



課 綱 Course Outline
資訊管理學系學士班

中文課程名稱 Course Name in Chinese	數據科學導論				
英文課程名稱 Course Name in English	Introduction to Data Science				
科目代碼 Course Code	IM__33690	班 別 Degree	學士班 Bachelor' s		
修別 Type	學程 Program	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite					
課程目標 Course Objectives					
The objective of this course is to introduce data science and its application to management decision-making. The course covers data exploration and cleaning, basic statistics, data visualization, and machine learning. Central to the course is its focus on the practical application of data science in informing management decisions. The course emphasizes both theoretical knowledge and extensive Python hands-on programming exercises.					
系教育目標 Dept.' s Education Objectives					
1	培育具備團隊合作、創造與思考以及國際視野能力之人才。 Cultivate the personnel with the capability of teamwork, creative thinking and international vision				
2	培育具備資訊專業知識與技術能力之人才。 Cultivate the personnel with the capability of professional knowledge and technical skill				
3	培育具備商業管理知識與應用能力之人才。 Cultivate the personnel with the capability of business management and application				
4	培育具備整合資訊科技與管理知識之專業人才。 Cultivate the personnel with the capability of integration of information technology and management				
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	具備資訊管理基礎與跨學域的應用能力。 Cultivate the personnel with the capability of basic and interdisciplinary information management				●

B	具備以資訊科技為核心，擁有高度專業技術與國際視野之能力。 Cultivate professional personnel with international perspective and the capability of using information technology	●
C	具備資訊管理創新、研發、企劃之資訊管理人才之整合能力。 Cultivate senior personnel with the capability of innovation, research and development and integrated planning	○
D	具備企業資訊化的能力。 Cultivate the personnel with the capability of computerization of enterprises	○
E	具備業界多媒體應用、網站經營以及資訊行銷所需之能力。 Cultivate the personnel with the capability of multimedia applications, website operations, and information marketing	○
F	具備認知新興資訊產業發展所需之能力。 Cultivate the personnel with the capability for the emerging information industry	○

圖示說明 Illustration : ● 高度相關 Highly correlated ○ 中度相關 Moderately correlated

課程大綱
Course Outline

1. Python review
2. Data exploration and cleaning
3. Basic statistics
4. Data visualization
5. Introduction to Machine Learning
6. Supervised methods
7. Unsupervised methods
8. Introduction to data mining
9. Time series data mining
10. Natural language processing
11. Recommendation system
12. Network analysis

資源需求評估 (師資專長之聘任、儀器設備的配合 . . . 等)
Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)

課程要求和教學方式之建議
Course Requirements and Suggested Teaching Methods

其他
Miscellaneous