Definitive Programme Document for

Postgraduate Scheme

in

Computing

Programme Code: 61030

September 2018

This Definitive Programme Document is applicable to students admitted in 2018/19

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

1.1.1 Programme Title : Postgraduate Scheme in Computing

1.1.2 Programme Code : 61030

1.1.3 Host Department : Department of Computing

1.1.4 Programme Structure : Credit-based

1.1.5 Credit Requirements : 30

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

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

* MSc/PgD (Master of Science/ Postgraduate Diploma)
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 suit the needs of students from different background and in different modes of learning. It provides the knowledge, support and guidance to students to continue lifelong 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 strengthen students’ awareness of the ethical and social issues, who will be able to continue personal development and progress facing 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 business and 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 programme aims to provide computing professionals with Computer Science or Information Technology academic background to pursue in-depth studies in software technologies. The programme 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 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; and
- To develop the ability to appreciate and to apply acquired knowledge in software technology.

1.2.2 MSc/PgD in Information Technology

This programme serves as a bridging graduate programme for professionals from Science and Engineering disciplines that may not be necessarily from Computing. The programme is designed and structured to help students to build up a strong foundation in core IT concepts. The knowledge acquired is further strengthened by allowing students to put into practice through solving IT problems and projects. The specific objectives are:

- To study the areas in information technology relevant to the student's current profession or a profession he intends to engage in;
- To update a student's knowledge in a particular information technology discipline; and
- To provide an in-depth analytical study of an IT discipline already introduced at undergraduate level.
1.2.3 MSc/PgD in Information Systems

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

- To identify appropriate IT driven opportunities and incorporate these into the enterprise strategic thinking;
- To develop a framework 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 with a particular emphasis on the management of change in IS and IT;
- To evaluate IS/IT applications, their development and implementation;
- To manage quality issues in information systems planning, development and implementation; and
- 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 programme aims to educate both technical personnel as well as managers and business executives in enterprises. As E-Commerce generally involves the integration of technology and business 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 E-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 business management aspect, it allows students to understand the opportunities offered by E-Commerce and the business and management issues involved in employing and managing E-Commerce systems. The specific objectives are:

- To develop a good understanding of E-Commerce fundamentals particularly the enabling technologies;
- To understand and appraise tools like E-Commerce platforms, HTTP servers, secure transaction software and firewalls, database systems, heterogeneous networks, intelligent agents, etc.;
- 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; and
- To develop the ability to construct a variety of E-Commerce systems for buying and selling products and services, and managing vendor relations.
1.2.5 University Mission

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; and
C. To support a University community in which all members can excel through education and scholarship.

1.2.6 Institutional Learning Outcomes (ILOs) and COMP’s Specific Learning Outcome

1.2.6.1 The institutional learning outcomes of taught postgraduate programmes consist of:

i. 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.

ii. 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.

iii. 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.

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

iv. Computer Ethics and Responsibilities: Graduates of the Scheme will have critical understanding of ethical problems and issues related to computing profession, technology governance and social responsibilities.

1.2.7 Intended Programme Learning Outcomes (IPOs)

As the Postgraduate Scheme in Computing consists of four programme aims for students of different background and educational needs, including those who are fresh graduates or executives 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 the 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 the ability to conduct in-depth study, research, and apply current and emerging technologies (A/B).

3. Demonstrate the 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).

### Correlation between IPOs and ILOs:

<table>
<thead>
<tr>
<th>IPOs</th>
<th>ILOs</th>
<th>COMP’s Specific Learning Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>2</td>
<td>X</td>
<td>X</td>
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<tr>
<td>3</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>5</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### Correlation between IPOs and University Mission:

<table>
<thead>
<tr>
<th>IPOs</th>
<th>University Mission</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>1</td>
<td>X</td>
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<tr>
<td>2</td>
<td>X</td>
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<td>3</td>
<td>X</td>
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<tr>
<td>4</td>
<td>X</td>
</tr>
<tr>
<td>5</td>
<td>X</td>
</tr>
</tbody>
</table>

### 1.3 Entrance Requirements

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 suit students from different background. In general, Arts or Business students are best suited for MSc/PgD in Information Systems; Science (non-Computer Science) and Engineering 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 an added advantage for consideration.
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.
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.

<table>
<thead>
<tr>
<th>Awards</th>
<th>MSc With Dissertation</th>
<th>MSc With Project</th>
<th>MSc Without (Dissertation/Project)</th>
<th>PgD</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSc/PgD in Software Technology</td>
<td>3 core-1 subjects + 2 core-2 subjects + 2 electives* + dissertation</td>
<td>4 core-1 subjects + 2 core-2 subjects + 2 electives* + project</td>
<td>4 core-1 subjects + 2 core-2 subjects + 4 electives*</td>
<td>4 core-1 subjects + 2 electives*</td>
</tr>
<tr>
<td>MSc/PgD in Information Technology</td>
<td>2 fundamental subjects + 3 core subjects + 2 electives* + dissertation</td>
<td>2 fundamental subjects + 4 core subjects + 2 electives* + project</td>
<td>2 fundamental subjects + 4 core subjects + 4 electives*</td>
<td>2 fundamental subjects + 2 core subjects + 2 electives*</td>
</tr>
<tr>
<td>MSc/PgD in Information Systems</td>
<td>5 core subjects + 2 electives* + dissertation</td>
<td>6 core subjects + 2 electives* + project</td>
<td>6 core subjects + 4 electives*</td>
<td>4 core subjects + 2 electives*</td>
</tr>
<tr>
<td>MSc/PgD in E-Commerce</td>
<td>3 core-1 subjects + 2 core-2 subjects + 2 electives* + dissertation</td>
<td>4 core-1 subjects + 2 core-2 subjects + 2 electives* + project</td>
<td>4 core-1 subjects + 2 core-2 subjects + 4 electives*</td>
<td>4 core-1 subjects + 2 electives*</td>
</tr>
</tbody>
</table>

* Students are allowed to take any Master level subjects within the Postgraduate Scheme in 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

<table>
<thead>
<tr>
<th>Awards</th>
<th>MSc</th>
<th>PgD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With Dissertation</td>
<td>With Project</td>
</tr>
<tr>
<td>MSc/PgD in Software Technology</td>
<td>3 core-1 subjects + 2 core-2 subjects + 2 electives + dissertation</td>
<td>4 core-1 subjects + 2 core-2 subjects + 2 electives + project</td>
</tr>
<tr>
<td>Credits requirement</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

#### Core (1) Subjects
- COMP5138 Services Science Management
- COMP5151 Advanced Database Systems
- COMP5212 Software Design and Architecture
- COMP5225 Software Evolution and Maintenance
- 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
- COMP5353 Internet Security: Principles and Practice
- COMP5434 Big Data Computing
- 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
- 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 within the Postgraduate Scheme in 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

<table>
<thead>
<tr>
<th>Awards</th>
<th>MSc</th>
<th>PgD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With Dissertation</td>
<td>With Project</td>
</tr>
<tr>
<td></td>
<td>2 fundamental subjects + 3 core subjects + 2 electives + dissertation</td>
<td>2 fundamental subjects + 4 core subjects + 2 electives + project</td>
</tr>
<tr>
<td>MSc/PgD in Information Technology</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

**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
- 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
- COMP5434 Big Data Computing
- COMP5511 Artificial Intelligence Concepts
- COMP5527 Mobile Computing and Data Management

**Elective Subjects**

Students are allowed to take any Master level subjects within the Postgraduate Scheme in 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

<table>
<thead>
<tr>
<th>Awards</th>
<th>MSc</th>
<th>PgD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With Dissertation</td>
<td>With Project</td>
</tr>
<tr>
<td>MSc/PgD in Information Systems</td>
<td>5 core subjects + 2 electives + dissertation</td>
<td>6 core subjects + 2 electives + project</td>
</tr>
<tr>
<td>Credits requirement</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

### 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 within the Postgraduate Scheme in 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

<table>
<thead>
<tr>
<th>Awards</th>
<th>MSc</th>
<th>PgD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With Dissertation</td>
<td>Without (Dissertation/Project)</td>
</tr>
<tr>
<td>MSc/PgD in E-Commerce</td>
<td>3 core-1 subjects + 2 core-2 subjects + 2 electives + dissertation</td>
<td>4 core-1 subjects + 2 core-2 subjects + 2 electives + project</td>
</tr>
<tr>
<td>Credits requirement</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

**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
- COMP5434 Big Data Computing

**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
- COMP5536 Knowledge Management and Applications
- MM534 Entrepreneurship
- AF5506 Legal Aspects of Electronic Commerce

**Elective Subjects**

Students are allowed to take any Master level subjects within the Postgraduate Scheme in 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 requirements (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
- COMP5434 Big Data Computing
- 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
- 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/TeachingLearning/DISP](https://intranet.comp.polyu.edu.hk/TeachingLearning/DISP)

Core subjects: core
Fundamental subjects: F
Elective subjects: blank

<table>
<thead>
<tr>
<th>Subject</th>
<th>MSc/PgD ST</th>
<th>MSc/PgD IT</th>
<th>MSc/PgD IS</th>
<th>MSc/PgD EC</th>
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<tr>
<td>COMP5111 Database Systems and Management</td>
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<td>COMP5138 Services Science Management</td>
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<td>COMP5139 Management Information Systems</td>
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<td>COMP5151 Advanced Database Systems</td>
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<td>COMP5211 Software Engineering Concepts</td>
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<td>COMP5221 Software Project Management</td>
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<td>COMP5229 Enterprise Applications and Systems Management</td>
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<td>COMP5252 Extreme Programming and Agile Software Development</td>
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<td>COMP5311 Internet Infrastructure and Protocols</td>
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<td>COMP5323 Web Database Technologies and Applications</td>
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<td>COMP5324 Internet Information Retrieval</td>
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<td>COMP5325 Distributed Computing</td>
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<td>COMP5326 Wireless Computing Systems and Applications</td>
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<td>COMP5328 Data Center Fundamentals</td>
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<tr>
<td>COMP5434 Big Data Computing</td>
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<td>COMP5511 Artificial Intelligence Concepts</td>
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<tr>
<td>COMP5512 Information Technology and Logistics</td>
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<td>Subject</td>
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<td>COMP5514 Computer Image Generation and Applications</td>
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<td>COMP5522 Biometric Authentication: System and Application</td>
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### 2.3 Curriculum Mapping

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

<table>
<thead>
<tr>
<th>Subject</th>
<th>Programme Intended Learning Outcomes</th>
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<tr>
<td>COMP5111 Database Systems and Management</td>
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<td>COMP5121 Data Mining and Data Warehousing Applications</td>
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<td>COMP5122 E-Commerce Fundamentals and Development</td>
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<td>COMP5326 Wireless Computing Systems and</td>
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</table>
2.4 Study Load, Subject Registration & Programme Awards

2.4.1 Study Load

In each programme, the normal workload per semester is 6 credits for part time students and 12 credits for full time students. To help the Department better estimate the demand for subjects, students are required to participate in the subject preference survey if applicable. The details of which will be announced to all students via the departmental email account.

The maximum study load to be taken by a student in a semester is 21 credits, unless exceptional approval is given by the Head of the programme offering Department. For such cases, students should be reminded that the study load approved should not be taken as grounds for academic appeal.

To help improve the academic performance of students on academic probation, these students will be required to take a reduced study load in the following semester (summer term excluded). For COMP, the maximum number of credits to be taken by these students is 9 credits.

Students are not allowed to take zero subjects in any semester, excluding the summer term, unless they have obtained prior approval from the programme offering Department (before the start of semester); otherwise they will be classified as having unofficially withdrawn from their programme. Students who have been approved for zero subjects enrolment (i.e. taking zero subjects in a semester) are allowed to retain their student status and continue using campus facilities and library facilities. Any semester in which the students are allowed to take zero subjects will nevertheless be counted towards the maximum period of registration.

2.4.2 Subject Registration and Withdrawal

In addition to programme registration, students need to register for the subjects at specified periods prior to the commencement of the semester. An add/drop period will also be scheduled for each semester/term. Students may apply for withdrawal of their registration on a subject after the add/drop period, if they have a genuine need to do so. The application should be made to the relevant programme offering Department and will require the approval of both the subject lecturer and the host Department Programme Leader concerned (or an alternate academic staff authorised by the programme offering Department). Applications submitted after the commencement of the examination period will not be considered. For approved applications of subject withdrawal, the tuition fee paid for the subject will be forfeited and the withdrawal status of the subject will be shown in the assessment result notification and transcript of studies, but will not be counted in the calculation of the GPA.

The pre-requisite requirements of a subject must have been fulfilled before a student registers for that subject. However, the subject offering Department has the discretion to waive the pre-requisite requirements of a subject, if deemed appropriate. If the pre-requisite subject concerned forms part of the requirements for award, the subject has to be passed in order to satisfy the graduation requirements for the programme concerned, despite the waiving of the pre-requisite.

2.4.3 Credit Transfer

Students may be given credits for recognised 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 2008/2009, then the validity period should count from 2009 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 study was from PolyU and the subject are having the same name and code, the credit transfer once approved will carry the grade. For previous study from approved institutions outside the University, the grade of transferred subject will not be counted towards GPA calculation. The final discretion will be with the Programme leader.

All credit transfers approved will take effect only in the semester for which they are approved. A student who applies for transfer of credits during the re-enrolment or the add/drop period of a particular semester will only be eligible for graduation at the end of that semester, even if the granting of credit transfer will immediately enable the student to satisfy the credit requirement for the award.

For credit transfer of retaken subjects, the grade attained in the last attempt should be taken in the case of credit transfer with grade being carried over. Students applying for credit transfer for a subject taken in other institutions are required to declare that the subject grade used for claiming credit transfer was attained in the last attempt of the subject in their previous studies. If a student fails in the last attempt of a retaken subject, no credit transfer should be granted, despite the fact that the student may have attained a pass grade for the subject in the earlier attempts.

Students should not be granted credit transfer for a subject which they have attempted and failed in their current study.

### 2.4.4 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 towards the maximum period of registration.

Where the period of deferment of study begins during a stage for which fees have been paid, no refund of such fees will be made.

Students who have been approved for deferment are not entitled to enjoy any campus facilities during the deferment period.

### 2.4.5 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, all subject grades obtained will be counted towards the GPA, while only subjects contributing to the final award will be counted towards the Award GPA.

2.4.6 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).

A student is required to graduate as soon as he satisfies all the above conditions for award.

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 **General Assessment Regulations (GAR)**

Academic regulations for assessment, progression, de-registration, re-assessment, subject retake, grading, award classification, subject registration, study deferment, subject exemption, and credit transfer, etc. are published in the University’s document: *Handbook on Academic Regulations and Procedures*.

For Postgraduate Scheme in Computing, 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 *Handbook on Academic Regulations and Procedures*.

### 2.6.1 Assessment of a Subject

Students’ performance in a subject shall be assessed by coursework and/or examinations and/or continuous assessment as depicted in individual subject syllabus. Coursework may include tests, assignments, projects, laboratory work, field exercises, presentations and other forms of classroom participation. Assessment grades shall be awarded on a criterion-referenced basis.

**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%-55% 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.

The grade conversion of assessment result is as specified in the General Assessment Regulations, according to the following table:

<table>
<thead>
<tr>
<th>Subject grade</th>
<th>Short description</th>
<th>Elaboration on subject grading description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>Exceptionally Outstanding</td>
<td>The student’s work is exceptionally outstanding. It exceeds the intended subject learning outcomes in all regards.</td>
</tr>
<tr>
<td>Subject grade</td>
<td>Short description</td>
<td>Elaboration on subject grading description</td>
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<tr>
<td>---------------</td>
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</tr>
<tr>
<td>A</td>
<td>Outstanding</td>
<td>The student’s work is outstanding. It exceeds the intended subject learning outcomes in nearly all regards.</td>
</tr>
<tr>
<td>B+</td>
<td>Very Good</td>
<td>The student’s work is very good. It exceeds the intended subject learning outcomes in most regards.</td>
</tr>
<tr>
<td>B</td>
<td>Good</td>
<td>The student’s work is good. It exceeds the intended subject learning outcomes in some regards.</td>
</tr>
<tr>
<td>C+</td>
<td>Wholly Satisfactory</td>
<td>The student’s work is wholly satisfactory. It fully meets all the intended subject learning outcomes.</td>
</tr>
<tr>
<td>C</td>
<td>Satisfactory</td>
<td>The student’s work is satisfactory. It largely meets the intended subject learning outcomes.</td>
</tr>
<tr>
<td>D+</td>
<td>Barely Satisfactory</td>
<td>The student’s work is barely satisfactory. It marginally meets the intended subject learning outcomes.</td>
</tr>
<tr>
<td>D</td>
<td>Barely Adequate</td>
<td>The student’s work is barely adequate. It meets the intended subject learning outcomes only in some regards.</td>
</tr>
<tr>
<td>F</td>
<td>Inadequate</td>
<td>The student’s work is inadequate. It fails to meet many of the intended subject learning outcomes.</td>
</tr>
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</table>

“F” is a subject failure grade, whilst all others (“D” to “A+”) are subject passing grades. No credit will be earned if a subject is failed.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Point</th>
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<td>0</td>
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</tbody>
</table>

A numeral grade point is assigned to each subject grade for the purpose of computation of the GPA. In the event that grade is awarded to subject components, a grade point with the decimal value may be generated for the overall result of the subject. This decimal-valued grade point will be converted to a letter grade. The corresponding grade point for the subject overall grade, instead of the actual grade points obtained by students, will be used for GPA calculation. This methodology for deriving subject overall grades only serves as an aid to subject assessors. As assessment should be a matter of judgement, not merely a result of computation, the subject lecturer will have the discretion to assign a grade which is considered to reflect more appropriately the overall performance of the student in a subject to override the grade derived by the computer. As students are to be evaluated in a holistic manner, the Department does not require students to pass both continuous assessment and examination components in order to pass a subject.

As mentioned above, all assessment grades proposed by subject lecturers must be endorsed by the respective Subject Assessment Review Panel for subjects offered by individual departments.
2.6.2 Retaking of Subjects

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.

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.)

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.

A student may choose to take another elective subject instead of retaking an elective subject that he has failed.

2.6.3 GPA Calculations

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

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

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

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 but without any grade assigned
(v) Subjects from which a student has been allowed to withdraw (i.e. those with the code ‘W’)

Subject which has been given an “S” 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.
2.6.4 Progression/Academic Probation/Deregistration

The Board of Examiners (BoE) shall, at the end of each semester (except for Summer Term unless there are students who are eligible to graduate after completion of Summer Term subjects), determine whether each student is:

(a) eligible for progression towards an award; or
(b) eligible for an award; or
(c) required to be deregistered from 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. If a student is able to pull his GPA up to 2.0 or above in the following 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 the transcript of studies.

A student will have ‘progressing’ status unless he falls within the following categories, either of which may be regarded as grounds for deregistration from the programme:

(1) the student has exceeded the maximum period of registration for that programme, as specified in the definitive programme document; or
(2) the student’s GPA is lower than 2.0 for two consecutive semesters and his Semester GPA in the second semester is also lower than 2.0; or
(3) the student’s GPA is lower than 2.0 for three consecutive semesters.

When a student falls within the categories as stipulated above, the Board of Examiners shall de-register the student from the programme without exception.

For the Postgraduate Scheme in Computing, Summer Term is not mandatory. Thus, the progression of students to the following academic year will not be affected by the GPA obtained in the Summer Term.

A student may be deregistered from the programme enrolled before the time frame specified in the above conditions (2) or (3) if his academic performance is so poor to the extent that the Board of Examiners (BoE) deems that his chance of attaining a GPA of 2.0 at the end of the programme is slim or impossible.

If the student is not satisfied with the de-registration decision of the Board of Examiners, he can lodge an appeal. All such appeal cases will be referred directly to Academic Appeals Committee (AAC) for final decision. Views of Faculties/Schools/Departments will be sought and made available to AAC for reference.

2.6.5 Classification of Awards

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/she 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:

<table>
<thead>
<tr>
<th>Honours</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distinction</td>
<td>The student’s performance/attainment is outstanding, and identifies him as exceptionally able in the field covered by the programme in question.</td>
</tr>
<tr>
<td>Credit</td>
<td>The student has reached a standard of performance/attainment which is more than satisfactory but less than outstanding.</td>
</tr>
<tr>
<td>Pass</td>
<td>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.</td>
</tr>
</tbody>
</table>

Students who have committed academic dishonesty will be subject to the penalty of the lowering of award classification by one level. As an example, for undergraduate students who should be award a Third class Honours degree, they will be downgraded to a Pass-without-Honours. The minimum of downgraded overall result will be kept at a pass. In rare circumstances where both the Student Discipline Committee and Board of Examiners of a Department consider that there are strong justifications showing the offence be less serious, the requirement for lowering the award classification can be waived.

There is no automatic link between the weighted GPA and the award classification; for instance, a weighted GPA of 3.7 does not automatically mean graduation with First Class Honours, as the decision for award classification is made by the Board of Examiners.

2.6.6 Exceptional Circumstances

Absence from an assessment component

If a student is unable to complete all the assessment components of a subject due to illness or other circumstances which are beyond his/her control, and considered by the Subject Assessment Review Panel (SARP) as legitimate, the Panel will determine whether the student will have to complete the assessment and, if so, by what means. This assessment shall take place before the commencement of the following academic year.

The student concerned is required to submit his application for late assessment in writing to the Head of Department offering the subject, within five working days from the date of the examination, together with any supporting documents. Approval of applications for late assessment and the means for such late assessments shall be given by the SARP.

Assessment to be completed

For cases where students fail marginally in one of the components within a subject, the BoE can defer making a final decision until the students concerned have completed the necessary remedial work to the satisfaction of the subject examiner(s). The remedial work must not take the form of re-examination.

Aegrotat award
If a student is unable to complete the requirements of the programme for the award due to very serious illness, or other very special circumstances which are beyond his control, and considered by the Board of Examiners (BoE) as legitimate, the Faculty Board will determine whether the student will be granted an aegrotat award. An aegrotat award is normally granted only under very exceptional circumstances.

A student who has been offered an aegrotat award shall have the right to opt either to accept such an award, or request to be assessed on another occasion to be stipulated by the BoE. The student’s exercise of this option shall be irrevocable. The acceptance of an aegrotat award by a student shall disqualify him/her from any subsequent assessment for the same award.

An aegrotat award shall normally not be classified, and the award parchment shall not state that it is an aegrotat award. However, the BoE may determine whether the award should be classified provided that they have adequate information on the students’ academic performance.

Other particular circumstances

A student’s particular circumstances may influence the procedures for assessment but not the standard of performance expected in assessment.

2.6.7 Plagiarism

All students should read the session on “Plagiarism and Bibliographic Referencing” which is provided in the Student Handbook. The use of the turnitin plagiarism detection system to deter plagiarism is strongly encouraged by the University and is adopted in a number of subjects.

Students should also refer to the following departmental policy on plagiarism:

**First offence**: zero marks on the plagiarised assignment/ continuous assessment for both the copycat and the one who offers to be copied and deduct additional marks that carries the same weight as the assessed component. For example, if a student is caught plagiarising on a written assignment which contribute to 20% of the total grade, both the copycat and the one who offers his assignment to be copied will receive zero marks for 40% (i.e. 20% X 2) of the grade. For serious first offences, the instructor has the discretion to impose the penalty for serious or repeated offences.

**For serious or repeated offences**: the case will be submitted to the Student Discipline Committee and the final decision will be made by the Committee.

2.6.8 Recording of Disciplinary Actions in Students’ Records

With effect from Semester One of 2015/16, disciplinary actions against students’ misconducts will be recorded in students’ records.

Students who are found guilty of academic dishonesty will be subject to the penalty of having the concerned subject result 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.
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, until their leaving the University. The disciplinary probation which is normally one year unless otherwise decided by the Student Discipline Committee.

The University reserves the right to withhold the issuance of any certificate of study to a student who has unsettled matters with the University, or subject to disciplinary action.

2.7 Other Information

2.7.1 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.

2.7.2 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

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 Learning and Teaching 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 DLTC and other relevant agencies.
- 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 enquiries about email account, please contact the Technical Team at 2766-4343.

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: comp.pg@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: Computing Facilities

The Department attaches importance to the practical work of students. Academic programmes and research activities are well supported with a wide range of computing facilities available in the departmental Computing Laboratories (located at 5/F and 6/F of PQ Wing, and 5/F of P Wing) and the University’s Information Technology Services Office (ITS) via the departmental Local Area Network (LAN).

The departmental LAN consists mainly of 10Gbps Ethernet segments interconnected together using the state-of-art network switches, which are provided and maintained by the University. The departmental LAN is also connected to The Hong Kong Polytechnic University campus Gigabit Network and then to the Internet. The Internet connection is used for web access, electronic mail, internet news, remote logins, file transfers, and other forms of interaction with the world-wide computing community.

A wide variety of computing hardware and software is available to support teaching.

4.1 Computing Hardware

- 9 sets of Dell PowerEdge R620 Servers
- 6 sets of HP Proliant DL360 G7 Servers
- 2 sets of HP Proliant DL360 G6 Servers
- 2 sets of HP Proliant DL360 G5 Servers
- 1 set of HP Proliant DL380 G4 Server
- 23 sets of IBM X3550 Servers
- 400 sets of Intel i7 PCs with 16GB memory
- 45 sets of Intel i7 PCs with 32GB memory
- 70 sets of Intel i7 PCs with 32GB memory and Nvidia GeForce 1080 GPU card
- 25 sets of Intel i9 PCs with 64GB memory and Nvidia GeForce 1080Ti GPU card
- 7 sets of Xerox Multifunction Machines (Print/Copy/Scan)
- 3 sets of Xerox Colour Multifunction Machines (Print/Copy/Scan)

4.2 Computing Software

- Data mining and warehousing tool
  - SAS Enterprise Data Miner and Text Miner
  - SPSS Data Mining (PASW)
- Database management system
  - Oracle
  - Microsoft SQL Server
  - MySQL Server
- Distributed computing software
  - MPI
  - Hadoop
- Graphics and Game Development tools
  - Unity
  - 3D Studio Max
  - Microsoft Visio
- Office software
  - Microsoft Office
- Operation system software
  - Microsoft Window 10/7
  - Microsoft Window 2012/2016 server
- SuSe Linux
- Ubuntu Linux
- CentOS Linux

- Programming language
  - Java
  - Microsoft Visual Studio.Net
  - Python

- Simulation packages
  - CSIM
  - FlexSim

- Software Engineering / Project Management packages
  - Microsoft Project

- Statistical and Mathematical analysis tools
  - Matlab
  - SAS
  - SPSS

- Web Development
  - Adobe Creative Suite
  - Microsoft Expression
  - Apache/Tomcat

While some of the above mentioned computing facilities are located in the offices of academic staff and research staff, most of them are located in the departmental Computing Laboratories as depicted below:

4.3 Computing Laboratories

- Creative Computing Co-working (C3) Space
  - is located on 6/F of PQ Wing;
  - provides the Mac OS/X computing environment;
  - serves as an instruction laboratory with overhead LCD projectors during some class hours;
  - serves as an ideal location for i-Application development;
  - is supported by a total of 30 sets of 21.5-inch Apple iMac computers.

- PC Laboratories (4 rooms)
  - are located on 6/F of PQ Wing;
  - provide the facilities for basic and advanced programming on the Window environment for all students in the Department;
  - serve as an instruction laboratory with overhead LCD projectors during some class hours;
  - are supported by a total of 70 sets of Intel i7 PCs with 32GB memory and Nvidia GeForce 1080 GPU, 35 sets of Intel i7 PCs with 32GB memory and 25 sets of Intel i9 PCs with Nvidia GeForce 1080Ti GPU card.

- Project Laboratory
  - is located on 5/F of P Wing;
  - is dedicated to the final year Undergraduate and Postgraduate students, who carry out their final year project implementations;
  - has Wireless Access points for notebook PC connections to the campus network;
  - is supported by 5 sets of Intel i7 PCs with 32GB memory.

- Student Laboratory (2 rooms)
- are located on both 6/F of PQ Wing and 5/F of P Wing;
- provides a general computing environment for student’s work;
- has Wireless Access points for user’s notebook PC connection to campus network;
- is supported by a total of 5 sets of Intel i7 PCs with 32GB memory and 4 sets of high speed laser printers.

- Embedded Computing Lab
- Integrated Computing Lab
- Virtual-reality and Game (V.G.) Lab
Part 5: Subject Syllabi

The department reserves the rights to revise and update the following syllabi whenever appropriate and deems necessary.