



THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

Department of
Electronic and Information Engineering
電子及資訊工程學系

BSc (Hons) Degree Programme in Internet and Multimedia Technologies

Code: 42477; Full-time, Credit-based

Study Planner

For 2012/13 Cohort of Students and Onwards

Introduction

This small booklet is designed to help you as a student of the *BSc (Hons) in Internet and Multimedia Technologies (42477)* to plan your 4-year (or 5-year if you choose the sandwich option) study so that you can:

- (i) identify your educational goal,
- (ii) select the subjects you like best, and
- (iii) prepare yourself sufficiently for your chosen career pathway and future professional development.

This booklet should be read together with the definitive programme document of the *BSc (Hons) in Internet and Multimedia Technologies (42477)*.

Road to Professional Development

EIE's programmes are designed to equip you with the necessary skills and up-to-date knowledge in areas of Information and Communication Technology (ICT). The IMT programme puts its emphasis on ICT in Internet and Multimedia. On graduation, you will obtain the award "BSc (Hons) Degree in Internet and Multimedia Technologies", which means that you will have satisfied the education requirement for and acquired practical experience of an ICT professional in Internet and Multimedia. With suitable training and working experience obtained after graduation, you are on the road to the development in the ICT profession.

Subjects in the Programme

IMT in ICT is a vast and rapidly changing field. To provide students with sufficient opportunity to acquire a sound foundation and to specialize in a particular area, our programme is designed with compulsory and elective subjects. *Compulsory* subjects are fundamental and core subjects that provide you the basis of IMT. You must study and pass all the compulsory subjects in the programme. As different students might have different interests or abilities in different areas, students may choose *Elective* subjects to study in order to develop their specialization according to their own interests. The elective subjects in this programme can be categorized into different areas in

communications, computer and information engineering. By choosing the set of elective subjects, you engage in a particular study pathway characterized as a *stream*.

Streams

A *stream* is characterized by the set of elective subjects you shall choose to study. The stream you have chosen would represent your area of specialization. You will have more competitive edge when you look for jobs in areas relevant to your stream. Hence, you should decide on the stream carefully to make sure that (i) you are interested in the areas corresponding to that stream, (ii) you will master the subjects in that stream thoroughly, and (iii) you are prepared to pursue your future career in these areas on graduation. The followings are the streams that you may choose in this programme:

Stream Code	Stream Title
CNI	Communication Networks and the Internet
IT	Information Technology
MMT	Multimedia Technology

You may find the full list of elective subjects that define these streams in Appendix I of this booklet. You should take all 4 EIE technical electives belonging to a stream in order to specialise in that particular stream.

(1) Communication Networks and the Internet Stream

Stream Specialization

The Internet has become an indispensable part of our daily lives along the rapid development of technologies in platforms such as smartphones and tablets, and proliferation of services such as social networking, instant messaging, and cloud computing. By studying in this stream, you will lay the solid foundation of communication networks and the Internet, and the various applications in mobile networking, Internet Protocol (IP) network technology, network security, network management, and multimedia communications. You will be competent to take popular examinations in the network area such as the CCNA (Cisco Certified Network Association) examination.

Prospect

If you study this stream, you will have competitive edge in areas that require good knowledge and skills in multimedia communications, computer networks, protocols, network management, network security, network design, and network performance evaluation. Relevant job openings in these areas include Communication Technologist, Network Administrator, Network Specialist, Network Security Analyst, etc. Companies that have these kinds of openings include PCCW, HSBC, Hong Kong Jockey Club, Hong Kong Broadband Network, 3 Hong Kong, other ICT service providers, etc.

(2) Information Technology Stream

Stream Specialization

This stream is characterized by the compulsory subjects in the area of Information Technology. In the higher level, it is characterized by elective subjects such as IP Networks, Mobile Computer System Architecture, Mobile Networking, Network Management and Security, Computer Architecture and Systems, Distributed Systems and Cloud Computing, and Multimedia Communications. By studying this stream, you will specialize in IT-related areas such as database, networking, cloud programming, mobile systems, IT management, etc.

Prospect

With the growing popularity of IT applications, graduates from this stream will have competitive edge over jobs related to networking, mobile systems, database, and programming. They will take up posts such as Data Analyst, IT Officer, Network Administrator, Analyst Programmer, System Technologist, Apps Developers, etc. in companies, enterprises, banks, education institutes and government departments.

(3) Multimedia Technology Stream

Stream Specialization

This stream is characterized by the compulsory subjects in the area of Multimedia Technology. These compulsory subjects will give you a good foundation of multimedia signals and system properties. In the higher level, it is characterized by elective subjects such as Computer Animation, Computer Vision and Pattern Recognition, Multimodal Human Computer Interaction Technology, Digital Video Production and Broadcasting, and Image and Audio Processing. By studying this stream, you will specialize in areas related to signals and systems, and related applications in multimedia. This stream also builds a solid foundation for pursuing academic research after graduation.

Prospect

Graduates from this stream will have competitive edge over jobs such as Multimedia Developer, Web Designer, Software Technologist, Game Developer, Audio and Video Specialist, Multimedia Production Officer, Programmer, and Apps Designer.

Appendix 1

Streams and Constituent Subjects

Subject Code	Subject Title	CR	Category	Stream*		
				CNI	IT	MMT
COMP4342	Mobile Computing	3	ELE		X	
COMP4422	Computer Graphics	3	ELE			X
EIE3101	Computer Animation	3	ELE			X
EIE3110	Research Methodology	3	ELE			X
EIE4100	Computer Vision and Pattern Recognition	3	ELE			X
EIE4102	IP Networks	3	ELE	X	X	
EIE4103	Mobile Computer System Architecture	3	ELE		X	
EIE4104	Mobile Networking	3	ELE	X	X	
EIE4105	Multimodal Human Computer Interaction Technology	3	ELE			X
EIE4106	Network Management and Security	3	ELE	X	X	
EIE4108	Distributed Systems and Cloud Computing	3	ELE		X	
EIE4414	Computer Architecture and Systems	3	ELE		X	
EIE4428	Multimedia Communications	3	ELE	X	X	
EIE4430	Honours Project	6	COM (Select any 1 out of these 2)	X	X	X
SD4981	Computer Game Development Project	6				X
EIE4431	Digital Video Production and Broadcasting	3	ELE			X
EIE4435	Image and Audio Processing	3	ELE			X

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* Study all 4 EIE technical electives belonging to a stream in order to specialise in that particular stream.