朝陽科技大學 096學年度第1學期教學大綱
Discrete Mathematics 離散數學

當期課號	2417	Course Number	2417
授課教師	洪若偉	Instructor	HUNG,RUO WEI
中文課名	離散數學	Course Name	Discrete Mathematics
開課單位	資訊工程系(四日)三A	Department	
修習別	必修	Required/Elective	Required
學分數	3	Credits	3
課程目標	"離散數學是所有數位資訊處理的基礎. 學生在修習完此課程後, 將可瞭解以下知識: (1)讓學生更精明; (2)解決某些有趣的問題; (3)提昇學生的邏輯及思考能力. 學生在修習完此課程後, 將可瞭解以下主題: 計數的基本原則, 邏輯的基礎, 集合理論, 數學歸納法, 關係與函數, 有限狀態機語言, 包含與排除的原則, 生成函數, 遞迴關係, 圖形理論的介紹, 樹, 與最佳化和配對. "	Objectives	Discrete Mathematics is the basis of all of “digital” information processing. After completing this course, students will realize the following: (1) Make students smarter; (2) Solve interesting problem; (3) Promote the logic and thinking capabilities of the students. After completing this course, students will realize the following topics: Fundamental Principles of Counting, Fundamentals of Logic, Set Theory, Mathematical Induction, Relations and Functions, Languages: Finite State Machines, The Principle of Inclusion and Exclusion, Generating Functions, Recurrence Relations, An Introduction to Graph Theory, Trees, and Optimization and Matching.
教材	課本： R.P. Grimaldi, “Discrete and Combinatorial Mathematics”, 5th edition, Addison Wesley, 2004. (東華代理) + 投影片(Slides) 參考書目: 1. C.L. Liu, Elements of Discrete Mathematics 2/e, McGraw Hill, 1998. (華泰代理) 2. K.H. Rosen, Discrete Mathematics and Its Applications 5/e, McGreaw-Hill, 2003. (歐亞代理) 3. R. Johnsonbaugh, Discrete Mathematics, 5th edition, Prentice Hall, 2001. (俊傑書局代理)	Teaching Materials	Textbook: R.P. Grimaldi, “Discrete and Combinatorial Mathematics”, 5th edition, Addison Wesley, 2004. + Slides Reference Books: 1. C.L. Liu, Elements of Discrete Mathematics 2/e, McGraw Hill, 1998. 2. K.H. Rosen, Discrete Mathematics and Its Applications 5/e, McGreaw-Hill, 2003. 3. R. Johnsonbaugh, Discrete Mathematics, 5th edition, Prentice Hall, 2001.
成績評量方式	1. 隨堂考n次(Course Exam): 20% 2. 小考n次(Quizzes): 20% 3. 期中考(Midterm Exam): 30% 4. 期末考(Final Exam): 40% 5. 課程參與(Participation): 5% Note: 學期成績以不得超過96分爲原則。	Grading	1. Course Exams: 20% 2. Quizzes: 20% 3. Midterm exams: 30% 4. Final Exam: 40% 5. Course Participation: 5% Note: The final score for each student does not exceed 96 point.
教師網頁	http://www.csie.cyut.edu.tw/~rwhung/index.htm		
教學內容	離散數學是所有數位資訊處理的基礎. 本課程的主要目標包括: (1)讓學生更精明; (2)解決某些有趣的問題; (3)提昇學生的邏輯及思考能力. 本課程將介紹如下主題: 計數的基本原則, 邏輯的基礎, 集合理論, 數學歸納法, 關係與函數, 有限狀態機語言, 包含與排除的原則, 生成函數, 遞迴關係, 圖形理論的介紹, 樹, 與最佳化和配對.	Syllabus	Discrete Mathematics is the basis of all of “digital” information processing. The main goals of the course include the following: (1) Make students smarter; (2) Solve interesting problem; (3) Promote the logic and thinking capabilities of the students. This course intoduces the following topics: Fundamental Principles of Counting, Fundamentals of Logic, Set Theory, Mathematical Induction, Relations and Functions, Languages: Finite State Machines, The Principle of Inclusion and Exclusion,

			Generating Functions, Recurrence Relations, An Introduction to Graph Theory, Trees, and Optimization and Matching.

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