② 图 z 東華大學 教學計劃表 Syllabus

| | | 1-2 1 | 1 = 4 7 = | | | | | |
|--|----------------------------------|-----------------|---|-----------------------------|-----------------------------|--|--|--|
| | 名稱(中文) ume in Chinese | AA | | 學年/學期 Academic Year/Seme | | | | |
| | 名稱(英文) ume in English | Design of Expe | · | | | | | |
| | ト目代碼 rse Code | AM_4071AA | 系級 開課單位 Course-Offering & Year Department | | | | | |
| | 修別 Type | Program | 學分數/時間 Credit(s)/Hour(s) | | .0/3.0 | | | |
| | き課教師 structor | / | | | | | | |
| | 上修課程 Tequisite | /# | | | | | | |
| | | 課 | 程描述 Course Descri | ption | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | 課 | 程目標 Course Objec | ctives | | | | |
| 課程目標與系專業能 力相關性 系專業能力 Correlation between Course Objectives | | | | | | | | |
| | and Dept.'s Education Objectives | | | | | | | |
| Have well-founded background in mathematics and be capable of logical reasoning. | | | | | | | | |
| B stati | | | | | | | | |
| Be able to use computer software for statistical computation in real applications. | | | | | | | | |
| 圖示說明[| llustration : | ● 高度相關 Hi | ghly correlated O | 中度相關 Moderately | correlated | | | |
| | | 授課進 | 度 表 Teaching Schedu | le & Content | | | | |
| 週次Week | | 內容 | 備註Remarks | | | | | |
| 1 | Overview The e | experiment, the | design, and the anal | | | | | |
| 2 | Single-factor e | experiments | | | Complete randomized design; | | | |
| 3 | Single-factor e | experiments | | | Randomized block design; | | | |
| 4 Single-factor | | | | | Latin square designs | | | |

| 5 | Factorial experiments | Fixed, random and mixed models. ANOVA rationale; EMS rules; Nested-factorial experiments; Contrasts |
|----|---|--|
| 6 | Factorial experiments | Fixed, random, and mixed models. ANOVA rationale; ENS rules; Nested-factorial experiments; Contrast |
| 7 | Factorial experiments | Fixed, random, and mixed models. ANOVA rationale; EMS rules; Nested-factorial experiments; Contrasts |
| 8 | Factorial experiments | Fixed, random, and mixed models. ANOVA rationale; EMS rules; Nested-factorial experiments; Contrasts |
| 9 | Factorial experiments | Fixed, random, and mixed models. ANOVA rationale; EMS rules; Nested-factorial experiments; Contrasts |
| 10 | Restrictions on randomization; Fractional factorial designs | Randomized block designs; Split-plot design; Confounding; Aliases; BlBD |
| 11 | Restrictions on randomization; Fractional factorial designs | Randomized block designs; Split-plot design; Confounding; Aliases; BlBD |
| 12 | Restrictions on randomization; Fractional factorial design | Randomized block designs; Split-plot design; Confounding; Aliases; BlBD |
| 13 | Restrictions on randomization; Fractional factorial designs | Randomized block designs; Split-plot design; Confounding; Aliases; BlBD |
| 14 | Restrictions on randomization; Fractional factorial designs | Randomized block designs; Split-plot design; Confounding; Aliases; BlBD |
| 15 | Sel ected topics | |
| 16 | Miscel Laneous topics | Presentati on |
| 17 | Miscel Laneous topics | Presentati on |
| 18 | Fi nal Exam | |
| | 1 | |

| 教學策略 Teaching Strategies | | | | | | | | |
|---------------------------------|---|-----|---------------|-----------|-------------|--|--|--|
| ✓ | Lecture | Gra | up Discussion | | Field Trip | | | |
| | Miscel I aneous: | | | | | | | |
| 教學創新自評 Teaching Self-Evaluation | | | | | | | | |
| | (Innovati ve Teaching) | | | | | | | |
| | (PBL) | | (TBL) | | (SBL) | | | |
| | Flipped Classroom | | Mocs | | | | | |
| | (Social Responsibility) | | | | | | | |
| | Community Practice | | Industy-A | cademia C | ooperati on | | | |
| | (Transdisciplinary Projects) | | | | | | | |
| | Transdi sci pl i nary Teachi ng | | Inter-co | llegiate | Teachi ng | | | |
| | Courses Co-taught with Industry Practitioners | | | | | | | |
| | other: | | | | | | | |

| 學期成績計算及多元評量方式 Grading & Assessments | | | | | | | | | |
|---|-------------------------|-------------|----------|-------------|----------|----------|----------|----------|----|
| 配分項目 | 配分比例 多元評量方式 Assessments | | | | | | | | |
| 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 |
| () General Performance (Attendance Record) | | | | | | | | | |
| M1 dt er m Exam | | | | | | | | | |
| Fi nal Exam | 40% | > | | | | | | | |
| Homevørk and/or Assi gnments | 20% | | | > | | | | | |
| Miscel I aneous | 40% | | | > | | | | | |

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.)

- 1. Applied Linear Statistical Models, 4th ed, Neter, Kutner, Nachtsheim and Wasserman, 1996, McGRAW HILL International.
- 2. Experimental Designs, 2nd ed, Cochran and Cox, 1957, Wiley.
- 3. The Design of Experiments, Mead, 1988, Cambridge.
- 4. Statistical Designs Analysis of Experiments with Applications to Engineering and Science, Mason, Gunst and Hess, 1989, Wiley.
- 5. Fundamental Concepts in the Design of Experiments, 5th ed, Hicks and Turner, 1999, Oxford.
- 6. Design of experiments: Statitical principles of research design and analysis, 2nd ed, R. O. Kuehl
- 7. Design and Analysis of Experiments, 8/ed, Montgomery, 2013, Wiley.

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.)

http://faculty.ndhu.edu.tw/~yltseng/edu/design2025.html

| 其他補充說明 | (Supplemental | instructions) |) |
|--------|---------------|---------------|---|
|--------|---------------|---------------|---|