

(Study Scheme - English)

Programme Title

Electronic Information Engineering

Study Scheme

Applicable to students admitted in 2020-21 and 2021-22

Major Programme Requirement

Studies in Electronic Information Engineering are divided into TWO main streams and students are required to specialize in one of the streams:

- (1) Electronic Engineering; and
- (2) Computer Engineering

Electronic Engineering Stream

Students are required to complete a minimum of 72 units of courses as follows:

	Units
1. School Package: BIO1001, CHM1001, CSC1001, 1002, MAT1001, 1002, 2040, PHY1001, STA2001	25
2. Required Courses: CSC3100, EIE1810, 2001, 2050, 2810, 3001, 3050, 3080, 3810, ERG4901, MAT3007, PHY1002	29
3. Elective Courses:	
(a) 15 units of courses selected from the following: CSC3001, 3002, 3050, 3150, 3170, 3180, 4001, 4005, 4008, 4160, DDA3020, DME3006, ECE3060, 4010, 4011, 4016, 4050, 4102, 4103, 4152, 4300, 4310, 4513, 4520, EIE3201, 3202, 3280, 3510, 4002, 4003, 4004, 4005, 4006, 4007, 4020, 4180, 4190, 4213, 4214, 4512, ERG4902, FTE4312, MAT4006, 4007	15
(b) 3 units of course selected from the following: BIM3001, DME3004, 3007, 4004, 4006, ECO2011, ERG3001, 4001, MAT2002, 3350, 4220, PHY2001, 3002, 4002, 4003, STA4001	3
Total:	72

Computer Engineering Stream

Students are required to complete a minimum of 72 units of courses as follows:

	Units
1. School Package: BIO1001, CHM1001, CSC1001, 1002, MAT1001, 1002, 2040, PHY1001, STA2001	25
2. Required Courses: CSC3002, 3050, 3100, 3150, 3170, ECE4010, EIE2050, 2810, 3080, 3810, ERG4901	29
3. Elective Courses:	
(a) 15 units of courses selected from the following: CSC3001, 3185, 4001, 4005, 4008, 4120, 4140, 4150, 4160, 4170, 4180, 4190, DDA3020, DME3006, ECE3060, 3200, 4011, 4016, 4050, 4102, 4103, 4152, 4300, 4310, 4513, 4520, EIE3001, 3050, 3201, 3202, 3280, 3510, 4002, 4003, 4004, 4005, 4006, 4007, 4020, 4180, 4190, 4213, 4214, 4512, ERG4902, FTE4312, MAT4006, 4007	15
(b) 3 units of selected from the following: BIM3001, DME3004, 3007, 4004, 4006, ECO2011, ERG3001, 4001, MAT2002, 3007, 3350, 4220, PHY2001, 3002, 4002, 4003, STA4001	3
Total:	<hr/> 72

Notes:

- [a] All Major Required and Major Elective courses at 2000 level and above will be included in the calculation of Major GPA for honours classification.

(Study Scheme - Chinese)

課程名稱

電子信息工程

修讀辦法

二〇二〇至二一年度及二〇二一至二二年度入學學生適用

主修課程要求

本課程分設兩項專修範圍，學生須選修其中一項專修範圍：

- (1) 電子工程；及
- (2) 計算機工程。

電子工程專修範圍

學生須至少修畢以下科目共 72 學分：

1. 學院課程：

BIO1001, CHM1001, CSC1001, 1002, MAT1001, 1002, 2040, PHY1001, STA2001

學分

25

2. 必修科目：

CSC3100, EIE1810, 2001, 2050, 2810, 3001, 3050, 3080, 3810, ERG4901, MAT3007, PHY1002

29

3. 選修科目：

(a) 從以下選修 15 學分：

CSC3001, 3002, 3050, 3150, 3170, 3180, 4001, 4005, 4008, 4160, DDA3020, DME3006, ECE3060, 4010, 4011, 4016, 4050, 4102, 4103, 4152, 4300, 4310, 4513, 4520, EIE3201, 3202, 3280, 3510, 4002, 4003, 4004, 4005, 4006, 4007, 4020, 4180, 4190, 4213, 4214, 4512, ERG4902, FTE4312, MAT4006, 4007

15

(b) 從以下選修 3 學分：

BIM3001, DME3004, 3007, 4004, 4006, ECO2011, ERG3001, 4001, MAT2002, 3350, 4220, PHY2001, 3002, 4002, 4003, STA4001

3

共：

72

計算機工程專修範圍

學生須至少修畢以下科目共 72 學分：

	學分
1. 學院課程： BIO1001, CHM1001, CSC1001, 1002, MAT1001, 1002, 2040, PHY1001, STA2001	25
2. 必修科目： CSC3002, 3050, 3100, 3150, 3170, ECE4010, EIE2050, 2810, 3080, 3810, ERG4901	29
3. 選修科目：	
(a) 從以下選修15學分： CSC3001, 3185, 4001, 4005, 4008, 4120, 4140, 4150, 4160, 4170, 4180, 4190, DDA3020, DME3006, ECE3060, 3200, 4011, 4016, 4050, 4102, 4103, 4152, 4300, 4310, 4513, 4520, EIE3001, 3050, 3201, 3202, 3280, 3510, 4002, 4003, 4004, 4005, 4006, 4007, 4020, 4180, 4190, 4213, 4214, 4512, ERG4902, FTE4312, MAT4006, 4007	15
(b) 從以下選修 3 學分： BIM3001, DME3004, 3007, 4004, 4006, ECO2011, ERG3001, 4001, MAT2002, 3007, 3350, 4220, PHY2001, 3002, 4002, 4003, STA4001	3
共：	<hr style="width: 100px; margin-left: auto; margin-right: 0;"/> 72

註：

- [a] 所有 2000 及以上程度的主修必修和主修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.

Major Programme Requirement of <u>Electronic Information Engineering</u>		
	Recommended Course Pattern	Units
First Year of Attendance	1 st term School Package: CHM1001, CSC1001, MAT1001	9
	2 nd term School Package: CSC1002, MAT1002, PHY1001, STA2001	10
Second Year of Attendance	1 st term School Package: MAT2040 Major Required: CSC3002 ^[2] , 3100 ^[2] , EIE1810 ^[1] , 2001 ^[1] , PHY1002 ^[1]	3 6
	2 nd term School Package: BIO1001 Major Required: CSC3050 ^[2] , EIE2050, 2810, 3001 ^[1]	3 7
Third Year of Attendance	1 st term Major Required: CSC3150 ^[2] , EIE3050 ^[1] , 3080, 3810 Major Elective(s): Any one elective course	7 3
	2 nd term Major Required: ECE4010 ^[2] , MAT3007 ^[1] Major Elective(s): Any two elective courses	3 6
Fourth Year of Attendance	1 st term Major Required: CSC3100 ^[1] , 3170 ^[2] , ERG4901 Major Elective(s): Any one elective course	6 3
	2 nd term Major Elective(s): Any two elective courses	6
Total (Major Requirement including School Package):		72

Explanatory Notes:

[1] Applicable to Electronic Engineering Stream only.

[2] Applicable to Computer Engineering Stream only.

(Recommended Course Pattern – Chinese)

修課推介

- 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。
- 有不同專修範圍的課程須為每項專修範圍提供修課推介。

電子信息工程主修課程要求		
	修課推介	學分
第一修業學年	第一學期 學院課程: CHM1001, CSC1001, MAT1001	9
	第二學期 學院課程: CSC1002, MAT1002, PHY1001, STA2001	10
第二修業學年	第一學期 學院課程: MAT2040 主修必修科目: CSC3002 ^[2] , 3100 ^[2] , EIE1810 ^[1] , 2001 ^[1] , PHY1002 ^[1]	3 6
	第二學期 學院課程: BIO1001 主修必修科目: CSC3050 ^[2] , EIE2050, 2810, 3001 ^[1]	3 7
第三修業學年	第一學期 主修必修科目: CSC3150 ^[2] , EIE3050 ^[1] , 3080, 3810 主修選修科目: 一科選修科目	7 3
	第二學期 主修必修科目: ECE4010 ^[2] , MAT3007 ^[1] 主修選修科目: 兩科選修科目	3 6
第四修業學年	第一學期 主修必修科目: CSC3100 ^[1] , 3170 ^[2] , ERG4901 主修選修科目: 一科選修科目	6 3
	第二學期 主修選修科目: 兩科選修科目	6
合共 (主修要求包括學院課程):		72

註：

[1] 只適用於電子工程專修範圍。

[2] 只適用於計算機工程專修範圍。

Course List

I. School Package for the School of Science and Engineering

Course Code	Course Title (English)	Course Title (Chinese)	Unit(s)
BIO1001	General Biology	普通生物學	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
MAT1001	Calculus I	微積分（一）	3
MAT1002	Calculus II	微積分（二）	3
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

II. Major Required courses

Course Code	Course Title (English)	Course Title (Chinese)	Unit(s)
CSC3002*	C/C++ Programming	C/C++程序設計	3
CSC3050	Computer Architecture	計算機體系結構	3
CSC3100	Data Structures	數據結構	3
CSC3150	Operating Systems	操作系統	3
CSC3170	Database System	數據庫系統	3
ECE4010	Machine Intelligence and Applications	機器學習及應用	3
EIE1810	Electronic Circuit Design Laboratory	電子線路設計實驗	1
EIE2001	Basic Circuit Theory	基本電路理論	3
EIE2050	Digital Logic and Systems	數字邏輯與系統	3
EIE2810	Digital Systems Design Laboratory	數字系統設計實驗	1
EIE3001	Signals and Systems	信號與系統	3
EIE3050	Principles of Communication Systems	通信系統原理	3
EIE3080*	Introduction to Embedded Systems	嵌入式系統概論	3
EIE3810*	Embedded Systems Laboratory	嵌入式系統實驗	1
ERG4901*	Capstone Project I	畢業設計（一）	3
MAT3007	Optimization	最優化	3
PHY1002	Physics Laboratory	物理實驗	2

III. Major Elective courses

Course Code	Course Title (English)	Course Title (Chinese)	Unit(s)
BIM3001	Bioinformatics	生物信息學	3
CSC3001	Discrete Mathematics	離散數學	3
CSC3002*	C/C++ Programming	C/C++程序設計	3
CSC3050	Computer Architecture	計算機體系結構	3

CSC3150	Operating Systems	操作系統	3
CSC3170	Database System	數據庫系統	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
CSC4001	Software Engineering	軟件工程	3
CSC4005*	Parallel Programming	並行程序設計	3
CSC4008	Techniques for Data Mining	數據挖掘技術	3
CSC4120	Design and Analysis of Algorithms	算法設計及分析	3
CSC4140	Computer Graphics	計算機圖形學	3
CSC4150	Mobile Computing with Internet of Things	物聯網移動計算	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	互聯網編程與應用	3
DDA3020*	Machine Learning	機器學習	3
DME3004	Aesthetic and Human Values in Engineering Product Design	工程產品設計審美與人類價值	3
DME3006	Computer Aided Design	計算機輔助設計	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
ECE3060	Introduction to Robotics	機械人學概論	3
ECE3200	Video Games Design and Development	電子遊戲設計與開發	3
ECE4011	Robotics and Intelligent Systems	機械人與智能系統	3
ECE4016	Computer Networks	計算機網絡	3
ECE4050	Principles and Practices of Communication Networks	通信網絡原理與實踐	3
ECE4102	CMOS Digital Integrated Circuit Design	CMOS 數字集成電路設計	3
ECE4103	Very Large Scale Integrated Circuit Design Automation	超大規模集成電路設計自動化	3
ECE4152	Mobile Application Design & Implementation	移動端應用程序設計與實現	3
ECE4300	Systems Design in Human-Computer Interaction	人機交互系統設計	3
ECE4310	Programming for Robotics	機器人操作系統與編程	3
ECE4513	Image Processing and Computer Vision	圖像處理和計算機視覺	3
ECE4520	3D Data Processing	三維數據處理	3
ECO2011	Basic Microeconomics	微觀經濟學基礎	3
EIE3001	Signals and Systems	信號與系統	3
EIE3050	Principles of Communication Systems	通信系統原理	3
EIE3201	Introduction to Microelectronic Circuits	微電子電路導論	3
EIE3202	Analog Integrated Circuits	模擬集成電路	3
EIE3280	Networks: Technology, Economics and Society	網絡: 技術、經濟和社會	3

EIE3510	Digital Signal Processing	數字信號處理	3
EIE4002	Digital Communications	數字通信	3
EIE4003	Wireless Communication Systems	無線通信系統	3
EIE4004	Introduction to Optical Communications	初級光通信學	3
EIE4005	Introduction to Coding and Cryptography	編碼及密碼學導論	3
EIE4006	Performance Evaluation of Communication Networks	通信網絡性能分析	3
EIE4007	Computer and Network Security	計算機及網絡安全	3
EIE4020	Telecommunication Switching and Network Systems	電信交換與網絡系統	3
EIE4180	Network Software Design and Programming	網絡軟件之程序設計	3
EIE4190	Multimedia Coding and Networking	多媒體編碼與網絡	3
EIE4213	Radio Frequency Integrated Circuits	射頻集成電路	3
EIE4214	Analog and Radio-Frequency Circuits Laboratory	模擬與射頻電路實驗	3
EIE4512	Digital Image Processing	數字圖像處理	3
ERG3001	Engineering Ethics, Safety and Practice	工程倫理、安全及實務	3
ERG4001	Principles of Entrepreneurship	創業原則	3
ERG4902*	Capstone Project II	畢業設計（二）	3
FTE4312	Blockchain and Decentralized Applications	區塊鏈與去中心化應用	3
MAT2002	Ordinary Differential Equations	常微分方程	3
MAT3007	Optimization	最優化	3
MAT3350*	Introduction to Information Theory	信息論導論	3
MAT4006	Introduction to Coding Theory	編碼理論導論	3
MAT4007	Introduction to Cryptography	密碼學導論	3
MAT4220	Partial Differential Equations	偏微分方程	3
PHY2001	Electricity and Magnetism	電磁學	3
PHY3002*	Electrodynamics I	電動力學（一）	3
PHY4002	Electrodynamics II	電動力學（二）	3
PHY4003	Introduction to Photonic Crystals	光子晶體簡介	3
STA4001	Stochastic Process	隨機過程	3

* The course title of CSC4020 is Fundamental of Machine Learning for students who study the course before 2021-22 term 1. For students who study this course from 2021-22 term 1, the course code is DDA2020 and the course title is Machine Learning.

在 2021-22 學年第一学期前修讀 CSC4020，科目名稱為「機器學習之基礎課程」。在 2021-22 學年第一學期及以後修讀該科目，科目代碼及名稱分別為「DDA2020」及「機器學習」。

* The course code of Machine Learning is DDA2020 for students who study the course before 2022-23 term 1. For students who study this course from 2022-23 term 1, the course code is DDA3020.

在 2022-23 學年第一学期前修讀「機器學習」，科目代碼為 DDA2020。在 2022-23 學年第一學期及以後修讀該科目，科目代碼為「DDA3020」。

* The course title of CSC4005 is Distributed and Parallel Computing for students who study the

course before 2022-23 term 1. For students who study this course from 2022-23 term 1, the course title is Parallel Programming.

在 2022-23 學年第一学期前修讀 CSC4005,科目名稱為「分佈式及並行式計算」。在 2022-23 學年第一學期及以後修讀該科目,科目名稱為「並行程序設計」。

* The course title of MAT3350 is Selected Topics in Information Theory for students who study the course before 2022-23 term 2. For students who study this course from 2022-23 term 2, the course title is Introduction to Information Theory.

在 2022-23 學年第二学期前修讀 MAT3350,科目名稱為「信息論專題」。在 2022-23 學年第二学期及以後修讀該科目,科目名稱為「信息論導論」。

* The course title of ERG4901 is Final Year Project I for students who study the course before 2022-23 term 2. For students who study this course from 2022-23 term 2, the course title is Capstone Project I.

在 2022-23 學年第二学期前修讀 ERG4901,科目名稱為「Final Year Project I 畢業設計(一)」。
在 2022-23 學年第二学期及以後修讀該科目,科目名稱為「Capstone Project I 畢業設計(一)」。

* The course title of ERG4902 is Final Year Project II for students who study the course before 2022-23 term 2. For students who study this course from 2022-23 term 2, the course title is Capstone Project II.

在 2022-23 學年第二学期前修讀 ERG4902,科目名稱為「Final Year Project II 畢業設計(二)」。
在 2022-23 學年第二学期及以後修讀該科目,科目名稱為「Capstone Project II 畢業設計(二)」。

* The course title of CSC3002 is Introduction to Computer Science: Programming Paradigms for students who

study the course before 2022-23 term 2. For students who study CSC3002 from 2022-23 term 2, the course title is C/C++ Programming.

在 2022-23 學年第二学期前修讀 CSC3002,科目名稱為「計算機科學導論:程序設計範式」。
在 2022-23 學年第二学期及以後修讀 CSC3002,科目名稱為「C/C++程序設計」。

* The course title of PHY3002 is Electrodynamics for students who study the course before 2023-24 term 1. For students who study this course from 2023-24 term 1, the course title is Electrodynamics I.
在 2023-24 學年第一学期前修讀 PHY3002,科目名稱為「電動力學」。在 2023-24 學年第一学期及以後修讀該科目,科目名稱為「電動力學(一)」。

* The course title of EIE3080 is Microprocessors and Computer Systems for students who study the course before 2024-25 term 1. For students who study this course from 2024-25 term 1, the course title is Introduction to Embedded Systems.

在 2024-25 學年第一学期前修讀 EIE3080,科目名稱為「微型處理與計算機系統」。在 2024-25 學年第一学期及以後修讀該科目,科目名稱為「嵌入式系統概論」。

* The course title of EIE3810 is Microprocessor System Design Laboratory for students who study the course before 2024-25 term 1. For students who study this course from 2024-25 term 1, the course title is Embedded Systems Laboratory

在 2024-25 學年第一学期前修讀 EIE3810,科目名稱為「微型處理系統設計實驗」。在 2024-25 學年第一学期及以後修讀該科目,科目名稱為「嵌入式系統實驗」。