

Mathematics & Applied Mathematics

Course List

Applicable to students admitted in 2017-18 and thereafter

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
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

Remark: Students can choose to take either MAT1003 and MAT1004 or MAT1001 and MAT1002 to fulfill the graduate requirement.

II. Major Required Courses

Course Code	Course Title (English)	Course Title (Chinese)	Unit(s)
MAT2002	Ordinary Differential Equation	常微分方程	3
MAT3004	Abstract Algebra I	抽象代數（一）	3
MAT2006	Elementary Real Analysis	基礎實分析	3
MAT3007	Optimization	最優化	3
MAT3220*	Optimization II	最優化（二）	3
MAT3280	Probability Theory	概率論	3
MAT3253	Complex Variables	複變函數	3
MAT4001	Numerical Analysis	數值分析	3
MAT4002	Introduction to Geometry and Topology	幾何與拓撲學導論	3
MAT4003	Number Theory	數論	3
MAT4033	Differential Geometry	微分幾何	3
MAT4220	Partial Differential Equation	偏微分方程	3
STA3100	Advanced Statistics	高等統計	3
STA4001	Stochastic Processes	隨機過程	3
PHY1002	Physics Laboratory	物理實驗	2

ECO3121	Introductory Econometrics	計量經濟學導論	3
FIN3080	Investment Analysis and Portfolio Management	投資分析和投資組合管理	3

III. Major Elective Courses

Course Code	Course Title (English)	Course Title (Chinese)	Unit(s)
ACT4253	Legal Environment, Business Ethics and CSR in China	中國法律環境、商業道德與企業社會責任	3
BME4005	Bioinformatics	生物信息學	3
CHM2002	Physical Chemistry	物理化學	3
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
CSC3100	Data Structures	數據結構	3
ECO2011	Microeconomics	微觀經濟學	3
ECO3410	Economics of Money and Financial Institutions	貨幣與金融機構經濟學	3
IER3500	Information Theory	資訊理論	3
IER4005	Introduction to Coding and Cryptography	編碼及密碼學導論	3
MAT3005	Abstract Algebra II	抽象代數（二）	3
MAT3006	Real Analysis	實分析	3
MAT3040	Advanced Linear Algebra	高等线性代数	3
MAT3007	Optimization	最優化	3
MAT3093	Fourier Analysis	傅立葉分析	3
MAT3220*	Optimization II	最優化（二）	3
MAT3280	Probability Theory	概率論	3
MAT3300	Mathematical Modeling	數學建模	3
MAT4004	Graph Theory	圖論	3
MAT4010	Functional Analysis	泛函分析	3
MAT4500	Stochastic Differential Equation	隨機微分方程	3
FMA3200	Financial Derivatives	金融衍生品	3
FMA4100	Fixed Income Securities Analysis	固定收益證券分析	3
FMA4200	Financial Data Analysis	金融數據分析	3
FMA4800	Financial Computation	金融計算	3

PHY2001	Electricity and Magnetism	電磁學	3
PHY3002	Electrodynamics	電動力學	3
PHY3201	Quantum Physics	量子物理	3
PHY4260	Statistical Mechanics	統計力學	3
RMS4060	Risk Management with Derivatives	風險管理及衍生工具	3
RMS4001	Simulation Methods for Risk Management and Finance	金融及風險管理模擬方法	3
RMS4050	Stochastic Calculus for Finance and Risk	金融與風險之隨機微積分	3
STA4004	Actuarial Science	精算學	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)。