



The Hong Kong Polytechnic University 香港理工大學  
Department of Computing 電子計算學系

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# Definitive Programme Document for

## Postgraduate Scheme

in

# Computing

Programme Code : 61030

September 2015

(updated on 17 Nov 2015)

**This Definitive Programme Document is applicable to students admitted in 2015/16**

This Definitive Programme Document is subject to review and changes which the programme offering Faculty/Department can decide to make from time to time. Students will be informed of the changes as and when appropriate.

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## Part 1: General Information

### 1.1 Introduction

Programme Title	:	Postgraduate Scheme in Computing
Programme Code	:	61030
Host Department	:	Department of Computing
Programme Structure	:	Credit-based
Credit Requirement	:	30

Students successfully completed the programme's requirements will be offered the following award:

Awards	Mode of Study	Normal Duration (No. of years)	Maximum Duration (No. of years)	Stream codes
MSc/PgD in Software Technology 軟件科技理學 碩士學位/深造文憑	Regular, FT	1.5	3	61030 - FST/FSP
	Regular, PT	2.5	5	61030 - PST/PSP
MSc/PgD in Information Technology 資訊科技理學 碩士學位/深造文憑	Regular, FT	1.5	3	61030 - FIT/FTP
	Regular, PT	2.5	5	61030 - PIT/PTP
MSc/PgD in Information Systems 資訊系統理學 碩士學位/深造文憑	Regular, FT	1.5	3	61030 - FIS/FIP
	Regular, PT	2.5	5	61030 - PIS/PIP
	Outpost, PT	2.5	5	61030 - ISX/ISY
MSc/PgD in E-Commerce 電子商貿理學 碩士學位/深造文憑	Regular, FT	1.5	3	61030 - FEC/FEP
	Regular, PT	2.5	5	61030 - PEC/PEP

## **1.2 Aims, Objectives and Intended Learning Outcomes of the Scheme**

The Postgraduate Scheme in Computing is to provide professional Computing and IT education that suits the needs of students from different background and in different modes of learning. As a result, students will be able to continue life long learning and development. The objectives of our programmes are listed below:

1. To provide students with knowledge in applying and evaluating computing and emerging information technologies for different information processing applications and areas (such as business, industry and public sectors);
2. To enhance students with the ability to work together as a team in project design and development, while exhibiting leadership in a group or team whenever designated or necessary;
3. To provide students with an awareness of the ethical and social issues, who will be able to continue personal development and progress with the evolution in the computing discipline ; and
4. To produce graduates who are responsive to and closely follow the advancements in information technology and their impact in fulfilling the industrial needs, with an attitude of continuous and lifelong learning;

There are 4 different programmes in the Postgraduate Scheme in Computing and each award has its own specific objectives as detailed below.

### **1.2.1 MSc/PgD in Software Technology**

This award aims to provide computing professionals with Computer Science or Information Technology academic background to pursue in-depth studies in software technologies. The award emphasizes in the application of software technologies to solve business/industrial problems and the technical know-how of software engineering and management. The specific objectives of this award are:

- To provide up-to-date and in-depth knowledge in the fast-changing software technology;
- To provide opportunities to specialize in major areas in software technology;
- To develop the ability to assimilate and to apply acquired knowledge in software technology.

### **1.2.2 MSc/PgD in Information Technology**

This award serves as a bridging graduate programme for professionals from Science and Engineering background that may not be necessarily from the Computing. The program is designed and structured to incrementally help students to build a strong foundation in core concepts underpinning IT. The knowledge acquired is further reinforced by allowing students to put into practice the concepts learned in class through solving IT problems in the form of projects. The specific objectives are:

- To develop areas of study in information technology relevant to the student's current profession or a profession he/she intends to engage in, and to update a student's knowledge in a particular information technology discipline;
- To develop areas of study in information technology new to the student or in areas not directly related to the scope of the student's first degree; and
- To provide an analytical in-depth study of an area already introduced at undergraduate level.

### **1.2.3 MSc/PgD in Information Systems**

This award aims to provide management and business professionals with the knowledge, skills and confidence in the application of information systems within an organization, and to enable them:

- To identify appropriate IT driven opportunities and incorporate these into the strategic thinking process;
- To develop a framework appropriate to the organizational culture to facilitate the alignment and interplay of organizational strategies with information systems and E-commerce strategies;
- To take an active part in the decision making process surrounding the use and development of IS with a particular emphasis on the management of change which may result from the transfer of technology within the organization;
- To act as internal consultants within their organizations with regard to the evaluation of IS/IT applications, their development and implementation, to improve organizational practices, productivity and profitability;
- To manage quality issues in the processes related to effective information systems planning, development and implementation;
- To maintain and further develop standards of professional practice with regard to the organizational planning processes for effective IS/IT utilization.

### **1.2.4 MSc/PgD in E-Commerce**

This award aims to educate a new generation of knowledge and technical personnel as well as top managers and business executives in E-Commerce. As E-Commerce generally involves the integration of technology and management, this award covers both the technology and management aspects. In the technology aspect, it offers students the opportunity to examine various issues of conducting business as related to networked and on-line commerce, with a focus on the enabling technologies and techniques. Hence, graduates will be able to effectively contribute towards the planning, development, deployment and management of E-Commerce systems and applications. In the management aspect, it allows students to understand the opportunities offered by E-Commerce and the issues involved in employing and managing E-Commerce systems. The specific objectives are:

- a good understanding of E-Commerce fundamentals particularly the enabling technologies;
- the ability to appraise tools like E-Commerce platforms, HTTP servers, secure transaction software and firewalls, database systems, heterogeneous networks, intelligent agents, etc.;
- the ability to understand the realities and potential of E-Commerce (e.g., costs and benefits) and to appreciate the potential and limitations of different types of technologies related to E-Commerce and Internet computing;
- the ability to construct a variety of E-Commerce systems for trading products and services, and managing vendor relations.

### 1.2.5 Intended Learning Outcomes

The institutional learning outcomes of taught postgraduate programmes consist of:

- A. **Professional competence of specialists/leaders of a discipline/profession:**  
Graduates of PolyU taught postgraduate programmes will possess in-depth knowledge and skills in their area of study and be able to apply their knowledge and contribute to professional leadership.
- B. **Strategic thinking:**  
Graduates of PolyU taught postgraduate programmes will be able to think holistically and analytically in dealing with complex problems and situations pertinent to their professional practice. They will be versatile problem solvers with good mastery of critical and creative thinking skills, who can generate practical and innovative solutions.
- C. **Lifelong learning capability:**  
Graduates of PolyU taught postgraduate programmes will have an enhanced capability for continual professional development through inquiry and reflection on professional practice.

The additional outcome specific to graduates of the Department of Computing is as below:

- D. **Computer ethics and responsibilities:**  
Graduates of the Scheme will have critical understanding of ethical problems and issues related to computer profession, technology governance and social responsibilities.

As the Postgraduate Scheme in Computing consists of FOUR main programmes catering for participants of different background and educational needs, including those who could be fresh graduates or seniors with substantial working experience, the following learning outcomes of the Scheme are drawn up with reference to the above outcomes of taught postgraduate programmes:

- 1. Demonstrate ability to manage and solve problems specific to the programme (A/B).
  - a. *Software Technology*: Design and implement software systems for various applications that meet user specification, performance, maintenance and quality assurance.
  - b. *Information Technology*: Master and apply up-to-date knowledge to design the architecture and develop advance information processing applications with computer and communication technologies.
  - c. *Information Systems*: Analyze, design, manage and audit of information systems to solve business and enterprise problems.
  - d. *E-Commerce*: Master and apply principles of e-Commerce and the up-to-date knowledge on the core business processes and enabling technologies to analyze, plan and build e-Commerce systems and applications.
- 2. Demonstrate ability to conduct in-depth study, research, and apply current and emerging technologies (A/B).
- 3. Demonstrate ability to participate, communicate, manage and provide professional leadership in teamwork for solving IS/IT/EC/ST problems (A).
- 4. Understand ethical, economic and environmental implications of current and emerging technologies and their applications (D).
- 5. Ability to adopt the best practices and standards, and engage in a process of life-long learning in a professional context (A/C).

The following table shows the relationship between programme intended learning outcomes and institutional learning outcomes.

Programme intended learning outcomes	Institutional Learning Outcomes			COMP's Specific Outcome
	A	B	C	D
1	√	√		
2	√	√		
3	√			
4	√			√
5	√		√	

### 1.2.6 PolyU Missions and Intended Learning Outcomes

The PolyU missions and their relationship with the programme intended learning outcomes are given below.

- A. To nurture graduates who are critical thinkers, effective communicators, innovative problem solvers, lifelong learners and ethical leaders.
- B. To advance knowledge and the frontiers of technology to meet the changing needs of society.
- C. To support a University community in which all members can excel through education and scholarship.

Programme intended learning outcomes	PolyU Missions		
	A	B	C
1	√	√	
2	√	√	
3	√		
4	√		
5	√		√

### 1.3 Entrance Requirements and Preferences

The entry qualifications are intended to ensure that each student has appropriate academic qualifications, sufficient work experience and the necessary motivation to benefit from, actively contribute to, and successfully complete the programme.

The Scheme is composed of four awards that suits students from different background. In general, Arts or Business students are best suited for MSc/PgD in Information Systems; Science (non-Computer Science) students for MSc/PgD in Information Technology; Computer Science students for MSc /PgD in Software Technology. The MSc/PgD in E-Commerce is suitable for most students who have a bachelor degree in various disciplines and interest in E-commerce development and applications.

In general, relevant work experience is preferred for all awards, and employers' support or sponsorship is desirable.

In particular, the requirement\* for each award is as follows:

### **1.3.1 MSc/PgD in Software Technology**

Targets Honours degree of Computer Science or Software Engineering disciplines. Applicants must also satisfy the English language requirements of the University.

### **1.3.2 MSc/PgD in Information Technology**

Targets Honours degree of Engineering or Science disciplines. Applicants must also satisfy the English language requirements of the University.

### **1.3.3 MSc/PgD in Information Systems**

Targets Honours degree of Arts or Business disciplines. Applicants must also satisfy the English language requirements of the University.

### **1.3.4 MSc/PgD in E-Commerce**

Targets Honours degree of various disciplines. Applicants must also satisfy the English language requirements of the University.

\*Students without the required qualification/experience but would like to apply for a certain award are required to justify their need and capability to study in this award. This will be subject to approval by the Department and Faculty.



## Part 2: Programme Structure and Curriculum Design

### 2.1 Award Requirements

Students are required to satisfy the following core subjects and total credit requirements for each award. In general, students are required to complete 10 subjects (or 30 credits equivalent) for MSc awards and 6 subjects (or 18 credits equivalent) for PgD awards.

Awards	MSc			PgD
	Dissertation	Project	Non-Dissertation	
MSc/PgD in Software Technology	3 core-1 subjects + 2 core-2 subjects + 2 electives*	4 core-1 subjects + 2 core-2 subjects + 2 electives*	4 core-1 subjects + 2 core-2 subjects + 4 electives*	4 core-1 subjects + 2 electives*
MSc/PgD in Information Technology	2 fundamental subjects + 3 core subjects + 2 electives*	2 fundamental subjects + 4 core subjects + 2 electives*	2 fundamental subjects + 4 core subjects + 4 electives*	2 fundamental subjects + 2 core subjects & + 2 electives*
MSc/PgD in Information Systems	5 core subjects + 2 electives*	6 core subjects + 2 electives*	6 core subjects + 4 electives*	4 core subjects + 2 electives*
MSc/PgD in E-Commerce	3 core-1 subjects + 2 core-2 subjects + + 2 electives*	4 core-1 subjects + 2 core-2 subjects + + 2 electives*	4 core-1 subjects + 2 core-2 subjects + + 4 electives*	4 core-1 subjects + 2 electives*

\*Students are allowed to take any Master level subjects offered by the Department of Computing to satisfy their elective requirements, subject to the pre-requisite and exclusion requirements. Students may take electives outside the Department of Computing up to 20% of the total credit requirements to broaden their scope of study.

### 2.1.1 Award Requirements for MSc/PgD in Software Technology

Awards	MSc			PgD
	Dissertation	Project	Non-Dissertation	
MSc/PgD in Software Technology	3 core-1 subjects + 2 core-2 subjects + 2 electives	4 core-1 subjects + 2 core-2 subjects + 2 electives	4 core-1 subjects + 2 core-2 subjects + 4 electives	4 core-1 subjects + 2 electives
Credits requirement	30	30	30	18

#### **Core (1) Subjects**

COMP5138 Services Science Management
COMP5151 Advanced Database Systems
COMP5212 Software Design and Architecture
COMP5224 Software Requirement Analysis and Specification
COMP5225 Software Evolution and Maintenance
COMP5226 Software Infrastructure and Configuration Management
COMP5229 Enterprise Applications and Systems Management
COMP5252 Extreme Programming and Agile Software Development
COMP5311 Internet Infrastructure and Protocols
COMP5322 Internet Computing and Applications
COMP5323 Web Database Technologies and Applications
COMP5332 Web Services and Project Development
COMP5351 Internet Infrastructure Security
COMP5353 Internet Security: Principles and Practice
COMP5527 Mobile Computing and Data Management

#### **Core (2) Subjects**

COMP5221 Software Project Management
COMP5222 Software Testing and Quality Assurance
COMP5228 Embedded Software Engineering
COMP5232 IT Outsourcing and Auditing
COMP5251 Software Engineering Process for High Quality Software
COMP5325 Distributed Computing
COMP5328 Data Center Fundamentals
COMP5412 Fundamentals of Chinese Computing
COMP5422 Multimedia Computing, Systems and Applications
COMP5514 Computer Image Generation and Applications
COMP5517 Human Computer Interaction

#### **Elective Subjects**

Students are allowed to take any Master level subjects offered by the Department of Computing to satisfy their elective requirements, subject to the pre-requisite and exclusion requirements.

## 2.1.2 Award Requirements for MSc/PgD in Information Technology

Awards	MSc			PgD
	Dissertation	Project	Non-Dissertation	
MSc/PgD in Information Technology	2 fundamental subjects + 3 core subjects + 2 electives	2 fundamental subjects + 4 core subjects + 2 electives	2 fundamental subjects + 4 core subjects + 4 electives	2 fundamental subjects + 2 core subjects & + 2 electives
Credits requirement	30	30	30	18

### Fundamental Subjects

COMP5111 Database Systems and Management
COMP5134 IS Development with OO Methods
COMP5138 Services Science Management
COMP5211 Software Engineering Concepts
COMP5229 Enterprise Applications and Systems Management
COMP5411 Fundamentals of Operating Systems
COMP5414 Computer Architecture
COMP5422 Multimedia Computing, Systems and Applications

### Core Subjects

COMP5122 E-Commerce Fundamentals and Development
COMP5251 Software Engineering Process for High Quality Software
COMP5311 Internet Infrastructure and Protocols
COMP5321 Enterprise Web and Internet Computing for Managers
COMP5322 Internet Computing and Applications
COMP5323 Web Database Technologies and Applications
COMP5326 Wireless Computing Systems and Applications
COMP5328 Data Center Fundamentals
COMP5412 Fundamentals of Chinese Computing
COMP5511 Artificial Intelligence Concepts
COMP5527 Mobile Computing and Data Management

### Elective Subjects

Students are allowed to take any Master level subjects offered by the Department of Computing to satisfy their elective requirements, subject to the pre-requisite and exclusion requirements.

### 2.1.3 Award Requirements for MSc/PgD in Information Systems

Awards	MSc			PgD
	Dissertation	Project	Non-Dissertation	
MSc/PgD in Information Systems	5 core subjects + 2 electives	6 core subjects + 2 electives	6 core subjects + 4 electives	4 core subjects + 2 electives
Credits requirement	30	30	30	18

#### Core Subjects

COMP5111 Database Systems and Management
COMP5121 Data Mining and Data Warehousing Applications
COMP5123 Intelligent Information Systems
COMP5131 Introduction to Information Systems
COMP5132 Information Systems Acquisition and Integration
COMP5133 Information Systems and E-Commerce Strategy
COMP5134 IS Development with OO Methods
COMP5138 Services Science Management
COMP5139 Management Information Systems
COMP5220 IS Project Management
COMP5524 Workflow Management and Collaborative Systems

#### Elective Subjects

Students are allowed to take any Master level subjects offered by the Department of Computing to satisfy their elective requirements, subject to the pre-requisite and exclusion requirements.

## 2.1.4 Award Requirements for MSc/PgD in E-Commerce

Awards	MSc			PgD
	Dissertation	Project	Non-Dissertation	
MSc/PgD in E-Commerce	3 core-1 subjects and 2 core-2 subjects + 2 electives	4 core-1 subjects and 2 core-2 subjects + 2 electives	4 core-1 subjects and 2 core-2 subjects + 4 electives	4 core-1 subjects + 2 electives
Credits requirement	30	30	30	18

### Core (1) Subjects

COMP5122 E-Commerce Fundamentals and Development
COMP5133 Information Systems and E-Commerce Strategy
COMP5136 B2B & B2C E-Commerce and Management
COMP5138 Services Science Management
COMP5321 Enterprise Web and Internet Computing for Managers
COMP5322 Internet Computing and Applications
COMP5331 Web Advertising and Web Publishing

### Core (2) Subjects

COMP5123 Intelligent Information Systems
COMP5222 Software Testing and Quality Assurance
COMP5324 Internet Information Retrieval
COMP5326 Wireless Computing Systems and Applications
COMP5422 Multimedia Computing, Systems and Applications
COMP5522 Biometric Authentication: System and Application
COMP5525 Information Security: Technologies and Systems
COMP5527 Mobile Computing and Data Management
COMP5531 IT Entrepreneurship and Legal Aspects at IT
COMP5536 Knowledge Management and Applications
MM534 Entrepreneurship
AF5506 Legal Aspects of Electronic Commerce

### Elective Subjects

Students are allowed to take any Master level subjects offered by the Department of Computing to satisfy their elective requirements, subject to the pre-requisite and exclusion requirements.

### 2.1.5 Certification of Technical/ Executive Group for MSc in E-Commerce

Students can request the department to certify their specialization of study – MSc in E-Commerce (Technical group) or MSc in E-Commerce (Executive group). After meeting the additional subject selection requirement (please see below), graduates may submit an application to the General Office by email to enquiry@comp.polyu.edu.hk. A certificate of recognition will be issued upon approval by the Department.

*\*Please note that this information will not be indicated in the final transcript.*

#### **Requirements for MSc in E-Commerce (Technical group) recognition:**

Students must take at least **SIX** subjects or equivalent from the subjects listed below:

- COMP5122 E-Commerce Fundamentals and Development
- COMP5123 Intelligent Information Systems
- COMP5222 Software Testing and Quality Assurance
- COMP5322 Internet Computing and Applications
- COMP5324 Internet Information Retrieval
- COMP5326 Wireless Computing Systems and Applications
- COMP5422 Multimedia Computing, Systems and Applications
- COMP5522 Biometric Authentication: System and Application
- COMP5525 Information Security: Technologies and Systems
- COMP5527 Mobile Computing and Data Management

#### **Requirements for MSc in E-Commerce (Executive group) recognition:**

Students must take at least **FOUR** subjects or equivalent from the subjects listed below:

- COMP5133 Information Systems and E-Commerce Strategy
- COMP5136 B2B and B2C E-Commerce and Management
- COMP5138 Services Science Management
- COMP5321 Enterprise Web and Internet Computing for Managers
- COMP5331 Web Advertising and Web Publishing
- COMP5531 IT Entrepreneurship and Legal Aspects at IT
- COMP5536 Knowledge Management and Applications
- MM534 Entrepreneurship
- AF5506 Legal Aspects of Electronic Commerce

And at least **TWO** subjects or equivalent from the subjects listed below:

- COMP5111 Database Systems and Management
- COMP5132 Information Systems Acquisition and Integration
- COMP5135 Information Systems Audit and Control
- COMP5512 Information Technology and Logistics
- COMP5538 Customer Relationship Management and Technology

## 2.2 List of Core, Fundamental and Elective Subjects

Below is the table summarizing the core subjects, fundamental subjects and electives for each of the awards. All subjects are three-credit based, unless otherwise stated. Note that elective subjects include Dissertation, Project and Independent Study, which have different assessment requirements and require supervision arrangement. More details can be obtained from departmental intranet, i.e.

<https://intranet.comp.polyu.edu.hk/programme/dissertation/>

Core subjects: core

Fundamental subjects: F

Elective subjects: blank

Subjects	MSc/PgD ST	MSc/PgD IT	MSc/PgD IS	MSc/PgD EC
COMP5111 Database Systems and Management		F	core	
COMP5121 Data Mining and Data Warehousing Applications			core	
COMP5122 E-Commerce Fundamentals and Development		core		core 1
COMP5123 Intelligent Information Systems			core	core 2
COMP5131 Introduction to Information Systems			core	
COMP5132 Information Systems Acquisition and Integration			core	
COMP5133 Information Systems and E-Commerce Strategy			core	core 1
COMP5134 IS Development with OO Methods		F	core	
COMP5135 Information Systems Audit and Control				
COMP5136 B2B & B2C E-Commerce and Management				core 1
COMP5138 Services Science Management	core 1	F	core	core 1
COMP5139 Management Information Systems			core	
COMP5151 Advanced Database Systems	core 1			
COMP5211 Software Engineering Concepts		F		
COMP5212 Software Design and Architecture	core 1			
COMP5220 IS Project Management			core	
COMP5221 Software Project Management	core 2			
COMP5222 Software Testing and Quality Assurance	core 2			core 2
COMP5223 Middleware and Distributed Objects				
COMP5224 Software Requirement Analysis and Specification	core 1			
COMP5225 Software Evolution and Maintenance	core 1			
COMP5226 Software Infrastructure and Configuration Management	core 1			
COMP5228 Embedded Software Engineering	core 2			
COMP5229 Enterprise Applications and Systems Management	core 1	F		
COMP5232 IT Outsourcing and Auditing	core 2			
COMP5251 Software Engineering Process for High Quality Software	core 2	core		
COMP5252 Extreme Programming and Agile Software Development	core 1			
COMP5311 Internet Infrastructure and Protocols	core 1	core		
COMP5321 Enterprise Web and Internet Computing for Managers		core		core 1
COMP5322 Internet Computing and Applications	core 1	core		core 1
COMP5323 Web Database Technologies and Applications	core 1	core		
COMP5324 Internet Information Retrieval				core 2
COMP5325 Distributed Computing	core 2			
COMP5326 Wireless Computing Systems and Applications		core		core 2
COMP5328 Data Center Fundamentals	core 2	core		
COMP5331 Web Advertising and Web Publishing				core 1
COMP5332 Web Services and Project Development	core 1			
COMP5351 Internet Infrastructure Security	core 1			
COMP5353 Internet Security: Principles and Practice	core 1			

COMP5411 Fundamentals of Operating Systems		F		
COMP5412 Fundamentals of Chinese Computing	core 2	core		
COMP5414 Computer Architecture		F		
COMP5422 Multimedia Computing, Systems and Applications	core 2	F		core 2
COMP5511 Artificial Intelligence Concepts		core		
COMP5512 Information Technology and Logistics				
COMP5513 Financial Computing				
COMP5514 Computer Image Generation and Applications	core 2			
COMP5515 Image and Video Computing				
COMP5517 Human Computer Interaction	core 2			
COMP5522 Biometric Authentication: System and Application				core 2
COMP5524 Workflow Management and Collaborative Systems			core	
COMP5525 Information Security: Technologies and Systems				core 2
COMP5527 Mobile Computing and Data Management	core 1	core		core 2
COMP5531 IT Entrepreneurship and Legal Aspects at IT				core 2
COMP5536 Knowledge Management and Applications				core 2
COMP5538 Customer Relationship Management and Technology				
COMP5552 Computer Ethics				
COMP5923 Independent Study				
COMP5933 Project (6 credits)				
COMP5940 Dissertation (9 credits)				
MM534 Entrepreneurship				core 2
AF5506 Legal Aspects of Electronic Commerce				core 2

## 2.3 Curriculum Mapping

The relationship between Subjects and Programme Intended Learning Outcomes is given as follows:

Subject	Programme Intended Learning Outcomes							
	1				2	3	4	5
	ST	IT	IS	EC				
COMP5111 Database Systems and Management		√	√					
COMP5121 Data Mining and Data Warehousing Applications			√					
COMP5122 E-Commerce Fundamentals and Development		√		√		√	√	
COMP5123 Intelligent Information Systems			√	√		√		
COMP5131 Introduction to Information Systems			√			√	√	√
COMP5132 Information Systems Acquisition and Integration			√			√		√
COMP5133 Information Systems and E-Commerce Strategy			√	√	√	√		√
COMP5134 IS Development with OO Methods		√	√					
COMP5135 Information Systems Audit and Control			√	√		√	√	√
COMP5136 B2B & B2C E-Commerce and Management				√			√	√
COMP5138 Services Science Management	√	√	√	√		√	√	√
COMP5139 Management Information Systems			√	√		√	√	√
COMP5151 Advanced Database Systems	√				√			
COMP5211 Software Engineering Concepts	√	√						
COMP5212 Software Design and Architecture	√							
COMP5220 Information Systems Project Management			√			√		√
COMP5221 Software Project Management	√					√		



COMP5222 Software Testing and Quality Assurance	√			√				
COMP5223 Middleware and Distributed Objects		√			√			
COMP5224 Software Requirement Analysis and Specification	√						√	
COMP5225 Software Evolution and Maintenance	√							
COMP5226 Software Infrastructure and Configuration Management	√							
COMP5228 Embedded Software Engineering	√				√			
COMP5229 Enterprise Applications and Systems Management	√	√						
COMP5231 Project Practice and Case Studies						√	√	√
COMP5232 IT Outsourcing and Auditing	√		√					
COMP5251 Software Engineering Process for High Quality Software	√							
COMP5252 Extreme Programming and Agile Software Development	√							
COMP5311 Internet Infrastructure and Protocols	√	√			√			
COMP5321 Enterprise Web and Internet Computing for Managers		√	√	√			√	
COMP5322 Internet Computing and Applications	√	√		√	√			
COMP5323 Web Database Technologies and Applications	√	√						
COMP5324 Internet Information Retrieval				√				
COMP5325 Distributed Computing	√	√			√			
COMP5326 Wireless Computing Systems and Applications		√		√				√
COMP5328 Data Center Fundamentals	√	√				√		
COMP5331 Web Advertising and Web Publishing				√				
COMP5332 Web Services and Project Development	√					√		
COMP5351 Internet Infrastructure Security	√				√		√	
COMP5353 Internet Security: Principles and Practice	√							
COMP5352 Advanced Internet Computing and Technology			√			√		√
COMP5411 Fundamentals of Operating Systems	√	√	√					
COMP5412 Fundamentals of Chinese Computing	√	√			√			√
COMP5414 Computer Architecture	√	√						
COMP5422 Multimedia Computing, Systems and Applications	√	√		√	√	√		√
COMP5511 Artificial Intelligence Concepts		√			√			√
COMP5512 Information Technology and Logistics		√	√			√		
COMP5513 Financial Computing				√		√	√	√
COMP5514 Computer Image Generation and Applications	√	√			√			√
COMP5515 Image and Video Computing	√	√			√			√
COMP5517 Human Computer Interaction	√	√	√	√			√	
COMP5522 Biometric Authentication: System and Application	√			√	√	√		√
COMP5524 Workflow Management and Collaborative Systems			√		√	√		√

COMP5525 Information Security: Technologies and Systems				√	√		√	
COMP5527 Mobile Computing and Data Management	√	√		√				
COMP5531 IT Entrepreneurship and Legal Aspects at IT			√	√			√	√
COMP5536 Knowledge Management and Applications			√	√		√		
COMP5538 Customer Relationship Management and Technology				√		√	√	
COMP5552 Computer Ethics							√	√
COMP5553 Advanced Computer Graphics	√	√						√
COMP5923 Independent Study	√	√	√	√		√	√	√
COMP5933 Project	√	√	√	√	√	√	√	√
COMP5940 Dissertation	√	√	√	√	√	√	√	√

## 2.4 Continuing Education Fund (CEF)

The following subjects are currently included in the list of reimbursable courses for Continuing Education Fund (CEF) purposes. Subjects / Courses may be added to or removed from this list (registered/deregistered) without notice. Local students are eligible to receive subsidies for a particular subject/ course available at the time of their enrolment. The eligibility is also subject to satisfactory completion of the CEF sponsored course (i.e. with the grade performance at C or above).

- COMP5331 Web Advertising and Web Publishing
- COMP5422 Multimedia Computing, Systems and Applications
- COMP5512 Information Technology and Logistics
- COMP5513 Financial Computing
- COMP5538 Customer Relationship Management and Technology

Students may check the details at <http://www.info.gov.hk/sfaa/cef/>

## 2.5 Teaching and Learning Methods

Teaching is conducted through lectures and tutorials/labs. Various activities can be involved in the learning process, where students are strongly encouraged to actively participate and interact with other students and the lecturers. Besides attending lectures, students may engage themselves in self-study, group discussion, class project and laboratory work.

In order to improve the attention span of the participants, a strategy of mixing in-class activities will be adopted. Some examples of these are highlighted as follows:

### Class Lectures

In general, each subject will have a three-hour lecture during semester weeks. The participants will be actively involved in discussing issues and problems associated with the subject. Students may also be required to present their homework or projects in class.

### **Practical Sessions**

Workshop or laboratory sessions can be involved for some subjects. The participants will have the opportunity to explore interesting case studies, hands-on experience of system application and development, and group project investigation.

### **Seminars**

Experienced and guest speakers from commercial and business communities shall be arranged to conduct seminars for the Scheme. The participants will have the opportunity to discuss some real-life problems and enrich their understanding in the subject.

## **2.6 Examination and Assessment**

The examination and assessment arrangement conforms to the Academic Regulations & Procedures for Credit-based Programmes. The Department's Subject Assessment Review Panel (SARP) monitors the academic standard and quality of subjects and has complete discretion in ratifying subject grades. It is also responsible for deciding upon the granting of re-assessment to students and the form of such re-assessment. A Board of Examiners (BOE) of the Scheme will meet at the end of each semester to consider students' classifications of award and to deal with problematic cases. The composition and terms of reference of the SARP and BOE are stipulated in the Academic Regulations and Procedures for Credit-based Programmes.

### **2.6.1 Assessment and Grading**

Students' performance in a subject shall be assessed by continuous assessment and/or examinations as depicted in individual subject syllabus.

#### **Continuous Assessment**

Continuous assessment may include tests, assignments, projects, quizzes, presentations and other forms of classroom participation. It may vary on different subjects contributing to 45%-70% of the overall subject grade unless otherwise specified in the syllabus. Progressive assessment will be taken through participation of students in workshops, seminars and tutorial sessions where applicable.

#### **Final Examination**

Students are generally required to sit for the final examination. They will be provided with the examination schedule in advance, which is assigned in the general examination period of the University. Students may attempt common examination papers provided that the examination date is the same.

#### **Overall Assessment**

The overall grade for a subject is obtained by combining the results for the continuous assessment and examination, where applicable, using the weightings as specified in each subject syllabus. Numerical grade is defined for each letter grade for the computation of the GPA.

<b>Grade</b>	<b>Short Description</b>	<b>Grade Point</b>
A+	Exceptionally Outstanding	4.5
A	Outstanding	4
B+	Very Good	3.5
B	Good	3
C+	Wholly Satisfactory	2.5
C	Satisfactory	2
D+	Barely Satisfactory	1.5
D	Barely Adequate	1
F	Inadequate	0

“F” is a subject failure grade, whilst all others (“D” to “A+”) are subject passing grades.

### **GPA Calculation & Award Classification**

At the end of each semester/term, a Grade Point Average (GPA) will be computed as follows, and based on the grade point of all the subjects:

$$\text{GPA} = \frac{\sum \text{Subject Grade Point} \times \text{Subject Credit Value}}{\sum \text{Subject Credit Value}}$$

where n = number of all subjects (inclusive of failed subjects) taken by the student up to and including the latest semester/term, but for subjects which have been retaken, only the grade obtained in the final attempt will be included in the GPA calculation

In addition, the following subjects will be excluded from the GPA calculation:

- (i) Exempted subjects
- (ii) Ungraded subjects
- (iii) Incomplete subjects
- (iv) Subjects for which credit transfer has been approved without any grade assigned
- (v) Subjects from which a student has been allowed to withdraw (i.e. those with the grade 'W')

Subject which has been given a "S" subject code, i.e. absent from examination, will be included in the GPA calculation and will be counted as "zero" grade point. GPA is thus the unweighted cumulative average calculated for a student, for all relevant subjects taken from the start of the programme to a particular point of time. GPA is an indicator of overall performance and is capped at 4.0.

Any subjects passed after the graduation requirement has been met or subjects taken on top of the prescribed credit requirements for award shall not be taken into account in the grade point calculation for award classification. However, if a student attempts more elective subjects (or optional subjects) than those required for graduation in or before the semester in which he becomes eligible for award, the elective subjects (or optional subjects) with a higher grade/contribution shall be included in the grade point calculation (i.e. the excessive subjects attempted with a lower grade/contribution, including failed subjects, will be excluded).

The following are guidelines for Boards of Examiners' reference in determining award classifications:

<i>Honours</i>	<i>Guidelines</i>
Distinction	The student's performance/attainment is outstanding, and identifies him as exceptionally able in the field covered by the programme in question.
Credit	The student has reached a standard of performance/ attainment which is more than satisfactory but less than outstanding.
Pass	The student has reached a standard of performance/ attainment judged to be satisfactory, and clearly higher than the "essential minimum" required for graduation.
	The student has attained the "essential minimum" required for graduation at a standard ranging from just adequate to just satisfactory.

Award classification is a decision by the Board of Examiners. There is no automatic link between the award GPA and the award classification.

Students who have committed academic dishonesty will be subject to the penalty of the lowering of award classification by one level. The minimum of downgraded overall result will be kept at a Pass.

### **2.6.2 Re-taking of Subjects**

- (1) Students may retake any subject for the purpose of improving their grade without having to seek approval, but they must retake a compulsory subject which they have failed, i.e. obtained an F grade. Retaking of subjects is with the condition that the maximum study load of 21 credits per semester is not exceeded. Students wishing to retake passed subjects will be accorded a lower priority than those who are required to retake (due to failure in a compulsory subject) and can only do so if places are available.
- (2) The number of retakes of a subject is not restricted. Only the grade obtained in the final attempt of retaking (even if the retake grade is lower than the original grade for originally passed subject) will be included in the calculation of the Grade Point Average (GPA). If students have passed a subject but failed after retake, credits accumulated for passing the subject in a previous attempt will remain valid for satisfying the credit requirement for award. (The grades obtained in previous attempts will only be reflected in transcript of studies.)
- (3) In cases where a student takes another subject to replace a failed elective subject, the fail grade will be taken into account in the calculation of the GPA, despite the passing of the replacement subject.
- (4) A student may choose to take another elective subject instead of retaking an elective subject that he has failed.

### **2.6.3 Credit Enrolment**

The normal workload per semester is 6 credits for part time students and 9 credits for full time students. The part time students will be allowed to register for a maximum of 6 credits

and full time students for 9 credits during the subject registration period. Students willing to take more credits are required to register for additional subjects during the add/drop period. To help the Department better estimate the demand for subjects, students are required to participate in the pre-trial registration exercise if applicable. The details of which will be announced to all students via the departmental email account.

In particular, students will not be allowed to take zero subject in any semester unless they have obtained prior approval from the Department before the start of semester; otherwise they will be classified as having unofficially withdrawn from their study. Any semester in which the students are allowed to take zero subject will nevertheless be counted towards the maximum period of registration.

#### **2.6.4 Deferment of Study**

Deferment of study is applicable to those who have a genuine need with substantiation to extend the maximum period of registration due to, e.g., illness, family problem, etc. Approval from the Department is required. The deferment period will not be counted as part of the maximum period of registration.

#### **2.6.5 Progression**

A student progresses by credit accumulation. A student will have 'progressing' status unless he falls within any one of the following categories, which may be regarded as grounds for deregistration from the programme:

- (i) the student has exceeded the maximum period of registration, programme as specified in the definitive programme document; or
- (ii) the student's GPA is lower than 2.0 for two consecutive semesters (excluding summer term\*) and his Semester GPA in the second semester is also lower than 2.0; or
- (iii) the student's GPA is lower than 2.0 for three consecutive semesters (excluding summer term\*)

\* The progression of students to the following academic year will not be affected by the GPA obtained in Summer Term.

A student may be de-registered from the programme enrolled before the time frame specified in (ii) or (iii) above if his academic performance is poor to the extent that the Board of Examiners considers that there is not much of a chance for him to attain a GPA of 2.0 at the end of the programme.

When a student has a Grade Point Average (GPA) lower than 2.0, he will be put on academic probation in the following semester. Once when a student is able to pull his GPA up to 2.0 or above at the end of the semester, the status of "academic probation" will be lifted. The status of "academic probation" will be reflected in the examination result notification but not in transcript of studies.

#### **2.6.6 Eligibility for Award**

A student would be eligible for award if he satisfies all the conditions listed below:

- (i) Accumulation of the requisite number of credits for the particular award, as defined in the definitive programme document; and

- (ii) Satisfying the residential requirement for at least 1/3 of the credits to be completed for the award he is currently enrolled, unless the professional bodies stipulate otherwise; and
- (iii) Satisfying all the 'compulsory' and 'elective' requirements as defined in the definitive programme document; and
- (iv) Having a Grade Point Average (GPA) of 2.0 or above at the end of the programme. (See Note)
- (v) Satisfying other requirements as stipulated in the definitive programme document e.g. Work-integrated experience, co-curricular activities, and other language requirements (if applicable).

## **2.7 Recording of disciplinary actions in students' records**

- (i) With effect from Semester One of 2015/16, disciplinary actions against students' misconducts will be recorded in students' records.
- (ii) Students who are found guilty of academic dishonesty will be subject to the penalty of having the subject result concerned disqualified and be given a failure grade with a remark denoting 'Disqualification of result due to academic dishonesty'. The remark will be shown in the students' record as well as the assessment result notification and transcript of studies, until their leaving the University.
- (iii) Students who have committed disciplinary offences (covering both academic and non-academic related matters) will be put on 'disciplinary probation'. The status of 'disciplinary probation' will be shown in the students' record as well as the assessment result notification, transcript of studies and testimonial during the probation period, which is normally one year unless otherwise decided by the Student Discipline Committee.

## **2.8 Credit Transfer**

You may apply for credit transfer for your previous study at postgraduate level. The subjects to be transferred should attain a normal performance grade (i.e. a minimum of grade B is expected).

The validity period of subject credits earned is 8 years from the year of attainment, i.e. the year in which the subject is completed, unless otherwise specified by the department responsible for the contents of the subject (e.g. if the credit was earned in 1998/99, then the validity period should count from 1999 for eight years). Credits earned from previous studies should remain valid at the time when the student applies for credit transfer.

Students can transfer a maximum of 50% of the total award requirement. They are allowed to transfer other Master level non-Computing subjects as electives up to 20% of the total award requirement (also counted towards the 50% upper limit for total credits to be transferred). This is subject to approval of the Programme Leader.

If the previous postgraduate subject was from PolyU and bear the same subject code, the credit transfer once approved will carry the grade. For previous study not with PolyU, the

grade of transferred subject will not be counted towards GPA calculation. The final discretion will be with the Programme leader.

## **2.9 Changing Programme of Study within the Scheme**

If students wish to change the award/stream within the same mode of study for which they are registered they should seek the approval of the Scheme Leader. If approved, students are reminded that all subject grades will be counted towards the GPA, and only subjects contributing to the final award will be counted towards the Award GPA.

## **3.0 Placement / Internship Opportunities**

They will be subject to availability and completion of at least 40% of total credit requirement at GPA 2.5 or above. Supervision by an academic staff will be required for placement/internship's approval.



## **Part 3: Programme Management, Resource and Support**

### **3.1 Programme Operation and Management**

#### **3.1.1 Departmental Programme Committee**

The Department of Computing will be the host department responsible for the administration of the Scheme and the overall operation and management.

The Programme Committee will be responsible for the academic standards, content, delivery and assessment of all awards within its purview.

#### **3.1.2 Departmental Teaching and Learning Committee**

The Committee will be overseeing the operation and administration of all the awards hosted by the Department of Computing. Its main duties are:

- To promote quality learning and teaching in the department, particularly at the classroom level, and at the teacher-student interface;
- To keep under review the quality of learning and teaching in the department;
- To develop strategies and guidelines relating to the enhancement of learning and teaching quality in the department;
- To evaluate and prioritize proposals from departmental staff on learning and teaching development projects - for funding by the LTC and other relevant agencies; and
- To monitor progress of learning and teaching development projects carried out in the department.

### **3.2 Communication Channels**

#### **Departmental Announcements**

All departmental announcements will be made through your COMP email account. You are expected to check your account on a regular basis and delete unwanted emails. For enquires about email account, please contact the Technical Team at 2766-7257.

#### **Class-related Matters**

Your subject lecturer should be in contact with you through emails, Blackboard or other means specified in class.

For other enquiries related to your programme, please contact:

General Office

Telephone: 2766-7317 /2766-7300

Fax: 2774-0842

Email: [enquiry@comp.polyu.edu.hk](mailto:enquiry@comp.polyu.edu.hk)

### **3.3 Notes for MSc Students**

In order to protect the privacy and identification in communication between yourself and the department, students are expected to observe the following practice and requirements:

1. We do not entertain third party questions, i.e. you cannot make enquiry or request in the name of other without proof of authorization (email authorization is required)
2. For telephone enquiry: please identify your name, student number and programme of study (confirmation of personal details is required)
3. For email enquiry: please make use of your PolyU account. You are also advised to state your full name, student number and programme of study for a prompt response.

Please be reminded that related announcement and notice will be sent to your PolyU account directly. Therefore, you are advised to check the PolyU account regularly. You may also make arrangements to forward the emails to your other email address for convenience, if necessary.

#### **Part 4: Subject Syllabi**

The department reserves the right to revise and update the syllabi whenever appropriate and deem necessary. Course availability is subject to resources and quota limitation at the time.

Individual subject syllabus could be view at <http://www.comp.polyu.edu.hk/en-us/current-students/programme-documents-and-subject-syllabus>.