

朝陽科技大學 091學年度第1學期教學大綱
Environmental Mathematical Models 環境數學模式

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| 當期課號 | 7319 | Course Number | 7319 |
| 授課教師 | 林宏嶽 | Instructor | LIN,HUNG YUEH |
| 中文課名 | 環境數學模式 | Course Name | Environmental Mathematical Models |
| 開課單位 | 環境工程與管理系碩士班一A | Department | |
| 修習別 | 選修 | Required/Elective | Elective |
| 學分數 | 3 | Credits | 3 |
| 課程目標 | <p>本課程檢視並試作模擬五個重要的環境問題。學生必須積極參與模擬，以達成"作中學"的效果。</p> <ol style="list-style-type: none"> 1. 經濟發展環境保護兼籌並顧。(Week 1~3) 2. 企業面對的環境管理問題。(Week 4~5) 3. 環境管理工具的發展。(Week 6~8) 4. 資訊的不對稱問題。(Week 9~11) 5. Physical modelling。(Week 12~14) <p>此外，使用數量方法作環境資料分析。(Week 15~17)</p> | Objectives | <p>The course is to explore and model 5 "good" problems in environment and economics. It is expected that students are required to take part in modelling. It is a course for students to learn by doing. These five problems are:</p> <ol style="list-style-type: none"> 1. Balancing the economics development with environmental protection. (week 1~3) 2. Environmental management problems facing business enterprises. (week 4~5) 3. Deriving pollution control strategies. (week 6~8) 4. Information problems in pollution control. (week 9~11) 5. Physical modelling. (week 12~14) <p>Environmental data analysis will be an added topic for the course. (week 15~17)</p> |
| 教材 | 講授、演練與報告 | Teaching Materials | teaching, practice and presentation. |
| 成績評量方式 | 期中考：35%，期末考：35%，報告：30% | Grading | Exams: midterm 35%, final 35%, term project: 30% |
| 教師網頁 | - | | |
| 教學內容 | <p>教導學生藉由環境相關之數學模式與工具，瞭解環境問題的分析與評估方法，並做出決策所需之參考資訊。主要的工具可包括：</p> <ol style="list-style-type: none"> 1. 線性規劃 2. 模糊理論與啟發式解法 | Syllabus | <p>Enhanced with the following mathematical models and tools, the students should be capable of analysing and assessing of environmental problems. Furthermore, to offer decision making information. The main tools include:</p> <ol style="list-style-type: none"> 1. linear/integer programming. 2. fuzzy and grey programming. |

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