



香港城市大學  
City University of Hong Kong

專業 創新 胸懷全球  
Professional · Creative  
For The World

# MSCS

# MASTER OF SCIENCE IN COMPUTER SCIENCE

Department of Computer Science

**PROGRAMME CODE: P53**

Early application is strongly encouraged. Applications normally start in mid-November and are processed on a rolling basis. Review of applications will start before the deadline and finish as soon as all places are filled.

For application deadline, tuition fees and other information, refer to the following Website.

<http://www.sgs.cityu.edu.hk/programme/P53>

**Department of Computer Science**

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**Fax** 852-3442-0503  
**Email** csadm@cityu.edu.hk  
**Website** <http://www.cs.cityu.edu.hk>

**Chow Yei Ching School of Graduate Studies**

**Tel** 852-3442-5588  
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**Website** <http://www.cityu.edu.hk/sgs>



# MASTER OF SCIENCE IN COMPUTER SCIENCE

## PROGRAMME AIMS

The programme aims to enable computer professionals to effectively and systematically strengthen and upgrade their technical capabilities in meeting increasing demands in computer software systems and services development.

The programme also aims to broaden the students' knowledge and deepen their understanding of key issues of specific application domains and areas in computer science, including data science, e-Commerce, information security, mobile, multimedia, and other related contemporary technologies.

The programme also prepares graduates to take up advanced innovative development work in the industry as well as to pursue higher research degree qualifications.

Upon completion of the programme, students should be able to apply the acquired theories and techniques to various technical aspects of computer systems and services development. The programme provides great flexibility through extensive choices of electives to respond to rapidly changing industry needs as well as students' interests.

## ENTRANCE REQUIREMENTS

To be eligible for admission, you must have:



A recognised bachelor's degree in a computing discipline such as

- Computer Studies
- Information Technology
- Computer Engineering
- Information Systems

OR



A recognised bachelor's degree in a related discipline such as

- Electronic Engineering
- Applied Mathematics
- Manufacturing Engineering
- Quantitative Analysis

together with applicable working experience in information technology

Applicants whose entrance qualification is obtained from an institution where the medium of instruction is not English should also fulfill at least one of the following minimum English proficiency requirements

### ✓ TOEFL

A score of **550** (paper-based test), or **213** (computer-based test), or **79** (Internet-based test); OR

### ✓ IELTS

An overall band **6.5** in International English Language Testing System; OR

### ✓ CET6

A score of **450** in the new College English Test of Chinese mainland, or a pass in the old CET-6 test; OR

### ✓ Other equivalent qualifications

For more details, please refer to <http://www.cs.cityu.edu.hk/academic/mscs>

## Postgraduate Diploma in Computer Science

The Postgraduate Diploma in Computer Science (PGDCS) is an intermediate award which a student may obtain after the completion of 24 credit units (including all required courses and at least 3 credit units of elective courses in Group I) with satisfactory results if the student decides not to continue with the Master of Science in Computer Science Programme.

## Student Loan

Successful local applicants are eligible to apply for the Government's Non-means-tested Loan Scheme.

Application forms are obtainable from each District Office and the Student Finance Office of the Hong Kong Government.

Enquiries  
2150 6223

Website  
<http://www.wfsfaa.gov.hk/sfo>

## Continuing Education Fund

Local students (Hong Kong adult residents) may apply for Continuing Education Fund (CEF) for courses that are approved.

Eligible applicants will be reimbursed 80% of the course fee, subject to a maximum sum of HK\$10,000, on successful completion of the course.

Enquiries  
3142 2777

Website  
<http://www.wfsfaa.gov.hk/cef>

## CURRICULUM

To be awarded the Master of Science in Computer Science degree, a student must acquire a minimum of **30 credit units**, composed of:

**9** credit units from required courses **21** credit units from elective courses\*

\*at least 3 credit units from those in Group I

Up to 9 credit units can be transferred based on the student's previous study.

The list of elective courses is divided into two groups: Group I and Group II.

Each course is worth 3 credit units except CS6520 Project which is worth 6 credit units.

The courses have been included in the list of reimbursable courses for Continuing Education Fund purposes.

Note: Courses offered in each semester are subject to actual student enrolment, staff availability and other considerations.

Through suitable choices of elective courses, students may concentrate on a study stream based on their interests:

### Data Science Stream or Information Security Stream

Alternatively, students may also freely choose any elective courses without concentration on any stream.

Data Science Stream	Information Security Stream
Stream Core (choose all two courses)	
<ul style="list-style-type: none"> <li>· Big Data Algorithms and Techniques</li> <li>· Data Warehousing and Data Mining</li> </ul>	<ul style="list-style-type: none"> <li>· Information Security for eCommerce</li> <li>· Information Security Technology Management</li> </ul>
Stream Elective (choose at least one)	
<ul style="list-style-type: none"> <li>· Algorithms &amp; Techniques for Web Searching</li> <li>· Cloud Computing: Theory and Practice</li> <li>· Guided Study*</li> <li>· Machine Learning</li> </ul>	<ul style="list-style-type: none"> <li>· Cryptography: Theory and Practice</li> <li>· Guided Study*</li> <li>· Privacy-enhancing Technologies</li> <li>· Topics on Information Security</li> </ul>

\* Guided Study is both a Data Science Stream Elective and an Information Security Stream Elective

### Required Courses (9 credit units)

Computer Networks and Internets  
Software Engineering  
Data Engineering

### Group I Electives (at least 3 credit units)

Algorithms & Techniques for Web Searching  
Computer Games Design  
Guided Study  
Machine Learning  
Mobile Computing  
Privacy-enhancing Technologies  
Project (6 credit units)  
Topics in Machine Learning  
Topics on Information Security  
Vision and Language

### Group II Electives

Big Data Algorithms and Techniques  
Cloud Computing: Theory and Practice  
Computer Graphics  
Cryptography: Theory and Practice  
Data Warehousing and Data Mining  
Distributed Systems  
High Speed Multimedia Networks  
Information Security for eCommerce  
Information Security Technology Management  
Intelligent Systems  
Introduction to eCommerce  
Multimedia Technologies and Applications  
Practical Optimization Algorithms and Techniques  
Software Quality Engineering  
Virtual Reality and Game-Engine Technologies  
Vision and Image