

# Programmes

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## BEng (Hons) in Information Engineering 資訊工程學榮譽工學士

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

Programme code: **BEIE**

Full-time: **3 years**

JUPAS code: **1597**

Programme Leader:

Dr. Lai-Man Po

Associate Programme Leader:

Dr. Chi-Wan Sung

### Programme Aim

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## Programme Aim

This programme aims to provide a solid foundation necessary for students to embark on a successful career in computer networking, system administration, multimedia computing and software development. Graduates will be capable of applying and integrating theories, software and networking technologies to provide solutions, products and services in different areas of IT applications.

The programme also aims at providing graduates with a strong knowledge base for advanced studies and further development in a rapidly changing technological environment.

### Career Prospect

According to the 'Manpower Projection for the Information Technology Domain up to 2007' conducted by the government, an increase of 35% in IT manpower requirement is anticipated. In mainland China, Internet users reached 200 million in 2002 and there is still ample room for expansion.

## Our Graduates

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

## Job Nature of Graduates

Computer Networking, Systems Administrator, Computer Game Programmer, Multimedia Computing, Database Administrator, System Analyst and Support, Web Application Developer, Software Engineer, Computer Services, Sales and Marketing, Research and Development, etc.

## Graduate Employment Survey 2005

94% of graduates were engaged within a few months after graduation, of whom 7% pursued further studies. Click [here](#) for details.

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## Programme Features

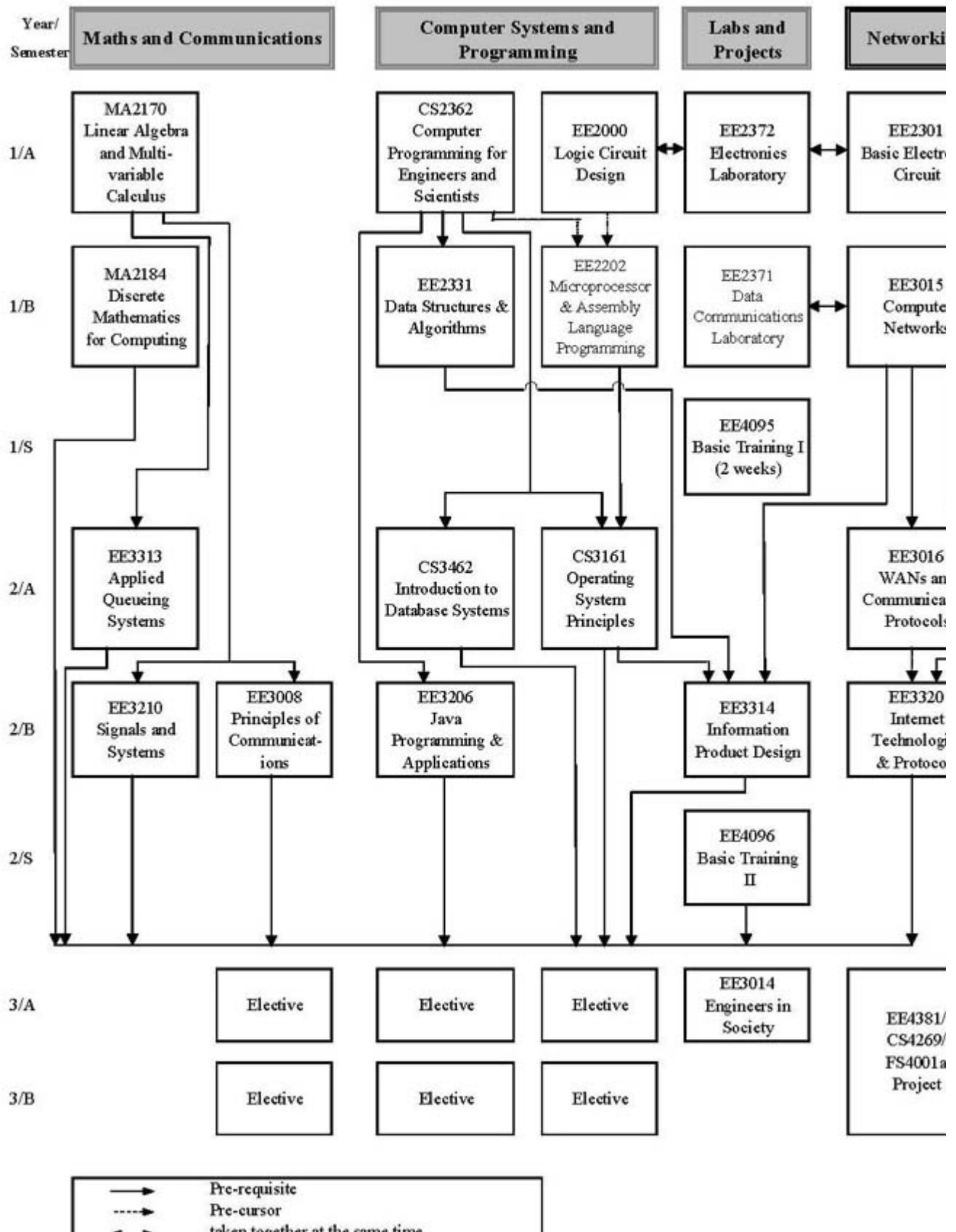
The curriculum is well-structured as shown in the figure below. The first two years focus on the basic principles and aspects of information engineering on three streams: (1) Mathematics and Signals & Systems; (2) Computer System Programming; and (3) Computer Networking.

In the third year, students are allowed to specialize in different areas of interest for career preparation. Students have the greatest flexibility to tailor their own studies by selecting elective courses on Computer Networking, Internet Security, Multimedia Computing, Computer Game Design, Software Development and Telecommunications.

## Curriculum Structure



**Programme Structure of  
BEng(Hons) in Information Engineering**



## Professional Recognition

The programme has been accredited by the [Hong Kong Institution of Engineers](#), one of the educational bodies for obtaining Charter status. Based on the Washington Accord, graduates will receive reciprocal recognition from equivalent bodies in Australia, Canada, Israel, New Zealand, South Africa, the UK and the USA.

## Bonus Features

### Industrial Attachment Scheme

Want to get a head start for your career? Through tailor-made training programmes carefully developed between professors and partner companies, students can gain working experience and learn the culture of corporations before graduating. This greatly enhances graduates' career prospect!

### Co-operative Education Scheme

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. Some students are 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 horizons and enhance life experience. In 2005/06, some 12 students will embark on exchange programmes in 12 universities in USA, Canada, UK, France, Singapore and China. Starting from 2003, students have to secure funding from the Government to participate in the [IT Exchange Programmes](#) in USA 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 and paper competitions organized by the Institution of Electrical Engineers (IEE) and other professional bodies and you can become a winner too! Click [here](#) for more information.

### Teaching Quality

Five of our professors have been awarded CityU's Teaching Excellence Awards since its inception in 1999. CityU-EE also received highly favourable comments from the University Grants Committee in the 2004 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/other languages), students must satisfy [EITHER ONE of the following](#) requirements for the purpose of admission:

1. E or above in A-level **Applied Mathematics** or **Pure Mathematics** or **Physics** or **Engineering Science**  
**PLUS**  
E or above in one other A-level subject; or E or above in two AS-level subjects (excluding AS-level Language of English, and Chinese Language and Culture)

2. E or above in AS-level **Applied Mathematics** or **Mathematics and Statistics** ; **PLUS**  
E or above in one A-level subject and one other AS-level subject (excluding AS-level Use of English and Chinese Language and Culture)

### Direct Applicants

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

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

Credit Transfer: Credit transfer may be granted upon admission for [articulated associate degree and higher diploma 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, CityU  
(Mon to Fri: 9:00am – 6:00pm; Sat: 9:00am – 1:00pm)

## 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

### Chu Hai College

1. Associate of Science in Computer Science

### Hong Kong Institute of Vocational Studies at Chai Wan

1. Higher Diploma in Information Technology for Industry
2. Higher Diploma in Network Applications
3. Higher Diploma in Systems Development and Administration

### Hong Kong Institute of Vocational Studies at Kwai Chung

1. Higher Diploma in Commercial Computing Applications
2. Higher Diploma in Enterprise Computing
3. Higher Diploma in Network and Mobile Computing

### 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 Communications Engineering [2006 Graduates]
3. Higher Diploma in Electronic Engineering with Business Management
4. Higher Diploma in Web-based Technology for Business
5. Higher Diploma in Internet & Multimedia Engineering

### Hong Kong Institute of Vocational Studies at Tsing Yi

1. Higher Diploma in Computer System Administration
2. Higher Diploma in Software Engineering
3. Higher Diploma in Telecommunications and Networking (3-Year) [2006 Graduates]
4. 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
Core courses	60*
Elective courses	18**
University Language Requirements	6
Chinese Civilization	6
Out-of-Discipline courses	9***
<i>Total</i>	99

\*Including EE4095 & EE4096 Basic Training I & II for Information Engineering, which carry no credit unit.

\*\*Students are required to take a minimum of SIX electives of which no more than ONE level-3 electives course should be taken.

\*\*\* 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.

### List of Core Courses (60 CUs)

Course Code	Course Title	Credit Units
EE2301	Basic Electronic Circuit	3
EE2372	Electronics Laboratory	1
EE2000	Logic Circuit Design	3
EE2371	Data Communications Lab	1
CS2362	Computer Programming for Engineers and Scientists	3
EE2331	Data Structures and Algorithms	3
EE2202	Microprocessor & Assembly Language Programming	3
MA2170	Linear Algebra and Multi-variable Calculus	3
MA2184	Discrete Mathematics for Computing	3

EE3008	Principles of Communications	3
EE3014	Engineers in Society	2
EE3015	Computer Networks	3
EE3016	WANs and Communication Protocols	3
EE3210	Signals and Systems	3
EE3313	Applied Queueing Systems	3
EE3314	Information Product Design	2
EE3320	Internet Technologies & Protocols	3
CS3161	Operating System Principles	3
EE3206	Java Programming and Applications	3
CS3462	Introduction to Database Systems	3
EE4381 / CS4269 / FS4001a	Project or Co-operative Education Scheme: Final Year Project Component	6
EE4095 EE4096	Basic Training I for Information Engineering Basic Training II for Information Engineering	0

## Programme Electives (18 CUs)

Elective courses are divided into five streams and one "Other IE electives" group.

Students are required to take a minimum of SIX technical electives of which no more than ONE level-3 electives course should be taken.

### Networks Engineering Stream

Course Code	Course Title	Credit Units
EE4011	Performance Evaluation of Communication Networks	3
EE4014	Business Data Communication Networks	3
EE4301	Network and System Administration	3
EE4302	Firewall Network Security	3
EE4316	Mobile Data Networks	3

### Computer Systems Stream

Course Code	Course Title	Credit Units
EE3201	Computer Architecture	3
EE3203	Microprocessor System Design	3
EE4201	Parallel Computing	3
CS4273	Distributed System Technologies & Programming I	3
CS4274	Distributed System Technologies & Programming II	3
CS4482	Advanced Database Systems	3

### Communications Stream

Course Code	Course Title	Credit Units
EE3101	Communication Engineering	3
EE4015	Digital Signal Processing in Communications	3
EE4212	Information and Coding	3

### Multimedia Processing Stream

Course Code	Course Title	Credit Units
EE4205	Multimedia Technologies and Applications	3
EE4206	Digital Image Processing	3
EE4208	Engineering Techniques for Computer Graphics	3
EE4209	Digital Audio Technology	3
CS4367	Computer Games Design	3

### Software Stream

Course Code	Course Title	Credit Units
EE4213	Human-Computer Interaction	3
EE4216	Internet Client-Server Computing	3
EE4332	Object-Oriented Intelligent Systems	3
CS3335	Design and Analysis of Algorithm	3
CS3367	Essentials of Software Engineering	3

### Other IE Electives

Course Code	Course Title	Credit Units
EE4047	Genetic Algorithms and Their Applications	3
EE4204	Digital System Design with VHDL	3
EE4210	Neural Networks and Fuzzy Systems	3
EE4211	Computer Vision	3
EE4215	Security Technology	3
MA3151	Advanced Engineering Mathematics	3
MA3160	Probability and Stochastic Processes	3

## Recommended Study Plan

The normal length of study for the BEngIE programme is three years. As the curriculum is based on the credit system, students have a greater flexibility to design their own study plan. We have developed several study plans to help our students with different academic backgrounds on designing their own progress. The following link is one of the most popular recommended study plans for BEngIE students.

### 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 (FIEEE), a record for an academic department in Hong Kong. Moreover, many EE students and graduates have received numerous local 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 supported by the Research Grants Council. Click [here](#) for Student Achievements for more information. Join us 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 1994. CityU-EE also received highly favourable comments from the University Grants Committee in the 2003 Teaching and Learning Quality 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. Being one of the only Hong Kong universities included in the top 200, CityU is also one of the top 10 universities in the Greater China Area. CityU has also been broken into the list of the top 100 technology universities since 2005 and ranks 85 in 2006, a jump of 5 places in one year.

## Enquiries

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

**URL: <http://www.ee.cityu.edu.hk>**

### Want to know more ...

Visit [www.cityu.edu.hk/prospectus](http://www.cityu.edu.hk/prospectus) Key in e-code 1597, and browse:

- detailed course descriptions
- current CityU students' remarks
- comments from graduates
- teachers' advice.

Last updated : 13 Jul 2007

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