networking(3-Year)
- **The Hong Kong Polytechnic University**
  1. Associate Degree in Engineering ( Subject to approval )
  2. Associate Degree in Information Technology ( Subject to approval )

## Programme Details

### Programme Requirements

Normal Duration: 3 years	
	Credit Units (CUs)
Core Courses	60
Group A & B Elective Courses	18*
University Language Requirements	6**
Chinese Civilization	6
Out-of-Discipline courses	9***
<b>Total</b>	<b>99</b>

\* At least two courses from the Group A list and at least two courses from the Group B list be taken. Only **ONE** Level 3 course is allowed to choose in the Elective lists.

\*\* Students with Grade D or above in A-level Use of English to take both EN2271 English Communication Skills for Electronic Engineering I and EN2272 Report Writing for Engineering.

\*\*\* Any Level 2 or above courses except for courses in the disciplines of electronic engineering, computer science, computer engineering, and information/multi-media/web-based technology.

### Core Courses: 60 Credit Units

Course Code	Course Title	Credit Units
EE2000	Logic Circuit Design	3
EE2202	Microprocessor and Assembly Language Programming	3
EE2301	Basic Electronic Circuit	3
EE2331	Data Structures and Algorithms	3
EE2372	Electronics Laboratory	1
EE3207	Digital System Design	3
CS2362	Computer Programming for Engineers and	3

	Scientists	
MA2170	Linear Algebra and Multi-variable Calculus	3
MA3151	Advanced Engineering Mathematics	3
EE2371	Data Communications Laboratory	1
EE3015	Computer Networks	3
EE3016	WANs and Communication Protocols	3
EE3201	Computer Architecture	3
EE3202	Digital Signal Processing	3
EE3203	Microprocessor System Design	3
EE3206	Java Programming and Applications	3
EE3210	Signals and Systems	3
EE3271	Design Laboratory	1
EE3272	Microprocessor System Laboratory	1
CS3161	Operating System Principles	3
EE3014	Engineers in Society	2
EE4097	Basic Training I	0
EE4098	Basic Training II	0
EE4281 Or FS4001a	Project  Co-operative Education Scheme: Final Year Project Component (Remark : Subject to the approval of the Department)	6
	6 Technical Electives	18

### **Elective Courses: 18 Credit Units**

**Students are required to earn at least 18 CUs of technical elective courses. At least 1 course from the Group A list and at least two courses from the Group B list must be chosen. Only ONE Level 3 course is allowed to be chosen in the elective course lists.**

### **Technical Elective Group A**

Course Code	Course Title	Credit Units
EE4205	Multimedia Technologies and Applications	3
EE4206	Digital Image Processing	3
EE4207	Digital Speech & Audio Processing	3
EE4208	Engineering Techniques for Computer Graphics	3
EE4209	Digital Audio Technology	3
EE4210	Neural Networks and Fuzzy Systems	3
EE4211	Computer Vision	3
EE4212	Information and Coding	3
EE4213	Human-Computer Interaction	3
CS4367	Computer Games Design	3
MA3160	Probability & Stochastic Processes	3

### **Technical Elective Group B**

<b>Course Code</b>	<b>Course Title</b>	<b>Credit Units</b>
EE3320	Internet Technologies and Protocols	3
CS3462	Introduction to Database Systems	3
EE4201	Parallel computing	3
EE4202	Advanced Microprocessor Architecture	3
EE4204	Digital System Design with VHDL	3
EE4215	Security Technology	3
EE4216	Internet Client-Server Computing	3
EE4301	Network and System Administration	3
EE4316 *	Mobile Data Networks	3
EE4332	Object-oriented Intelligent Systems	3
CS4284 *	Mobile Computing	3
CS4285	High Speed Multimedia Networks	3

\* Exclusive course

### **Recommended Study Plan**

Click [here](#) for the recommended study plan.

### **Did you know?**

- ▶ **CityU-EE Boasts 7 FIEEE**
- ▶ **Winners of Teaching Excellence Awards**
- ▶ **CityU Ranks 154 Worldwide**

### **CityU-EE Boasts 7 FIEEE**

CityU-EE now boasts 7 Fellows of The Institute of Electrical and Electronics Engineers (FII record for a single academic department in Hong Kong. Moreover, many EE student graduates have received numerous local, regional and international awards for their outstanding performance. CityU came first again in the total grant awarded in the "Electrical and Electronic Engineering" discipline in the 2006-07 Competitive Earmarked Research Grant exercise supported by the Research Grants Council. Click [here](#) for Student Achievements for more information. and you can become a winner too!

### **Winners of Teaching Excellence Awards**

Five of our professors have won CityU's Teaching Excellence Award since its inception in 2003. CityU-EE also received highly favourable comments from the University Grants Committee 2003 Teaching and Learning Quality Process Review.

### **CityU Ranks 154 Worldwide**

CityU has shot up the rankings of the world's most prestigious educational institutions. According to The Times Higher Education Supplement 2006, CityU ranks 154 among the world's top 200 universities.

universities. Being one of the only four Hong Kong universities included in the top 200, CityU one of the top 10 universities in the Greater China Area. CityU has broken into the list of the technology universities for the first time in 2005 and is ranked 90.

### Enquiries

Tel: (852) 2788 9055 (Mrs Shirley Wan)

Fax: (852) 2788 7791

Email: [bengce@ee.cityu.edu.hk](mailto:bengce@ee.cityu.edu.hk)

Web-site: <http://www.ee.cityu.edu.hk>

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