

Programmes

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BEng (Hons) in **E**lectronic and **C**ommunication **E**ngineering (**B**usiness **I**ntelligence **M**inor) 電子及通訊工程學榮譽工學士 (副修商業智能)

Integrating technology with business knowledge, a key factor for successful professional engineers!



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

Programme code: **BEECEBIM** Full-time: **3 years**
 Programme Leader: Dr. W S Chan
 Associate Programme Leader: Dr. Andy H P Chan
 Programme email address: ecepl@ee.cityu.edu.hk
 JUPAS code : **1755**

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Did you know ?

Enquiries

Programme Aim

This is a unique engineering programme in Hong Kong that integrates technical skills with intelligence elements. We aim to provide you with a solid education in electronics and communications as well as basic business knowledge; and prepare you for employment in a wide range of sectors from technology, business, banking, finance, to trading and logistics in Hong Kong & the Asia-Pacific region. Our education will transform you into a well-trained professional engineer with (i) solid skills in designing and implementing electronics and communications systems, products and services; and (ii) knowledge in applying statistical methods and quantitative tools to business and decision making. The programme will also equip you to pursue postgraduate studies.

本課程旨在培育具備商業智能知識的專業電子及通訊工程師，畢業生不但能設計及應用不同電子系統產品與服務，亦能靈活運用統計與數量分析方法作商業策劃及決策。內容主要教授電子及通訊知識，重點有(1)數據、無線及光纖通訊技術；(2) 通訊、圖像及影音訊號處理；(3) 電子電路及電子學包括電力、聲音、射頻與微波及光纖等系統及 (4) 自動化控制系統等。副修科包括管理科學、企業及網絡應用、企業數據挖掘、SAS 程式及線性模型。

Career Prospect

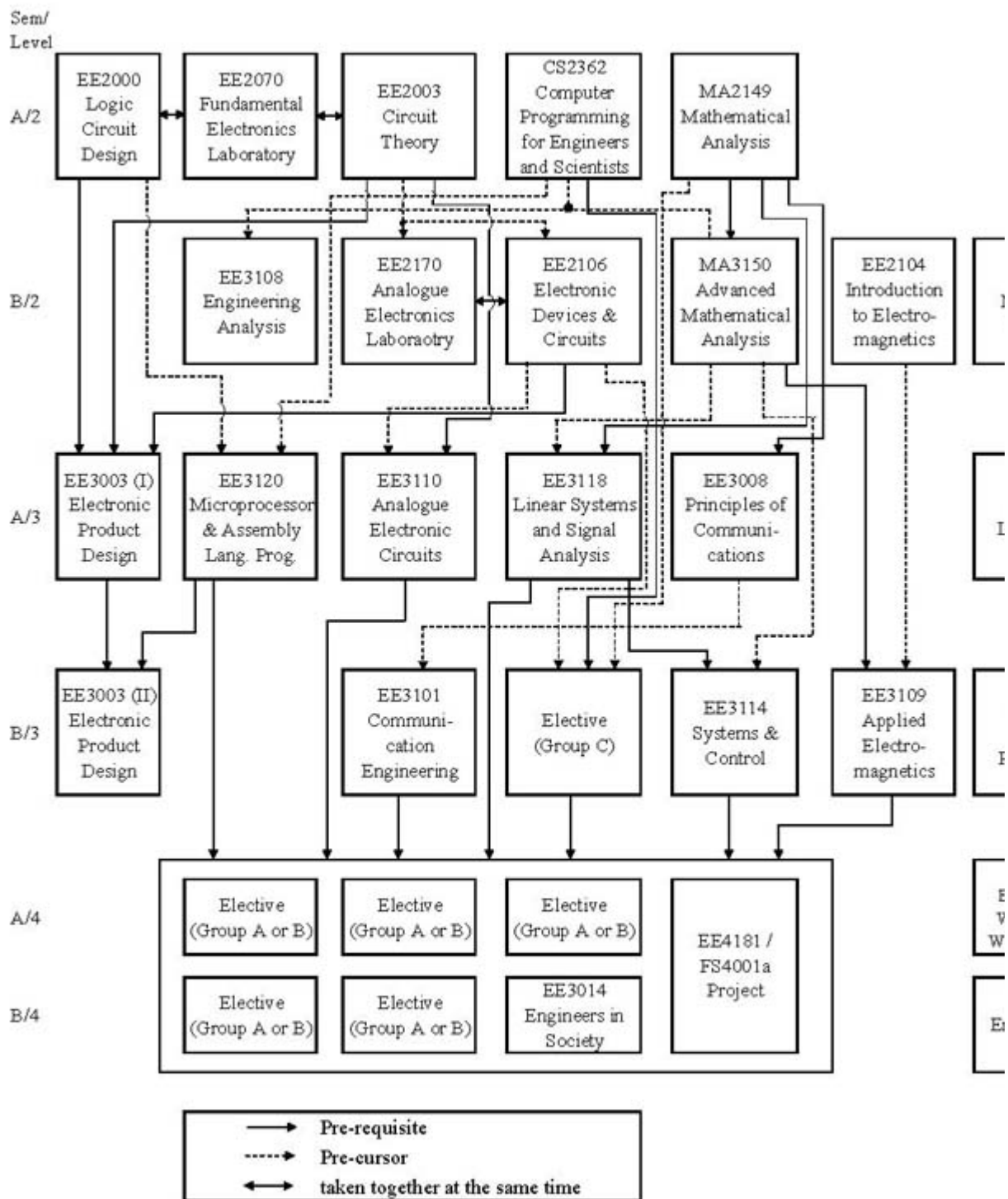
The rapid changes in technologies have led to a growing demand for young executives with sound technical expertise and insight in the business environment. To maintain Hong Kong's competitiveness, the Government has taken steps to boost technology based high value services and industries. 'Electronics Industry' & 'Information Technology' are two of the areas identified for focused support. Manpower projection shows that these technology areas have the fastest growth among all employment sectors. With the extensive application of communications technology and the trend of 'technologizing' the service industry, persons with solid technical and business knowledge are in great demand in the business, banking, logistics and trading sectors in both Hong Kong and the Asia Pacific region.

Programme Features

The curriculum of the major programme is almost identical with the BEng (Hons) in Electronics & Communication Engineering degree programme. It consists of 87 credit units and focuses on (i) Electronics & Communications (data, wireless and optical), (ii) Signal Processing, (iii) Circuits & Devices, and (iv) Control. The minor programme consists of 15 credit units and focuses on the application of statistical methods and quantitative tools to business planning and decision making.

Curriculum Structure

Programme Structure of BEng(Hons) in Electronic and Communication Engineering (Business Intelligence Minor)



Remarks:

- 1/ Apart from the above courses, students are required to take EE4093 Basic Training I and EE4094 Ba II in Year 1 and 2 summer respectively. Students should also fulfill 6 credits of University Language and 6 credits of Chinese Civilization.
- 2/ For detailed course descriptions, please refer to the departmental website: <http://www.ee.cityu.edu.hk>

Professional Recognition

Close to 97% of the major programme is identical to the parent programme BEng (Hons) Communication Engineering. Accreditation is now being sought from the [Hong Kong Engineers](#).

Bonus Features

Industrial Attachment Scheme

Through tailor-made training programmes carefully worked out between professors companies, students can gain working experience and learn the operation of corpo graduating. This greatly enhances graduates' career prospect!

Co-operative Education Scheme (CES)

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

Student Exchange

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

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Scholarships

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

.....[More](#)

Student Achievements

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

.....[More](#)

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 Eng 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 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 higher diploma programmes.

Credit Transfer: Credit transfer may be granted upon admission for articulated higher programmes. Successful applicants may also apply for credit transfer for particular courses 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\$100)
- At the Distribution Counter located at the University Concourse, Floor 4, Academic CityU (Mon to Fri: 9:00am – 6:00pm; Sat: 9:00am – 1:00pm)

Articulated Programmes

The following articulations are applicable to the 2007 HD graduates.

HK Institute of Vocational Studies at Haking Wong

1. Higher Diploma in Electrical Engineering

HK Institute of Vocational Studies at Kwun Tong

1. Higher Diploma in Entertainment Electronics
2. Higher Diploma in Computer and Information Engineering [2006 Graduates]

HK 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

HK Institute of Vocational Studies at Tsing Yi

1. Higher Diploma in Electrical Engineering
2. Higher Diploma in Intelligent Buildings and Automation Engineering
3. Higher Diploma in Telecommunications and Networking (3-Year)
4. Higher Diploma in Telecommunications and Networking (2-Year)

HK 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)
3. Higher Diploma in Electrical Engineering
4. Higher Diploma in Electronic and Information Engineering

Programme Details

Programme Requirements

Normal Duration: 3 years	
	Credit Units (CUs)
Major Programme:	
Core Courses	57 ¹
Group A & B Elective Courses	15 ²
Group C Elective Courses	3

University Language Requirements	6
Chinese Civilization	6
Business Intelligence Minor Courses	15 ³
Total	102

¹ Including EE4093 and EE4094 Basic Training I & II, which carry no credit unit.

² At least 12 CUs must be obtained from Elective Group A.

³ 9CUs of the out-of-discipline studies normally required for the BEngECE Programm required in the BEngECE(BI-Minor), as the minor courses will automatically fulfill this.

Courses of Major Programme

Core Courses: 57 credit units

Course Code	Course Title	Credit Units
EE2000	Logic Circuit Design	3
EE2003	Circuit Theory	3
EE2070	Fundamental Electronics Laboratory	1
EE2104	Introduction to Electromagnetics	3
EE2106	Electronic Devices & Circuits	3
EE2170	Analogue Electronics Laboratory	1
CS2362	Computer Programming for Engineers and Scientists	3
MA2149	Mathematical Analysis	3
EE3003	Electronic Product Design	2
EE3008	Principles of Communications	3
EE3014	Engineers in Society	2
EE3101	Communication Engineering	3
EE3108	Engineering Analysis	3
EE3109	Applied Electromagnetics	3
EE3110	Analogue Electronic Circuits	3
EE3114	Systems & Control	3
EE3118	Linear Systems and Signal Analysis	3
EE3120	Microprocessor & Assembly Language Programming	3
MA3150	Advanced Mathematical Analysis	3
EE4093	Basic Training I	0
EE4094	Basic Training II	0
EE4181/ FS4001a	Project/ Co-operative Education Scheme: Final Year Project Component	6

Elective Courses: 18 credit units

Students are required to take technical elective courses of at least 18 CUs where at least must be obtained from Group A. Students are also required to obtain up to 3 CUs from Gr

Group A: Electronic and Communications Related Technical Electives - Students are r to take at least 4 electives from this group, where no more than two Level 3 elective co should be taken.

Course Code	Course Title	Credit Units
EE3015	Computer Networks	3
EE3016	WANs & Communication Protocols	3
EE4015	Digital Signal Processing in Communications	3
EE4035	Optical Communications	3
EE4036	Wireless Communications	3
EE4045	Computer Controlled Systems	3
EE4047	Genetic Algorithms and Their Applications	3
EE4101	Modern Power Electronics	3
EE4115	Audio-Visual Engineering	3
EE4142	Guided Wave Optoelectronics	3
EE4143	Audio-Visual Circuit Techniques	3
EE4146	Industrial Electronics	3
EE5413	Advanced Internet Technologies	3
EE5430	Advanced CMOS Technology	3
EE5601	Radio Frequency and Microwave Techniques	3
EE5602	Active Radio-Frequency and Microwave Techniques	3
EE5603	Passive Radio Frequency and Microwave Techniques	3

Group B: Other Technical Electives

Course Code	Course Title	Credit Units
EE4206	Digital Image 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
EE4213	Human-Computer Interaction	3
EE4215	Security Technology	3

Group C: Level 3 Electives - Students are required to take only one elective from this g

Course Code	Course Title	Credit Units
EE3115	Semiconductor and Optoelectronic Devices	3
EE3132	Microelectronic Circuit Designs	3
EE3206	Java Programming and Applications	3
MA3160	Probability and Stochastic Processes	3

Courses of Minor Programme

Course Code	Course Title	Credit Units
FB2200	Management Sciences I	3
MS3215	Linear Models	3
MS3217	SAS Programming	3
MS4215	Enterprise Data Warehousing and Web Applications	3
MS4224	Enterprise Data Mining	3

Recommended Study Plan

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

Did you know?

1. In 2005, the Department was [ranked No.2 worldwide](#), behind Princeton University (US), in terms of the number of Scientific Citation Index papers published.
2. CityU-EE now boasts 7 Fellows of The Institute of Electrical and Electronics Engineers (FIEEE), a record for a single academic department in Hong Kong.
3. In 2006, the Department was awarded the highest amount of research grants from UGC in the electrical and electronic engineering areas among the seven universities in Hong Kong.
4. Five of our professors have won CityU's Teaching Excellence Award. CityU-EE also received highly favorable comments from the University Grants Committee in the 2003 Teaching and Learning Quality Process Review.
5. CityU Electronic Engineering students won almost all top prizes in open project and paper competitions organized by the [Institution of Engineering and Technology \(IET\)](#) and the Institute of Electrical and Electronics Engineers (IEEE) over the past few years. Click the [EE student achievements](#) for more information. Join us and you can become a winner too!

Enquiries

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

- **Want to know more ...**

- Visit www.cityu.edu.hk/prospectus Key in e-code 1755, and browse:
- detailed course descriptions
- current CityU students' remarks
- comments from graduates
- teachers' advice.

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