

**(Study Scheme - English)**

<b>Programme Title</b> Computer Science and Engineering	
<b>Study Scheme</b>  <p style="text-align: center;"><b>Applicable to students admitted in 2016-17, 2017-18 and 2018-19</b></p> <b>Major Programme Requirement</b>  Students are required to complete a minimum of 72 units of courses as follows:	
	Units
1. School Package: BIO2001, CHM1001, CSC1001,1002, MAT1001/1003, 1002/1004, 2040, PHY1001, STA2001	25
2. Required Courses: CSC3001, 3002, 3050, 3100, 3150, 3170, 4001, 4005, EIE2050, PHY1002	29
3. Elective Courses:	
(a) Two courses selected from the following: CSC3180, 3185, 3200, 4008, 4020, 4120, 4150, 4160, 4170, 4180, 4190	6
(b) One course selected from the following: EIE3001, 3080, 4001, 4007, 4180, 4190	3
(c) One course selected from the following: DDA4250, MAT3007, 3220, PHY2001	3
(d) One course selected from the following: BME4005, DME3004, 3007, 4004, 4006, ECO2011, EIE3280, ERG3001, 3010, 4001	3
(e) One course selected from 3(a) to (d) <sup>[1]</sup>	3
<b>Total:</b>	<b>72</b>
Notes:	
[1] Except the courses already taken to fulfil requirements 3(a) to (d).	
[2] EIE2050, all CSC courses, and all elective courses will be included in the calculation of Major GPA for honours classification.	

(Study Scheme - Chinese)

<b>課程名稱</b> 計算機科學與技術	
<b>修讀辦法</b>  二〇一六至一七、二〇一七至一八及二〇一八至一九年度入學學生適用	
<b>主修課程要求</b>  學生須至少修畢以下科目共 72 學分：	
	學分
1. 學院課程： BIO2001, CHM1001, CSC1001, 1002, MAT1001/1003, 1002/1004, 2040, PHY1001, STA2001	25
2. 必修科目： CSC3001, 3002, 3050, 3100, 3150, 3170, 4001, 4005, EIE2050, PHY1002	29
3. 選修科目：	
(a) 從以下選修2科： CSC3180, 3185, 3200, 4008, 4020, 4120, 4150, 4160, 4170, 4180, 4190	6
(b) 從以下選修1科： EIE3001, 3080, 4001, 4007, 4180, 4190	3
(c) 從以下選修1科： DDA4250, MAT3007, 3220, PHY2001	3
(d) 從以下選修1科： BME4005, DME3004, 3007, 4004, 4006, ECO2011, EIE3280, ERG3001, 3010, 4001	3
(e) 從3(a)至(d)項的科目中選修一科 <sup>[1]</sup>	3
	<b>共: 72</b>
註： [1] 已用作符合3(a)至(d)項要求的科目除外。 [2] EIE2050，CSC全部科目以及全部專業選修科目將會計入主修科目之平均 績點，並用以釐定學位等級。	

## (Recommended Course Pattern - English)

Recommended Course Pattern

1. Sufficient units should be allowed in each term for students to fulfill the University Core Requirements, which include: (i) 3 units of Chinese; (ii) 12 units of English; (iii) 1 unit of IT; (iv) 18 units of General Education; and (v) 2 units of Physical Education and Health.
2. Programmes with different streams/concentrations are required to provide the recommended pattern for each stream/concentration.

<b>Major Programme Requirement of <u>Computer Science and Engineering</u></b>		
	<b>Recommended Course Pattern</b>	<b>Units</b>
<b>First Year of Attendance</b>	1 <sup>st</sup> term School Package: CHM1001, MAT1001/1003, PHY1001	9
	2 <sup>nd</sup> term School Package: CSC1001, 1002, MAT1002/1004, STA2001	10
<b>Second Year of Attendance</b>	1 <sup>st</sup> term School Package: MAT2040 Major Required: CSC3001, EIE2050, PHY1002	3 8
	2 <sup>nd</sup> term School Package: BIO2001 Major Required: CSC3002, 3050	3 6
<b>Third Year of Attendance</b>	1 <sup>st</sup> term Major Required: CSC3100, 3150 Major Elective(s): Any one elective course	6 3
	2 <sup>nd</sup> term Major Required: CSC3170, 4001 Major Elective(s): Any one elective course	6 3
<b>Fourth Year of Attendance</b>	1 <sup>st</sup> term Major Required: CSC4005 Major Elective(s): Any two elective courses	3 6
	2 <sup>nd</sup> term Major Elective(s): Any two elective courses	6
<b>Total (Major Requirement including School Package):</b>		<b>72</b>

## (Recommended Course Pattern – Chinese)

**修課推介**

1. 每學期均須預留足夠學分讓同學符合大學核心課程要求，包括: (一) 中文三學分；(二) 英文十二學分；(三) 信息科技一學分；(四) 通識教育十八學分及(五) 體育與健康兩學分。
2. 有不同專修範圍的課程須為每項專修範圍提供課推介。

<b>計算機科學與技術主修課程要求</b>		
	<b>修課推介</b>	<b>學分</b>
<b>第一修業學年</b>	第一學期 學院課程: CHM1001, MAT1001/1003, PHY1001	9
	第二學期 學院課程: CSC1001, 1002, MAT1002/1004, STA2001	10
<b>第二修業學年</b>	第一學期 學院課程: MAT2040 主修必修科目: CSC3001, EIE2050, PHY1002	3 8
	第二學期 學院課程: BIO2001 主修必修科目: CSC3002, 3050	3 6
<b>第三修業學年</b>	第一學期 主修必修科目: CSC 3100, 3150 主修選修科目: 任何一科選修科目	6 3
	第二學期 主修必修科目: CSC3170, 4001 主修選修科目: 任何一科選修科目	6 3
<b>第四修業學年</b>	第一學期 主修必修科目: CSC4005 主修選修科目: 任何兩科選修科目	3 6
	第二學期 主修選修科目: 任何兩科選修科目	6
<b>合共 (主修要求包括學院課程):</b>		<b>72</b>

## Course List

### I. School Package for the School of Science and Engineering

Course Code	Course Title (English)	Course Title (Chinese)	Unit(s)
BIO2001	General Biology	普通生物	3
CHM1001	General Chemistry	普通化學	3
CSC1001	Introduction to Computer Science: Programming Methodology	計算機科學導論：程序設計方法	3
CSC1002	Computational Laboratory	計算機實驗	1
Option A*	MAT1001	Calculus I	微積分（一）
	MAT1002	Calculus II	微積分（二）
Option B*	MAT1003	Mathematical Analysis I	數學分析（一）
	MAT1004	Mathematical Analysis II	數學分析（二）
MAT2040	Linear Algebra	線性代數	3
PHY1001	Mechanics	力學	3
STA2001	Probability and Statistics I	概率及統計（一）	3

\*Students must complete either Option A or Option B.

### II. Major Required Courses

Course Code	Course Title (English)	Course Title (Chinese)	Unit(s)
CSC3001	Discrete Mathematics	離散數學	3
CSC3002	Introduction to Computer Science: Programming Paradigms	計算機科學導論：程序設計範式	3
CSC3050	Computer Architecture	計算機體系結構	3
CSC3100	Data Structures	數據結構	3
CSC3150	Operating System	操作系統	3
CSC3170	Database System	數據庫系統	3
CSC4001	Software Engineering	軟件工程	3
CSC4005	Distributed and Parallel Computing	分佈式及並行式計算	3
EIE2050	Digital Logic and Systems	數字邏輯與系統	3
PHY1002	Physics Laboratory	物理實驗	2

### III. Major Elective Courses

Course Code	Course Title (English)	Course Title (Chinese)	Unit(s)
BME4005	Bioinformatics	生物信息學	3
CSC3180	Fundamentals of Artificial Intelligence	人工智能之基本原理	3
CSC3185	Introduction to Multimedia Systems	多媒體系統導論	3
CSC3200	Video Games Design and Development	電子遊戲設計與開發	3

CSC4008	Techniques for Data Mining	數據挖掘技術	3
CSC4020	Fundamentals of Machine Learning	機器學習之基礎課程	3
CSC4120	Design and Analysis of Algorithms	算法設計及分析	3
CSC4150	Mobile Computing and Applications Development	流動計算和應用開發	3
CSC4160	Cloud Computing	雲端計算	3
CSC4170	Social Networks	社交網絡	3
CSC4180	Compiler Construction	編譯器設計	3
CSC4190	Internet Programming and Applications	互联网编程与应用	3
DDA4250	Mathematical Introduction to Deep Learning	深度學習中的數學	3
DME3004	Aesthetic and Human Values in Engineering Product Design	工程產品設計審美與人類價值	3
DME3007	Simulation	仿真	3
DME4004	Production Planning and Project Management	生產策劃與項目管理	3
DME4006	Organizational Behaviour	組織行為學	3
ECO2011	Basic Microeconomics	基本個體經濟學	3
EIE3001	Signals and Systems	信號與系統	3
EIE3080	Microprocessors and Computer Systems	微處理與計算機系統	3
EIE3280	Networks: Technology, Economics and Society	网络: 技术、经济和社会	3
EIE4001	Introduction to Internet Engineering	網絡工程導論	3
EIE4007	Computer and Network Security	計算機及網絡安全	3
EIE4180	Network Software Design and Programming	網絡軟件之程序設計	3
EIE4190	Multimedia Coding and Processing	多媒體編碼和處理	3
ERG3001	Engineering Ethics, Safety and Practice	工程倫理、安全及實務	3
ERG3010	Data and Knowledge Management	數據與知識管理	3
ERG4001	Principles of Entrepreneurship	創業原則	3
MAT3007	Optimization	最優化	3
MAT3220*	Optimization II	最優化(二)	3
PHY2001	Electricity and Magnetism	電磁學	3

\* The course title of MAT3220 is Operations Research for students who study the courses in 2015, 2016 and 2017. For students who study MAT3220 from 2018-19 term 1, the course title is Optimization II.

在 2015, 2016 及 2017 學年修讀 MAT3220, 科目名稱為「運籌學」。在 2018 學年第一学期及以後修讀 MAT3220, 科目名稱為最優化(二)。