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| **國立成功大學 工資管所** | | | |
| 一百一十三學年度第二學期授課大綱（進度） | | | |
| **課程名稱：**離散數學 **請下載 zuvio 學生版:** [**https://www.zuvio.com.tw/student**](https://www.zuvio.com.tw/student)  **課程代碼：13101946** | | **授課 教師：** | 王逸琳 I-Lin Wang ilinwang@mail  http://ilin.iim.ncku.edu.tw/ilin |
| **課程網頁** 請至 http://moodle.ncku.edu.tw註冊 | | | |
| **開課班級：** | 工資管系大一二三四 | | |
| **教學時地：** | 授課：二3-4, 四2 [61102] Office hr:四2~3 [61324] or by appointment | | |
| **教學目標：** | Train undergraduate students to have better knowledge & skills of discrete mathematics and its applications | | |
| **課程簡介：** | We first introduce several combinatorial problems and techniques, then go through basic sets/relations/functions. 2/3 of the semester will be spent on Graph Theory and Algorithms | | |
| **教 科 書：** | Discrete Mathematics, by Dossey, Otto, Spence, Vanden Eynden, 5th Edition, Addison Wesley (滄海書局) ISBN: 0-321-30515-9 | | |
| **參考書籍：** | 1. Discrete Mathematics with Graph Theory, by Goodaire, Parmenter, 4th Edition, Prentice Hall (新月圖書) 2. Introduction to Algorithms, by Cormen, Leiserson, Rivest, 4th Edition, MIT Press | | |
| **評分方式：** | 1. In-Class Quiz (2 times: **03/11**, **04/22**, each time **20%**) **40%** 2. Final Exam (**06/03**) **30%** 3. Homework **25%** 4. Class Participation **5%** | | |
| **先修課程：** | Know how to count and some logic. | | |
| **對學生 建議事項：** | 1. This course is NOT for your graduate school entrance exam. It is designed for IM students. 2. There will be some math proofs, so be prepared. 3. This semester we will try to use Python to implement some algorithms. | | |
| **預計進度： (18週)** | 1. Introduction to Combinatorial Problems and Techniques 2. Sets, Relations, and Functions 3. Graphs 4. Trees 5. Counting Techniques 6. Recurrence Relations and Generating Functions 7. Matching 8. Network Flows 9. More about Network Flows | | |
| **附註：** | 對於以上內容或修課要求，授課老師可依實際修課情況加以修改。  詳細的評分標準請看「修課作業要求」。 | | |

Please register yourself to the following:

1. Teams class group: <https://reurl.cc/nqpAz6>
2. Zuvio with class number: **13101946** (we will use zuvio for in-class quiz)
3. Please fill out this background form: <https://forms.gle/oR8kiiipUWegXnYK8>

修課作業要求

**Class Participation** (5%)

1. 學期中除第一堂課所發出的「修課學生背景調查」外(佔1%)，將不定期發出問卷、小考 或 簽名等需要同學填寫的文件(共佔4%)。
2. 若無法當場[10分鐘內]上課簽到者(e.g.缺席、睡太晚等等)，只有那些在課前有先行向老師打招呼的同學可以在課後1天內向老師要來填寫；否則皆以0分計。

**Quiz/Exam** (70% = 2\*20% + 30%)

**General rules**

1. DO NOT try to cheat, or you will not only get 0%, but also get other penalties.
2. Unless you have a very good reason/excuse, a no show means 0%. Make-up exams will only be made for some very special cases. So, please inform the instructor much earlier if somehow you can not take the quiz/exam at that specific time.

**2 In-class quizzes (midterm exams)** (**2025/03/11, 2025/04/22**) **2\*20%**

**Final exam** (**2025/06/03**) **30%**

**Homework** (25%)

1. There will be several homework assignments. or programming assignments.
2. Homework will be graded by TA. Copying other’s homework is NOT allowed.
3. We may use in-class “small” quizzes as homeworks.

**Final Notice & Reminder**

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| **Dates** | **What** | **Grade (%)** |
| 2025/02/18 | 1st class, 1st questionnaire | 1 |
| 2025/03/11 | 1st quiz (midterm exam) | 20 |
| 2025/04/22 | 2rd quiz (midterm exam) | 20 |
| 2025/06/03 | Final exam | 30 |
| Some times | Homework | 25 |
| Some times | Questionnaires, sign-up sheets | 4 |

IT: Information Technology

OC: Oral Communication

PS: Problem Solving

CI: Creativity & Innovation

VP: Values & Professionalism

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| **Percentage** | **Item** | **AACSB at IIM Criteria** | | | | |
| **IT** | **OC** | **PS** | **CI** | **VP** |
| 20% | 2 Quizzes |  |  | 34 | 4 | 2 |
| 30% | Final exam |  | 1 | 24 | 4 | 1 |
| 30% | Assignments | 5 |  | 15 | 5 | 5 |
| 5% | Participation |  |  |  |  | 5 |
|  |  | 5% | 1% | 73% | 13% | 13% |

修課學生背景調查

本表主要目的為幫助老師了解學生相關背景，以做為教材設計的調整參考，請務必確實填寫，謝謝！　　　　　　　　　　　！注意！所有年度請以西元（如1999、2001等）填寫

佔1%

課程名稱：**離散數學**

基本資料：

學生姓名： email: 手機：

系名（非工資管系學生請填）： 年級：

畢業之高中、年度： 修本門課的意願： % （0~100）

畢業後打算：（請圈選，可複選）

就業（工管、資管、寫程式、其他\_\_\_\_\_\_\_\_）、國內研究所（工管、資管、其他\_\_\_\_\_\_\_\_\_）、其他\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

修課原因：（請圈選，可複選）

考研究所用（那類研究所？＿＿＿＿＿＿＿＿＿＿＿＿＿＿）、畢業需要（沒修就畢不了業）、  
覺得自己數學訓練不夠、因為喜歡OR演算法、無聊時間多、其他　　　　　　　　＿＿＿＿

對**離散數學**的了解：（請勿空白）

1. 何謂「離散數學」？（請以最多３句、最少１句話來回答）
2. 您以前曾修過那些相關課程？（請圈選，可複選）  
   排列組合（中學？大學？）、資料結構（何系？＿＿＿＿）、演算法（何系？＿＿＿＿）  
   機率論（中學？大學？[何系？＿＿＿＿＿]）、圖論（何系？＿＿＿＿）、組合數學  
   其他 （e.g.補習班）

對這門課的期許：（請勿空白）

1. 您希望這門課教那些東西及其比例？  
   (0)完全不懂會學到什麼　　　(a)圖論 % (b)演算法　 %　　  
   (c)其它（包括　　　　　 %、　　　　　 %、　　　　　 %）
2. 那些東西是您覺得本課程非教不可的？(請勿空白)

其他高見：