

## 國立臺灣師範大學課程綱要【格式】

### 一、課程基本資料（任課教師不可異動部分，同一課程名稱此部分應相同）

課程代碼	ISC8004	課程名稱	資料探勘技術與應用專題研究
英文名稱	Special Topics on Data Mining Techniques and Applications		
全/半年	<u>半年</u>	必/選修	<u>選修</u>
學分數	3	每週授課時數	3
開課系級	圖資碩		
先修課程			
課程簡介	<p>There is growing demand for data-analytics professionals in businesses, public agencies, and nonprofit organizations for powering enterprises to new levels of competitiveness. This course explores the rapidly developing fields of (Big) Data Mining for intelligent use of data to maximize the utilization of data and optimize the efficiency of decision making in the context of various fields. Basically, this class is about learning from data, in order to gain useful predictions and insights. Topics may include basic concepts of data manipulations, analytic, and communications. The course will help students careful consideration of what is desired from big data, how big data analytic to add value to business, etc. Students can gain a strong data science knowledge set and techniques via in-depth case studies, most current readings and experiences, and most current and future technology exploration.</p>		
課程目標		對應系所核心能力	
1	資料探勘方法概念	探究資訊與知識組織之原理與方法	
2	資料探勘工具應用的方法和訣竅	具備整合應用數位與網路科技的能力	
3	資料探勘個案與專題研討	以人為本，尊重知識，整合運用資訊科技與創新服務，促進知識之自由與有效使用	

### 二、教學大綱（任課教師可異動部分）

授課教師	吳怡瑾		
教學進度與主題（可說明每週進度）			
Schedule			
Week		Topic	Ref.
1	9/11	Course overview	
2	9/18	Introduction to Data Mining, Big Data Analytics Getting to know you data	Chapter 1 & 2
3	9/25	Main course: Getting to know you data &	

		Data Preprocessing	
4	10/02	中秋節	
5	10/09	國慶日	
6	10/16	Weka Introduction	Computer room
7	10/23	Mining Frequent Patterns, Associations, and Correlations: Basic Concepts and Methods I	Chapter 6
8	10/30	Mining Frequent Patterns, Associations, and Correlations: Basic Concepts and Methods I	Chapter 6
9	11/06	Computer room –WEKA II	Computer room
10	11/13	<b>Midterm Project Demonstration and Discussion</b>	Computer room
11	11/20	Classification and Clustering I	Chapter 8&9
12	11/27	Classification and Clustering II	Chapter 8&9
13	12/04	Computer room –WEKA III	Computer room
14	12/11	Computer room –WEKA III Special Topic on Time-series Data Mining	Computer room
15	12/18	Special Topic on Recommendation and Data Mining in CRM	Handout
16	12/25	Final Project Presentation	Computer room
17	1/1	新年	
18	1/8	Case studies of Data Mining in Library and Information Science	Handout

#### 教學方法

方式	說明
<input checked="" type="checkbox"/> 講述法	(可說明實施細節)
<input checked="" type="checkbox"/> 討論法	
<input type="checkbox"/> 問題解決教學	
<input type="checkbox"/> 合作學習	
<input checked="" type="checkbox"/> 實驗/實作	上機演練
<input type="checkbox"/> 實地考察、參訪	
<input type="checkbox"/> 媒體融入教學	
<input checked="" type="checkbox"/> 專題研究	專案成果
<input type="checkbox"/> 其他：	

#### 評量方法

方式	百分比	說明
<input checked="" type="checkbox"/> 作業	35	
<input type="checkbox"/> 期中考		
<input type="checkbox"/> 期末考		
<input type="checkbox"/> 課堂討論參與		
<input checked="" type="checkbox"/> 出席	15	
<input checked="" type="checkbox"/> 報告	15	
<input type="checkbox"/> 成果展覽		

<input checked="" type="checkbox"/> 專題	35	
<input type="checkbox"/> 其他：		
參考書目	Jiawei Han and Micheline Kamber, "Data Mining: Concepts and Techniques," 3rd ed. English version website: <a href="http://hanj.cs.illinois.edu/bk2/">http://hanj.cs.illinois.edu/bk2/</a>	