

處理學期(Current Semester)：1091

請尊重智慧財產權，請勿非法影印

1091學期所開設課程『生物統計學』的課程內容

課程代碼(Course Number)	B3903463
授課老師(Instructor)	游舒涵(Shu-Han You)
中文課名(Chinese Course Title)	生物統計學
英文課名(English Course Title)	Biostatistics
開課年班(Grade and Class)	3A
選課人數(Quantity)	111
選課類別(Course Type)	必修(Required Course)
上課時間(Course Meeting Days/Times)	202,203,204
上課地點(Classroom)	MFS001,MFS001,MFS001
開課系所(Department/Institute Office of Course)	食品科學系食品科學組(Food Science, Division of F)
學分(Credit(s))	3
時數(Course Hour(s))	3
人數上限(Maximum Number of Students)	130
人數下限(Minimum Number of Students)	10
開課期別(Course Type)	單學期(semester course)
是否實習	否
備註(Note)	和生物科技組合班上課.游舒涵老師合上.

課程綱要

教學目標	中文	The broad objective of the course is to promote an understanding of an objective and disciplined approach in the study and analysis of problems especially those involving numerical data in experimental studies.
Objective	English	The broad objective of the course is to promote an understanding of an objective and disciplined approach in the study and analysis of problems especially those involving numerical data in experimental studies.
先修科目	中文	無
Pre Course	English	
教材內容	中文	本課程所採用教材為教師本人所整理編成之講義及各類統計表格。 本講義特色：以多年教授本課程經驗，融合多本國際主要生物統計教科書內容編成，重視生物統計學邏輯觀念的建立，適當的舉例說明，符合食品科學系學生需求。
Outline	English	The course covers: organization and presentation of numerical data, descriptive statistics, concepts of parameter and statistic, distribution of sample means, hypothesis and test of hypothesis, student's t-distribution, confidence interval and coefficient, X ² -distribution, F-distribution, analysis of variance, randomized block design, simple regression and correlation.
教學方式	中文	1. 每個課程在開始授課的第一堂課中： ☐ 將課程之背景歷史及本課程在專業領域中的相關位置先向學生說明，使學生對課程內涵有一明確概念。 ☐ 交代本課程的目標、評分方式及標準、參考書目以及學習中如遭遇困難如何與教師聯繫的方式。對學生的考核不僅只以期中考與期末考試決定，其他平時考核部份包括作業，課堂表現等。如何評分，各項表現各佔總成績比例若干等均事先向學生說明請楚。 ☐ 將整學期的課程進度日期明確向學生列出並簡要說明，使學生能清楚知道本課程的整體規劃。 2. 授課過程中除了我的講述之外，會不時與學生互動，提出問題要指定的學生口頭作答或發下答案紙要全體學生作答，再選擇1~2位答對的學生上台簡單說明以增加學生參與感。 3. 課堂的口頭講述部份除以黑板書寫輔助外，另輔以精緻投影片。

Teaching Method	English	
參考書目	中文	☐ Belmont, 2006, Fundamentals of biostatistics, Thomson-Brooks. ☐ Wassertheil-Smoller, 2003, Biostatistics and Epidemiology, Springer (electronic) ☐ Paulson, 2008, Biostatistics and Microbiology, Springer. (electronic) ☐ 郭寶鏘, 陳玉敏著, 2012, 基礎生物統計學: 使用Excel與SAS, 普林斯頓國際。 ☐ Chernick and Friis, 2003, Introductory Biostatistics for the Health Sciences: Modern Applications Including Bootstrap, Wiley & Sons.
Reference	English	☐ Belmont, 2006, Fundamentals of biostatistics, Thomson-Brooks. ☐ Wassertheil-Smoller, 2003, Biostatistics and Epidemiology, Springer (electronic) ☐ Paulson, 2008, Biostatistics and Microbiology, Springer. (electronic) ☐ 郭寶鏘, 陳玉敏著, 2012, 基礎生物統計學: 使用Excel與SAS, 普林斯頓國際。 ☐ Chernick and Friis, 2003, Introductory Biostatistics for the Health Sciences: Modern Applications Including Bootstrap, Wiley & Sons.
教學進度	中文	第一週 Introduction to the course :An overview of nutrition Week Schedule 1 Ch1 Introduction-what is biostatistics? 2 Ch 2 Descriptive statistics: organization and display of data 3 Ch3 Descriptive statistics: mean, measures of central tendency and measures of dispersion 4 Ch4 Probability, Normal distribution 5 Ch 5 Confidence interval 6 Ch 6 Calculate a test statistic 7 Ch 7 Two sample test 8 Wrap up! 9 Middle exam 10 Ch 8 Experiment planning 11 Ch 9 ANOVA 12 Ch 10 MANOVA 13 Ch 11 Correlation 14 Ch 12 Linear regression 15 Ch 13 Multiple regression 16 Ch 14 Chi-square tests 17 Wrap up! 18 Final exam week

Syllabus	English	Week	Schedule
		1	Ch1 Introduction-what is biostatistics?
		2	Ch 2 Descriptive statistics: organization and display of data
		3	Ch3 Descriptive statistics: mean, measures of central tendency and measures of dispersion
		4	Ch4 Probability, Normal distribution
		5	Ch 5 Confidence interval
		6	Ch 6 Calculate a test statistic
		7	Ch 7 Two sample test
		8	Wrap up!
		9	Middle exam
		10	Ch 8 Experiment planning
		11	Ch 9 ANOVA
		12	Ch 10 MANOVA
		13	Ch 11 Correlation
		14	Ch 12 Linear regression
		15	Ch 13 Multiple regression
		16	Ch 14 Chi-square tests
		17	Wrap up!
		18	Final exam week
評量方式	中文	Midterm :	40 %
		Final :	40 %
		* Take-home :	10 %
		Class attendance :	10 %
Evaluation	English	semester	
		Midterm :	40 %
		Final :	40 %
		* Take-home :	10 %
		Class attendance :	10 %

參考網址

<http://www.ntou.edu.tw/shiau/>