

Tamkang University Academic Year 112, 1st Semester Course Syllabus

Course Title	STATISTICS	Instructor	HUANG, YEN-CHUN
Course Class	TKFXB2A DEPARTMENT OF ARTIFICIAL INTELLIGENCE, 2A	Details	<ul style="list-style-type: none"> ◆ General Course ◆ Required ◆ One Semester
Relevance to SDGs	SDG4 Quality education SDG5 Gender equality		
Departmental Aim of Education			
I. Students may analyze problems in applied science based on the fundamental knowledge of programming, mathematics, and artificial intelligence. II. Students may plan and implement an AI system following the procedures of problem analysis, experiment testing, data visualizing, derivation and deduction. III. Educate the students to be AI engineers who may accomplish their missions independently and may collaborate with their colleagues in the workplace. IV. Students may have basic skills and global competence for career diversification, and may keep lifelong learning.			
Subject Departmental core competences			
A. Professional analysis.(ratio:40.00) B. Practical application.(ratio:30.00) C. Professional attitude.(ratio:25.00) D. Global Mobility.(ratio:5.00)			
Subject Schoolwide essential virtues			
1. A global perspective. (ratio:10.00) 2. Information literacy. (ratio:20.00) 3. A vision for the future. (ratio:10.00) 4. Moral integrity. (ratio:5.00) 5. Independent thinking. (ratio:30.00) 6. A cheerful attitude and healthy lifestyle. (ratio:10.00) 7. A spirit of teamwork and dedication. (ratio:10.00) 8. A sense of aesthetic appreciation. (ratio:5.00)			

Course Introduction	<p>1. Establishing fundamental statistical concepts: Students will be able to think and solve practical problems using mathematical and statistical concepts.</p> <p>2. Cultivating data processing and analysis skills: Through software operations, students will be able to execute data processing, statistical analysis, and data visualization. Through project reports, they will become proficient in statistical analysis skills using real-life examples.</p>
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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	Creating a strong foundation in statistical concepts while fostering skills in data processing and analysis.	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, Experience	Testing, Report(including oral and written)

Course Schedule

Week	Date	Course Contents	Note
1	112/09/11 ~ 112/09/17	Introduction to Statistics	
2	112/09/18 ~ 112/09/24	Introduction to Descriptive Statistics	
3	112/09/25 ~ 112/10/01	Sampling techniques	
4	112/10/02 ~ 112/10/08	Data Presentation and Visualization (一)	
5	112/10/09 ~ 112/10/15	Discrete Probability Distribution (一)	
6	112/10/16 ~ 112/10/22	Discrete Probability Distribution (二)	

7	112/10/23 ~ 112/10/29	Basic concepts of probability	
8	112/10/30 ~ 112/11/05	Estimation and confidence intervals	
9	112/11/06 ~ 112/11/12	Midterm Exam Week	
10	112/11/13 ~ 112/11/19	Sampling Distribution	
11	112/11/20 ~ 112/11/26	Introduction to statistical software (e.g., R, Excel)	
12	112/11/27 ~ 112/12/03	Data Analysis with Software	
13	112/12/04 ~ 112/12/10	One-way ANOVA and Data Analysis with Software	
14	112/12/11 ~ 112/12/17	Chi-square test and Data Analysis with Software	
15	112/12/18 ~ 112/12/24	Real-world examples and case studies	
16	112/12/25 ~ 112/12/31	Final Exam Week and Applications in various fields (e.g., business, healthcare, social sciences)	
17	113/01/01 ~ 113/01/07	Final Exam Week	
18	113/01/08 ~ 113/01/14	Flex week, learning activities should be arranged.	
Key capabilities	self-directed learning Information Technology Problem solving		
Interdisciplinary			
Distinctive teaching	Project implementation course		
Course Content	Computer programming or Computer language (students have hands-on experience in related projects)		
Requirement			
Textbooks and Teaching Materials	Using teaching materials from other writers:Textbooks		

References	
Grading Policy	<ul style="list-style-type: none"> ◆ Attendance : 20.0 % ◆ Mark of Usual : % ◆ Midterm Exam : 30.0 % ◆ Final Exam : 40.0 % ◆ Other (Internship course) : 10.0 %
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>