Tamkang University Academic Year 113, 1st Semester Course Syllabus

Course Title	DATABASE	Instructor	
Course Class	TKFXB2A DEPARTMENT OF ARTIFICIAL INTELLIGENCE, 2A	Details	◆ General Course ◆ Required ◆ One Semester ◆ 3 Credits
Relevance to SDGs	SDG4 Quality education		

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 indepedently 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	The Database Systems course provides a comprehensive introduction about the principles and practices of database management. Students will learn about data modeling, relational database design, SQL querying, and database administration. The course covers essential topics such as normalization, indexing, and transactions to ensure efficient and reliable data storage and retrieval. Using MS SQL Server as the primary software tool, students will gain hands-on experience in designing, implementing, and managing databases.

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	The goal of this course is to teach students the fundamental concepts of database systems, including data modeling, relational database design, and SQL querying. Using MS SQL Server, students will gain practical skills in designing, implementing, and managing databases.	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, Discussion, Practicum	Testing, Study Assignments, Discussion(including classroom and online)

Course Schedule

Week	Date	Course Contents	Note
1	113/09/09 ~ 113/09/15	Introduction to Databases	
2	113/09/16 ~ 113/09/22	Management Environment of SQL Server 2019	
3	113/09/23 ~ 113/09/29	Management Environment of SQL Server 2019	

4	113/09/30 ~ 113/10/06	Relational Database	
5	113/10/07 ~ 113/10/13	Relational Database	
6	113/10/14 ~ 113/10/20	ER Model Entity-Relationship Diagram	
7	113/10/21 ~ 113/10/27	Database Normalization	
8	113/10/28 ~ 113/11/03	Relational Algebra for Databases	
9	113/11/04 ~ 113/11/10	Midterm Exam/Midterm Assessment Week (teachers can adjust the week as needed)	
10	113/11/11 ~ 113/11/17	Relational Algebra for Databases	
11	113/11/18 ~ 113/11/24	Structured Query Language (SQL)	
12	113/11/25 ~ 113/12/01	SQL Query Language	
13	113/12/02 ~ 113/12/08	SQL Query Language	
14	113/12/09 ~ 113/12/15	Combining Theory and Practice	
15	113/12/16 ~ 113/12/22	VIEW	
16	113/12/23 ~ 113/12/29	Stored Procedure	
17	113/12/30 ~ 114/01/05	Final Exam/Final Assessment Week (teachers can adjust the week as needed)	
18	114/01/06 ~ 114/01/12	Flexible Teaching Week: Generally, no in-person classes; teachers may arrange teaching activities or final assessments, among other options.	

Key capabilities	self-directed learning Information Technology Problem solving
Interdisciplinary	STEAM course (S:Science, T:Technology, E:Engineering, M:Math, A field:Integration of Art and Humanist)
Distinctive teaching	Project implementation course Special/Problem-Based(PBL) Courses

Course Content	Computer programming or Computer language (students have hands-on experience in related projects) Logical Thinking
Requirement	Students who miss class without a valid reason more than three times will receive a score of zero for attendance.
Textbooks and Teaching Materials	Self-made teaching materials:Handouts Name of teaching materials: Self-compiled lecture notes Using teaching materials from other writers:Textbooks, Presentations Name of teaching materials: Illustrated Database System Theory: Implementation Using SQL Server (5th Edition) Author: Chun-Hsiung Lee Publisher: Chuan Hwa Publishing Ltd. Publication Date: 2022/12/20
References	None
Grading Policy	◆ Attendance： 10.0 % ◆ Mark of Usual：30.0 % ◆ Midterm Exam： 30.0 % ◆ Final Exam： 30.0 % ◆ Other〈 〉： %
Note	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 . **※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.**