

Mathematics & Applied Mathematics

Course List

Applicable to students admitted in 2016-17

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
MAT1003	Mathematical Analysis I	數學分析（一）	3
MAT1004	Mathematical Analysis II	數學分析（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)
MAT2002	Ordinary Differential Equation	常微分方程	3
MAT3004	Abstract Algebra I	抽象代數（一）	3
MAT3007	Optimization	最優化	3
MAT3220*	Optimization II	最優化（二）	3
MAT3253	Complex Variables	複變函數	3
MAT3280	Probability Theory	概率論	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
MAT4004	Graph Theory	圖論	3
MAT4033	Differential Geometry	微分幾何	3
MAT4220	Partial Differential Equation	偏微分方程	3
MAT4500	Stochastic Differential Equation	隨機微分方程	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
FMA4800	Financial Computation	金融計算	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
CSC3150	Operating System	操作系統	3
CSC4120	Design and Analysis of Algorithms	算法設計及分析	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
MAT2006	Elementary Real Analysis	基礎實分析	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
MAT3253	Complex Variables	複變函數	3
MAT3280	Probability Theory	概率論	3
MAT3300	Mathematical Modeling	數學建模	3
MAT4010	Functional Analysis	泛函分析	3
MAT4033	Differential Geometry	微分幾何	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
FIN3080	Investment Analysis and Portfolio Management	投資分析和投資組合管理	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)。