

111 學年度學士班課程規劃表 Curriculum - BS Program, 111th Academic Year

理工學院 數學學系 資訊數學組

Information Mathematics Section, Department of Mathematics, College of Science and Engineering

備註(Note)：

1. 此為課程規劃表，實際開課課程以教務處公告為準。

This is the course planning table; the actual courses offered are subject to the announcements from the Office of Academic Affairs.

2. 修業規則另有學分規定。

There are other credit regulations in the graduation regulation.

必修課程 Major Required Courses

年級 Year	課程名稱 Course Title	第一學期 1st semester.	第二學期 2nd semester.	學分 Credits
一年級 Freshman	微積分(一) Calculus(I)	4	-	53學分 53 credits
	微積分(二) Calculus(II)	-	4	
	線性代數(一) Linear Algebra(I)	3	-	
	線性代數(二) Linear Algebra (II)	-	3	
	程式設計(一) Computer Programming(I)	3	-	
	數學導論 Introduction to Mathematics	2	2	
二年級 Sophomore	高等微積分(一) Advanced Calculus (I)	4	-	
	高等微積分(二) Advanced Calculus(II)	-	4	
	機率論 Probability Theory	3	-	
	統計學 Statistics	-	3	
	離散數學 Discrete Mathematics	3	-	
	代數學(一) Algebra (I)	3	-	
	資料結構 Data Structures	-	3	
三年級 Junior	科學計算 Scientific Computing	3	-	
	演算法 Algorithms	3	-	
	人工智慧概論 Introduction of Artificial Intelligence	-	3	
四年級 Senior	-	-	-	

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必選課程 Elective Courses by Section

年級 Year	課程名稱 Course Title	第一學期 1st semester.	第二學期 2nd semester.	學分 credits
一年級 Freshman	程式設計(二) Computer Programming II	-	3	系專業科目至少需選修15學分。 15 credits must be chosen from elective courses at section.
	行動裝置程式設計 Mobile Device Programming	-	3	
二年級 Sophomore	資料庫 Database Concepts	3	-	
	網路概論 Introduction to Computer Networks	3	-	
	作業系統 Operating System	-	3	
	微分方程 Differential Equations	2	2	
	代數學(二) Algebra (II)	-	3	
三年級 Junior	複變函數論 Complex Analysis	2	2	
	密碼學 Cryptography	3	-	
	形式語言 Formal Language	3	-	
	圖論 Graph Theory	3	-	
	圖論演算法 Graph Algorithms	-	3	
	資訊數學專題(一) Topics in Information Mathematics (I)	2	-	
	資訊數學專題(二) Topics in Information Mathematics (II)	-	2	
四年級 Senior	-	-	-	

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選修課程 Elective Courses

update:2024.12.13

年級 Year	課程名稱 Course Title	第一學期 1st semester.	第二學期 2nd semester.	學分 credits
一年級 Freshman	數學物理入門(一) Introduction to Mathematical Physics (I)	2	-	本系專業選修課程至少10學分，包含4學分以英語授課之專業課程。 At least 10 credits of elective courses from this department must be taken, including 4 credits of courses taught in English.
	數學物理入門(二) Introduction to Mathematical Physics (II)	-	2	
	數學物理入門(三) Introduction to Mathematical Physics (I)	2	-	
	數學物理入門(四) Introduction to Mathematical Physics (IV)	-	2	
	數學英文 English for Mathematics	2	-	
	微積分專題 Calculus Projects	-	2	
	C語言 C Language	-	3	
	Java程式語言 JAVA Programming Language	3	-	
	數學軟體 Introduction to Mathematical Software	-	3	
	分析專題 Topics in Analysis	2	-	
二年級 Sophomore	向量微積分 Vector Calculus	-	2	
	拓樸專題 Topics in Topology	2	2	
	動態網頁設計 Dynamic Web Design	-	3	
	C#物件導向程式設計 C# Object Oriented Programming	3	-	
	ASP.NET入門 Introduction to ASP.NET	-	3	
	計算機組織 Computer Organization	3	-	
	商用數學 Compound Interest	3	-	
	精算數學 Actuarial Mathematics	-	3	
	財產保險商品 Non-life Insurance Products	3	-	
	人壽保險商品 Life Insurance Products	-	3	

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三年級 Junior	數學永續專題 Topics on Mathematical Sustainability	-	2	
	機器學習與應用 Machine Learning and Its Applications	3	-	
	深度學習與實務 Deep Learning and Practice	-	3	
	最佳化理論及應用 Optimization Theory and Applications	3	-	
	深度學習 Deep Learning	-	3	
	數論 Number theory	2	2	
	數理統計 Mathematical Statistics	3	3	
	多變量分析 Multivariate Statistical Analysis	-	3	
	隨機過程 Stochastic Process	3	-	
	偏微分方程導論 Introduction to Partial Differential Equations	-	3	
	幾何學 Geometry	3	-	
	應用數學專題(一) Topics in Applied Mathematics (I)	2	-	
	應用數學專題(二) Topics in Applied Mathematics (II)	-	2	
四年級 Senior	財務數學 Financial Mathematics	3	3	
	產險精算數學 Property and Casualty Actuarial Mathematics	3	-	
	產險精算實務 Property and Casualty Actuarial Practice	-	3	
	論文研討(一) Colloquium(I)	1	-	
	論文研討(二) Colloquium(II)	-	1	