



教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	圖論	學年/學期 Academic Year/Semester	115/1
課程名稱(英文) Course Name in English	Graph Theory		
科目代碼 Course Code	AM_70300	系級 Department & Year	博士 Course-Offering Department
修別 Type	選修 Elective	學分數/時間 Credit(s)/Hour(s)	3.0/3.0
授課教師 Instructor	/張飛黃		
先修課程 Prerequisite			
課程描述 Course Description			
介紹圖形理論的一些重要課題以及它們的應用。預計主題包含但不限於 (1) Graphs, Subgraphs (圖、子圖) (2) Trees (樹狀圖) (3) Connectivity (連通性) (4) Euler Tours, Hamilton Cycles (尤拉環路、漢米爾頓圈) (5) Matching (配對) (6) Independent Sets, Vertex Coloring (獨立點集、點著色) (7) Edge Coloring (邊著色) (8) Planar Graphs (平面圖) (9) Directed Graphs (有向圖) (10) Networks (網路)			
課程目標 Course Objectives			
介紹圖形理論的一些重要課題以及它們的應用。 Introduce the main subjects of graph theory and their applications.			
系專業能力 Basic Learning Outcomes			課程目標與系專業能力相關性 Correlation between Course Objectives and Dept.'s Education Objectives
A	具備專業知識及邏輯推理能力。Have well-founded expertise and be capable of logical reasoning.		●
B	具備學習其它學科的能力，以期能邁向跨領域研究。 Be able to study other fields of science so as to conduct interdisciplinary research in the future.		●
C	具備獨立思考與解決問題的能力。 Be capable of independent thinking and have the problem-solving skills.		●
圖示說明 Illustration : ● 高度相關 Highly correlated ○ 中度相關 Moderately correlated			
授課進度表 Teaching Schedule & Content			
週次 Week	內容 Subject/Topics		備註 Remarks
1	Graphs, Subgraphs		
2	Graphs, Subgraphs		
3	Trees		

4	Connectivity	
5	Euler Tours	
6	Hamilton Cycles	
7	Matching	
8	期中考試週 Midterm Exam	
9	Independent Sets	
10	Vertex Coloring	
11	Edge Coloring	
12	Planar Graphs	
13	Directed Graphs	
14	Networks	
15	Dominating set	
16	期末考試週 Final Exam	
17	期末考試週 Final Exam	

彈性 教學 規劃 Flexible Teaching Plan	<p>請勾選(至少需勾選1 個項目): Please tick the box(es). (At least one item is required.):</p> <p><input checked="" type="checkbox"/> 問題討論 Problem-based Discussion</p> <p><input type="checkbox"/> 翻轉教學 Flipped Classroom</p> <p><input type="checkbox"/> 展演實作 Performance / Practical Presentation</p> <p><input type="checkbox"/> 校外參訪 Off-campus Visit</p> <p><input type="checkbox"/> 講座活動 Lecture / Seminar</p> <p><input type="checkbox"/> 線上作業 Online Assignments</p> <p><input checked="" type="checkbox"/> 自主學習 Self-directed Learning</p> <p><input type="checkbox"/> 課業輔導 Academic Support</p> <p><input type="checkbox"/> 實驗操作 Experiment Operation</p> <p><input type="checkbox"/> 遠距教學(同步) Distance Learning (Synchronous)</p> <p><input type="checkbox"/> 遠距教學(非同步) Distance Learning (Asynchronous)</p> <p><input type="checkbox"/> 其他(請填寫) Others (Please specify.):</p> <p>備註: 本校學期週數自115 學年度起調整為17 週, 為符合1學分18 小時之原則, 請教師規劃安排彈性教學。 Note: From the 115th academic year, the semester will be 17 weeks. Please include flexible teaching activities to meet the required 18 hours per credit.</p>
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教學策略 Teaching Strategies

- 課堂講授 Lecture 分組討論 Group Discussion 參觀實習 Field Trip
 其他 Miscellaneous:

教學創新自評 Teaching Self-Evaluation

創新教學 (Innovative Teaching)

- 問題導向學習 (PBL) 團體合作學習 (TBL) 解決導向學習 (SBL)
 翻轉教室 Flipped Classroom 磨課師 Moocs

社會責任 (Social Responsibility)

- 在地實踐 Community Practice 產學合作 Industry-Academia Cooperation

跨域合作 (Transdisciplinary Projects)

- 跨界教學 Transdisciplinary Teaching 跨院系教學 Inter-collegiate Teaching

- 業師合授 Courses Co-taught with Industry Practitioners

其它 other:

學期成績計算及多元評量方式 Grading & Assessments

配分項目 Items	配分比例 Percentage	多元評量方式 Assessments							
		測驗 會考	實作 觀察	口頭 發表	專題 研究	創作 展演	卷宗 評量	證照 檢定	其他
平時成績(含出缺席) General Performance (Attendance Record)	30%								
期中考成績 Midterm Exam	30%	✓		✓	✓				
期末考成績 Final Exam	40%	✓		✓	✓				
作業成績 Homework and/or Assignments									
其他 Miscellaneous (_____)									

評量方式補充說明

Grading & Assessments Supplemental instructions

教科書與參考書目 (書名、作者、書局、代理商、說明)

Textbook & Other References (Title, Author, Publisher, Agents, Remarks, etc.)

課程教材網址(含線上教學資訊, 教師個人網址請列位於本校內之網址)

Teaching Aids & Teacher's Website(Including online teaching information.
Personal website can be listed here.)

其他補充說明 (Supplemental instructions)