



教學計劃表 Syllabus

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| 課程名稱(中文) Course Name in Chinese | 對局論AA | | 學年/學期 Academic Year/Semester | 112/1 | |
| 課程名稱(英文) Course Name in English | Game Theory | | | | |
| 科目代碼 Course Code | AM_5430AA | 系級 Department & Year | 碩士 | 開課單位 Course-Offering Department | 應用數學系 |
| 修別 Type | 選修 Elective | 學分數/時間 Credit(s)/Hour(s) | 3.0/3.0 | | |
| 授課教師 Instructor | /黃延安 | | | | |
| 先修課程 Prerequisite | | | | | |
| 課程描述 Course Description | | | | | |
| 建立對局論的基礎，介紹合作與不合作對局論。課程偏重在合作對局論。將介紹在TU對局與NTU對局上的幾個熟悉的解，並以公設化理論及動態理論來處理它 | | | | | |
| 課程目標 Course Objectives | | | | | |
| 建立對局論的基礎。(Introduction of game theory) | | | | | |
| 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 | 具備專業機率、統計知識與應用分析能力。Have well-founded expertise in probability and statistics, and good analytical ability in solving real problems. | | | ○ | |
| B | 具備程式設計與統計計算能力。Have the computer programming and statistical computing skills. | | | | |
| C | 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. | | | ● | |
| 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 | Introduction | | | | |
| 2 | Non-cooperative game | | | | |
| 3 | Shapley value (1) | | | | |
| 4 | Shapley value (2) | | | | |
| 5 | Shapley value(3) | | | | |
| 6 | 期中考 | | | | |
| 7 | Core (1) | | | | |
| 8 | core (2) | | | | |

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|----|------------------------------------------|--|
| 9 | prekernal | |
| 10 | Bargaining set, prenucleolus, stable set | |
| 11 | Bargaining set, prenucleolus, stable set | |
| 12 | NTU games | |
| 13 | Shapley solution | |
| 14 | Harsanyi solution | |
| 15 | monotonic solution | |
| 16 | NTU core | |
| 17 | 期末考試週 Final Exam | |
| 18 | 自主學習 | |

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 General Performance | 20% | | ✓ | | | | | | |
| 期中考成績 Midterm Exam | 40% | ✓ | | | | | | | |
| 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.)

Game Theory, by Guillermo Owen

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)