EIE

Undergraduate Programmes
EIE is the core of all information and communication technology (ICT) services and products.
Our academic programmes prepare our students for the real-world engineering and technology contributions. Through providing rigorous professional training and other complementary activities, we aim to nurture graduates not only as professional engineers/technologists, but also keen lifelong learners and responsible world citizens, who can adapt to the rapidly changing world and make contribution for the benefit of mankind. Our students will possess problem-solving skills, good logical thinking skills, an inquisitive mind, high level of integrity, good social responsibility and ability to work with others collaboratively.

Our Department currently offers the following degree and higher diploma programmes to equip students to become professionals in the related fields:

- **BEng(Hons) Degree in Electronic and Information Engineering**
  電子及資訊工程學(榮譽)工學士學位課程

- **BSc(Hons) Degree in Internet and Multimedia Technologies**
  互聯網及多媒體科技(榮譽)理學士學位課程

- **BSc(Hons) Degree in Information Security**
  資訊安全(榮譽)理學士學位課程

- **Higher Diploma in Electronic and Information Engineering**
  電子及資訊工程學高級文憑課程

A main feature of our programmes is their application-oriented curricula. They enable students to have a wide exposure to the relevant fields of study through hands-on experience, active participation, linkage to real-life scenarios and applications, and effective and meaningful learning and teaching activities.

To give encouragement and recognition to HKDSE students with outstanding academic performance, and to support their studies at PolyU, the EIE Department has launched the “EIE Academic Entrance Scholarship for Outstanding HKDSE Admittees”. This scholarship is applicable to HKDSE students admitted to the BEng(Hons) in Electronic and Information Engineering programme (programme code: 42470; JUPAS code: JS3703) and the BSc(Hons) in Internet and Multimedia Technologies programme (programme code: 42477; JUPAS code: JS3519). Details of the scholarship can be viewed via the following website: https://polyu.hk/Efgue.

Learning is a life-long process. In addition to higher diploma and degree programmes, we offer the following postgraduate programmes to support students’ continuing education needs:

- **Taught postgraduate programmes: Engineering Doctorate and Master of Science Degree/Postgraduate Diploma in Electronic and Information Engineering**

- **Research-based postgraduate programmes: Doctor of Philosophy/Master of Philosophy Degrees**

Please refer to our departmental website for more information on these postgraduate programmes.
BEng(Hons) Degree in Electronic and Information Engineering
電子及資訊工程學（榮譽）工學士學位課程
(Programme Code: JS3703/42470)

Programme Features

Programme Aims
This programme aims at developing our students into professionals in the fields of electronic, information, and communication engineering. Our graduates will have mastered sound scientific principles, as well as problem-solving, critical thinking, and life-long learning skills. These are invaluable qualities in a world of global economy that is characterized with rapid technological advancement and innovations.

Curriculum
The programme curriculum has integrated the following elements which will develop students’ hands-on experience and further broaden their professional development:
- theory and fundamental knowledge,
- projects,
- practical training,
- internship,
- minor programme with extra elective subjects.

Career Choices
Due to the flourishing of Internet applications, cloud computing, mobile communications, smart wearable devices, and social networking in recent years, the career prospect of graduates from this programme is excellent. There are ample career choices in areas such as:
- apps programming,
- computers,
- electronic circuit design,
- embedded systems,
- integrated circuit (IC) design,
- internet programming,
- mobile communication,
- multimedia signal processing,
- power electronics,
- software design and development,
- telecommunications.

Professional Recognition
The programme has been granted provisional accreditation by the Hong Kong Institution of Engineers (HKIE). Provisional Accreditation Status enjoys all the rights and privileges that are equivalent to an accreditation status.
Programme Features

Programme Aims
As a result of the recent rapid convergence of computer, communications and consumer electronics, there is a strong demand for professionals who are equipped with knowledge in the areas of computer networks, multimedia and information technologies. Experts in Apps and Web Programming, Cloud Services and Databases, Mobile Games, Multimedia Technologies, Wireless and Mobile Communications, and Mobile Computer Architecture are in great need. This programme aims to produce graduates who meet this need by providing professional and technical training in the above areas, which covers a good mix of basic theories, hands-on practice and real-life applications.

Curriculum
The programme curriculum has the following features which will develop students’ hands-on experience and further broaden their professional development:
- integration of both theory and applications,
- a Computer Science programme with engineering applications,
- emphasis on engineering mind for problem solving via software development,
- projects,
- practical training,
- one-year internship and Work-Integrated Education (WIE),
- minor programme with extra elective subjects.

Career Choices
Graduates of this programme may start a career in the fields of:
- apps and games development,
- data centres and Cloud services,
- digital entertainment,
- Internet-related business,
- mobile communications services, etc.

Professional Recognition
The programme has been granted provisional accreditation by the Hong Kong Institution of Engineers (HKIE). Provisional Accreditation Status enjoys all the rights and privileges that are equivalent to an accreditation status.
BSc(Hons) Degree in Information Security*
資訊安全（榮譽）理學士學位課程
(Programme Code: 42480)

- 2-year Full-time Government-funded Top-up Degree Programme
- Applicable to Associate Degree or Higher Diploma Graduates of Relevant Disciplines Only

Programme Features

Programme Aims
The recent advances in information and communication technologies (ICT) have brought people great convenience in their daily life. Data has become one of the most valuable assets to any country and any business which requires careful protection. To protect data security and privacy and to safeguard them against the risk of potentially devastating security attacks and misuses have thus become a vital concern to all countries and organizations. With the cross-border, open-platform, highly-interconnected nature of the cyberworld, the impacts of security attacks and misuses are far-reaching, and would require integral effort from all parties involved in order to effectively combat these attacks. This programme aims at producing graduates with a wide range of professional knowledge and skills relevant to Information Security, who are able to adapt to the changing technology and society and equipped with all-rounded attributes, which include creativity and innovation.

Curriculum
The curriculum includes the following major subject areas:
- Authentication Systems,
- Cryptography,
- Operations Security,
- Security Architecture and Design,
- Software Development Security,
- Telecommunications and Network Security.

Career Prospects
The job prospects of our graduates is excellent with increasing demand of manpower in the fields of ICT in general and Information Security in particular. The shifting of the ICT sector towards Cloud Computing and mobile communications will also increase the demand for specialists in the area of Information Security.

Professional Recognition
The programme has been granted provisional accreditation by the Hong Kong Institution of Engineers (HKIE). Provisional Accreditation Status enjoys all the rights and privileges that are equivalent to an accreditation status.

(*This programme is jointly offered by Department of Electronic and Information Engineering & Department of Computing.)
## Entrance Requirements for EIE Undergraduate Programmes

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<td>J33703/42470</td>
<td><strong>BEng(Hons) in Electronic and Information Engineering</strong></td>
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<tr>
<td>J33519/42477</td>
<td>Level 2 in 5 HKDSE subjects including English and Chinese</td>
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<tr>
<td>J33076/42375</td>
<td><strong>HD in Electronic and Information Engineering</strong></td>
<td><strong>Not Applicable</strong></td>
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### JUPAS Applicants (with HKDSE Results)

#### University’s General Minimum Entrance Requirements

- 4 core subjects and 2 elective subjects with
  - Level 3 in English Language, Chinese Language and two elective subjects
  - Level 2 in Mathematics and Liberal Studies

#### Programme-specific Minimum Entrance Requirements

- **BEng(Hons) in Electronic and Information Engineering**
  - The following relevant Applied Learning subjects with attainment at distinction/distinction (I) level are accepted as meeting the elective subject requirement of the programme and will be taken as Level 3 and given higher weighting for calculation of admission score:
    - Computer Forensic Technology
    - Computer Game and Animation Design
    - Electrical and Energy Engineering
    - Electronic Product Design in Action
    - Internet of Everything Application
    - Mobile and Online Apps Development
    - Multimedia Entertainment Studies

- **BSc(Hons) in Internet and Multimedia Technologies**
  - The following relevant Applied Learning subjects with attainment at distinction/distinction (I) level are accepted as meeting the elective subject requirement of the programme and will be taken as Level 3 and given higher weighting for calculation of admission score:
    - Computer Game and Animation Design
    - Internet of Everything Application
    - Mobile and Online Apps Development
    - Multimedia Entertainment Studies

### Non-JUPAS Local Applicants

#### A-Level/IB Qualifications

- A-Level: E in 3 A-Level subjects OR E in 2 A-Level and 2 AS-Level subjects; and satisfy the English Language Requirement.
- IB: A minimum score of 24 with at least grade 4 in 2 Higher Level (HL) subjects; and satisfy the English Language Requirement.

#### Other Qualification

- Applicants with an Associate Degree or a Higher Diploma from a recognized institution in
  - Computer Engineering or
  - a similar discipline and with suitable subject background may be considered for entry to Senior Year of the programme.

- Applicants with an Associate Degree or a Higher Diploma from a recognized institution in
  - Computer Science, Engineering, Electronic Engineering, Information Technology, Communication Engineering, Electrical Engineering, Computer Engineering or
  - other similar disciplines may be considered for entry to Senior Year of the programme.

- An Associate Degree or Higher Diploma from a recognized institution in
  - Information Technology, Computer Studies, Computing, Engineering, Electronic Engineering, Information Engineering, Communication Engineering, Electrical Engineering, Computer Engineering or
  - a similar discipline.

- A Higher Certificate or Diploma from a recognized institution in
  - Electronic Engineering, Electrical Engineering, Communications Engineering, Computer and Information Engineering or
  - a similar discipline.
Higher Diploma in Electronic and Information Engineering
電子及資訊工程學高級文憑課程 (Programme Code: JS3076/42375)

Programme Features

Programme Aims and Curriculum
This programme is designed to equip students with the necessary knowledge and skills for their careers as technologists in the electronic and information engineering profession upon graduation. On top of the theory part, practical training and applications are also the focuses of the programme.

Prospect of Further Studies and Employment
Graduates of the programme are ready to either advance to a higher level of study or pursue a career in the relevant fields. Our records show that graduates of this programme are very well accepted by local and overseas universities. They were usually given credit transfers for the relevant subjects they took during their higher diploma study when they were admitted to degree programmes, and therefore, they may be able to complete the degree programmes at a much faster pace in a minimum of 2 years. For those who aspire to start their professional career on graduation, they usually take up employment in areas of electronics, information technology, communication, programming, and Internet.

Excellent Job Prospects

Currently, opportunities in the relevant fields of electronic and information engineering are enormous in Hong Kong and worldwide. Corporations have been recruiting engineering and ICT graduates in order to support their business by deploying new technologies and developing innovative products and services. Our graduates are welcomed by many employers due to their good professional skills and all-rounded abilities.

The Department has recently launched the Graduation Employment Programme (GEP). The Programme helps our students identify their career goals and interests, prepares students for workplace requirements, improves their job-hunting skills and gathers relevant job information for students.

Career Paths of our Graduates
Our graduates are employed in different sectors, including the government, public utilities and private corporations. Their working areas and typical job titles include:

Professional Working Areas
- Apps and games development
- Digital entertainment
- Electronics
- Engineering
- Internet-related business and services

Typical Job Titles
- Application Analysts
- Design Engineers
- Information Security Officer
- IT Professionals
- Marketing Engineers
- Mobile System Developers
- Programmer
- Quality Engineers

Our graduates are very well-received by employers, and many of them are employed by renowned organizations and corporations in recent years, such as:

- Apple Inc.
- China Mobile
- HK SAR Government (e.g. OGCIO, EMSD)
- Hong Kong Applied Science and Technology Research Institute (ASTRI)
- HSBC
- Huawei
- IBM
- MTR
- Microsoft
- PCCW/HKT
- Solomon Systech
Study Life at EIE

At PolyU, we have been actively promoting all-rounded development among our students by providing them with plenty of opportunities to broaden their horizon, gain invaluable learning experience and lead a fruitful university life. Our Department offers/supports opportunities specifically to our own students for these purposes. Some of them include:

- Student Exchange Programme
- Study Tours
- Robotic Project Competition and Mobile Game Design Competition
- RoboCon, EIE Robotic Challenge, and Robotics Club
- Microcontroller Application Design Contest
- Activities Organized by other Supporting Units

In addition, our Centre STARS (Student Advancement and Resources) organizes a wide range of activities to help students develop their all-roundedness. These activities include career development and preparation programmes, leadership training series, personal development programmes, and living and learning community programmes.

Advanced Laboratory Facilities

Our teaching and research activities are very well supported by the excellent state-of-the-art facilities available at our laboratories:

**Special-purpose teaching and student project laboratories:**
- Information Security Laboratory
- Robotics and Control Laboratory
- Electronic and Information Project Laboratory
- VLSI Design Laboratory

**Research laboratories:**
- Advanced Materials and Electronics Laboratory
- Circuit Research Laboratory
- Digital Signal Processing Laboratory
- Electronics and Telecommunications Research Laboratory
- Fibre Optic System Laboratory
- Microfabrication Laboratory
- Microscopic Biosensor Laboratory
- PolyU-Huawei Joint Laboratory for Optical Interconnection Network and Advanced Computing System
- Renewable Energy Systems Research Laboratory
Professionally-accredited Programmes
Three undergraduate degree programmes have been granted provisional accreditation by The Hong Kong Institution of Engineers (HKIE)

Strong Alumni Network
Out of our 6,000+ EIE alumni, many of them are working in ICT-related fields at senior managerial positions like CEO, Vice President, General Manager

World-class Professors
Four Chair Professors are IEEE/The Optical Society Fellows; 21 academic staff members are IEEE Members/Senior Members/Fellows and/or IET/HKIE Corporate Members/Fellows and/or Chartered Engineers

Balanced, Energetic and Fruitful Study Life
Multifarious intra- and extra-curricular activities to enrich students’ learning experience, such as Microcontroller Application Design Contest, Student Exchange Programme, Study Tour, Robotic Project Competition, Mobile Game Design Competition, RoboCon, EIE Robotic Challenge, Robotics Club, and Dragon Boat Team, etc.

International Collaboration
PolyU has 500+ student exchange partners and collaborators, including Yale University, USA, University of Cambridge, UK, McGill University, Canada, etc.

Superb Teaching and Learning Facilities
From the state-of-the-art facilities at EIE laboratories to a wide range of complementary facilities and services in PolyU campus

Innovative Research with Impact
Produce cutting-edge research output which has significant impact to the society. Recent research breakthroughs include the achievement of the world’s fastest optical communications speed for data centre, development of perovskite-silicon tandem solar cells with the world’s highest power conversion efficiency, etc.