

Tamkang University Academic Year 111, 2nd Semester Course Syllabus

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| Course Title | CATEGORICAL DATA ANALYSIS | Instructor | TSENG, YAO-TING |
| Course Class | TLSXB3C DEPARTMENT OF STATISTICS, 3C | Details | <ul style="list-style-type: none"> ◆ General Course ◆ Required ◆ One Semester |
| Relevance to SDGs | SDG4 Quality education SDG8 Decent work and economic growth SDG9 Industry, Innovation, and Infrastructure | | |
| Departmental Aim of Education | | | |
| I. Cultivate students with knowledge of basic statistical theory. II. Cultivate students with data analysis skills. III. Cultivate students to become statistical professionals with management capabilities. | | | |
| Subject Departmental core competences | | | |
| A. Knowledge of basic statistical theory.(ratio:40.00) B. Logical reasoning in mathematics.(ratio:5.00) C. Data analysis skills.(ratio:50.00) D. Application of profession knowledge.(ratio:5.00) | | | |
| Subject Schoolwide essential virtues | | | |
| 1. A global perspective. (ratio:5.00) 2. Information literacy. (ratio:20.00) 3. A vision for the future. (ratio:5.00) 4. Moral integrity. (ratio:10.00) 5. Independent thinking. (ratio:30.00) 6. A cheerful attitude and healthy lifestyle. (ratio:5.00) 7. A spirit of teamwork and dedication. (ratio:20.00) 8. A sense of aesthetic appreciation. (ratio:5.00) | | | |

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| Course Introduction | This semester we will introduce contingency tables, generalized linear model, logistic regression, multcategory logit models, and loglinear models. |
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The correspondences between the course's instructional objectives and the cognitive, affective, and psychomotor objectives.

Differentiate the various objective methods among the cognitive, affective and psychomotor domains of the course's instructional objectives.

I. Cognitive : Emphasis upon the study of various kinds of knowledge in the cognition of the course's veracity, conception, procedures, outcomes, etc.

II.Affective : Emphasis upon the study of various kinds of knowledge in the course's appeal, morals, attitude, conviction, values, etc.

III.Psychomotor: Emphasis upon the study of the course's physical activity and technical manipulation.

| No. | Teaching Objectives | objective methods |
|-----|---|-------------------|
| 1 | Understand how to analysis contingency tables. | Cognitive |
| 2 | Understand logistic regression model concept and application. | Cognitive |
| 3 | Understand loglinear model concept and application. | Cognitive |

The correspondences of teaching objectives : core competences, essential virtues, teaching methods, and assessment

| No. | Core Competences | Essential Virtues | Teaching Methods | Assessment |
|-----|------------------|-------------------|----------------------|----------------------------|
| 1 | ABCD | 12345678 | Lecture, Publication | Testing, Study Assignments |
| 2 | ABCD | 12345678 | Lecture, Publication | Testing, Study Assignments |
| 3 | ABCD | 12345678 | Lecture, Publication | Testing, Study Assignments |

Course Schedule

| Week | Date | Course Contents | Note |
|------|--------------------------|-------------------------|------|
| 1 | 112/02/13 ~ 112/02/19 | chapter 1: Introduction | |
| 2 | 112/02/20 ~ 112/02/26 | chapter 1: Introduction | |

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| 3 | 112/02/27 ~ 112/03/05 | chapter 2: Analyzing Contingency Tables | |
| 4 | 112/03/06 ~ 112/03/12 | chapter 2: Analyzing Contingency Tables | |
| 5 | 112/03/13 ~ 112/03/19 | chapter 3: Generalized Linear Models | |
| 6 | 112/03/20 ~ 112/03/26 | chapter 3: Generalized Linear Models | |
| 7 | 112/03/27 ~ 112/04/02 | chapter 4: Logistic Regression | |
| 8 | 112/04/03 ~ 112/04/09 | chapter 4: Logistic Regression | |
| 9 | 112/04/10 ~ 112/04/16 | chapter 5: Building and Applying Logistic Regression Models | |
| 10 | 112/04/17 ~ 112/04/23 | Midterm Exam Week | |
| 11 | 112/04/24 ~ 112/04/30 | chapter 5: Building and Applying Logistic Regression Models | |
| 12 | 112/05/01 ~ 112/05/07 | chapter 5: Building and Applying Logistic Regression Models | |
| 13 | 112/05/08 ~ 112/05/14 | chapter 6: Multicategory Logit Models | |
| 14 | 112/05/15 ~ 112/05/21 | chapter 6: Multicategory Logit Models | |
| 15 | 112/05/22 ~ 112/05/28 | chapter 6: Multicategory Logit Models | |
| 16 | 112/05/29 ~ 112/06/04 | chapter 7: Loglinear Models for Contingency Tables and Counts | |
| 17 | 112/06/05 ~ 112/06/11 | chapter 7: Loglinear Models for Contingency Tables and Counts | |
| 18 | 112/06/12 ~ 112/06/18 | Final Exam Week | |
| Requirement | | | |
| Teaching Facility | Computer, Projector | | |
| Textbooks and Teaching Materials | An Introduction to Categorical Data Analysis, Third Edition, Alan Agresti, 2019 | | |
| References | | | |
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| Number of Assignment(s) | 2 (Filled in by assignment instructor only) |
| Grading Policy | <p>◆ Attendance : 20.0 % ◆ Mark of Usual : 20.0 % ◆ Midterm Exam : 30.0 %</p> <p>◆ Final Exam : 30.0 %</p> <p>◆ Other () : %</p> |
| Note | <p>This syllabus may be uploaded at the website of Course Syllabus Management System at http://info.ais.tku.edu.tw/csp or through the link of Course Syllabus Upload posted on the home page of TKU Office of Academic Affairs at http://www.acad.tku.edu.tw/CS/main.php.</p> <p>※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.</p> |