國立東華大學
教學計劃表　Syllabus

課程名稱(中文) Course Name in Chinese	生物統計學				學年/學期 Academic Year/Semester	112/2
課程名稱(英文) Course Name in English	Biostatistics					
科目代碼 Course Code	LF__20400	系級 Department & Year	學二	開課單位 Course-Offering Department	生命科學系	
修別 Type	學程 Program	學分數/時間 Credit(s)/Hour(s)		3.0/3.0		
授課教師 Instructor	/傅詩宸					
先修課程 Prerequisite						

課程描述　Course Description

Course description:
- An introduction to the use of statistical analysis in microbiome studies.
- Provides an understanding of the basic methods and underlying concepts of statistics that are used in analyzing microbiome data.
- Among topics explored are descriptive statistics, probability, sampling, hypothesis testing and non-parametric statistics.

Course Content:
- Introduction to Microbiome
- Bacterial Identification
- Fundamentals of Biostatistics
- Summaries of data
- Hypothesis test: type I/II error, power
- p-value/ Estimation/ SE/ 95% CI
- T-test/ ANOVA/ Wilcoxon rank sum test
- Chi-square test/ Fisher's exact test
- Linear regression
- Scientific writing skills

課程目標　Course Objectives

Course description:
- An introduction to the use of statistical analysis in microbiome studies.
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	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	具備生命科學相關學科之基礎知識Having the basic knowledge of life science.	●
B	具備邏輯分析與解決問題的能力Having the capabilities of logical analysis and problem solving	○
C	具備資料整合、數據分析與書面及口頭報告之能力Having the capabilities of data integration and analysis, and the skills of written and poster presentation.	
D	具備終生學習的能力Having the capability of lifelong learning.	○

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		
2		
3		
4		
5		
6		
7		
8		
9	期中考試週 Midterm Exam	
10		
11		
12		
13		
14		
15		
16		
17		
18	期末考試週 Final Exam	

教 學 策 略 Teaching Strategies
☐ 課堂講授 Lecture　　　☐ 分組討論Group Discussion　　☐ 參觀實習 Field Trip ☐ 其他Miscellaneous:

教 學 創 新 自 評 Teaching Self-Evaluation
創新教學(Innovative Teaching) ☐ 問題導向學習(PBL)　　　☐ 團體合作學習(TBL)　　　☐ 解決導向學習(SBL) ☐ 翻轉教室 Flipped Classroom　　☐ 磨課師 Moocs 社會責任(Social Responsibility) ☐ 在地實踐Community Practice　　☐ 產學合作 Industy-Academia Cooperation 跨域合作(Transdisciplinary Projects) ☐ 跨界教學Transdisciplinary Teaching　　☐ 跨院系教學Inter-collegiate Teaching ☐ 業師合授 Courses Co-taught with Industry Practitioners   其它 other: _____

學期成績計算及多元評量方式 Grading & Assessments									
配分項目 Items	配分比例 Percentage	多元評量方式 Assessments							
		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 General Performance									
期中考成績 Midterm Exam									
期末考成績 Final Exam									
作業成績 Homework and/or Assignments									
其他 Miscellaneous (_____)									

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.)

課程教材網址(含線上教學資訊,教師個人網址請列位於本校內之網址)
Teaching Aids & Teacher's Website(Including online teaching information. Personal website can be listed here.)

其他補充說明（Supplemental instructions）

學期成績計算及多元評量方式 Grading & Assessments									
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		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 General Performance									
期中考成績 Midterm Exam									
期末考成績 Final Exam									
作業成績 Homework and/or Assignments									
其他 Miscellaneous (_____)									