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# ②图玄東華大學

## 教學計劃表 Syllabus

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課程名稱(中文) Course Name in Chinese	統計學(一)AC			學年/學期 Academic Year/Semester		106/1		
課程名稱(英文) Course Name in English	Statistics (I)							
科目代碼 Course Code	IB2140AC	系級 Department & Year	學二	開課單位 Course-Offering Department	資訊管理學系			
修別 Type	學程 Program	學分數/時間 Credit(s)/Hour(s)		3.0/3.0				
授課教師 Instructor	/林金龍							
先修課程 Prerequisite								
White Co. D. Co.								

### 課程描述 Course Description

H. G. Wells, an English author and historian, predicted over 100 years ago that quantitative reasoning will be as necessary

for effective citizenship as the ability to read. He could not have been more correct especially for students

in business and economics today who need to acquire the knowledge to organize, analyze, extract and then transform data to present the information. These basic statistical skills and methods are essential for making proper business and personal decisions.

This course is the first semester of a one-year undergraduate statistics. It aims at equipping the students with

the ability to describe data sets using graphs and numerical summaries, to use probability rules in problem solving, to

supply inferential statistical techniques in decision making for business and real life situations. Topics studied include descriptive measures for empirical data, theory of probability, probability distributions,

sampling distributions of statistics from large and small samples, estimation theory, hypothesis testing, correlation,

and regression.

One can never really master statistics without getting his/her hand dirty with real data. Analyzing real data using some statistical package is considered as an essential part of this course. I shall give empirical data analysis during the lectures and assign computer-related home work. For this purpose, I shall teach and ask students to learn and use R, a powerful statistical and yet free package. It can be downloaded from

http://www.r-project.org

## 課程目標 Course Objectives

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 to statistics and R	

2	Describing data frequency tables, frequency distributions and graphic presentation									
3	Describing data: numerical measure									
4	Describing data: displaying and exploring data									
5	A survey of probability concepts (1/2)									
6	A survey of probability concepts (2/2)									
7	Discrete probability distributions (1/2)									
8	Discrete probability distributions (2/2)									
9	期中考試週 Midterm Exam									
10	Sampling methods and the central limit theorem (1/2)									
11	Sampling methods and the central limit theorem (2/2)									
12	Estimation and confidence intervals (1/2)									
13	Estimation and confidence intervals (2/2)									
14	One-sample tests of hypothesis (1/2)									
15	One-sample tests of hypothesis (2/2)									
16	Two-sample tests of hypothesis (1/2									
17	Two-sample tests of hypothesis (2/2)									
18	期末考試週 Final Exam									
		教。	學策	略 Te	aching	Strateg	ies			
✓ 課堂講	授 Lecture		分組討	論Group	Discus	sion		觀實習	Field T	`rip
↓ 其他Miscellaneous: <u>分析實際統計資料</u>										
		學期成績計算	草及多元	評量方式	式 Gradi	ing & As	sessmen	ıts		
西面	 2分項目	配分比例						ssessme	nts	
	Items	Percentage	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 G										
期中考成績	Midterm Exam	30%	<b>~</b>							
期末考成績	Final Exam	40%	<b>~</b>							
作業成績 He Assignment	omework and/or s	30%		~						含上課出席率
其他 Misce	llaneous _)									
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.)

Textbook:

D. A. Lind, W. G. Marchal and S. A. Wathen (2014),

Statistical Techniques in Business and Economics, 16th ed. New York: McGraw Hill

(Imported by Hwa Tai Publishing)

Reference books:

Daniel Navarro (2014), Learning Statistics with R: A tutorial for psychology students and other beginners

(Version 0.4) available at :\\

http://health.adelaide.edu.au/psychology/ccs/teaching/lsr/

Darrell Huff (1954), How to lie with statistics, New York: W.W. Norton & Company

課程教材網址(教師個人網址請列在本校內之網址)

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

faculty.ndhu.edu.tw/~jlin

其他補充說明(Supplemental instructions)