Tamkang University Academic Year 114, 1st Semester Course Syllabus

Course Title	DIGITAL TECHNOLOGY AND AI APPLICATION	Instructor	CHEN, CHIH-YANG
Course Class	TLCAB1A DEPARTMENT OF BUSINESS ADMINISTRATION (ENGLISH-TAUGHT PROGRAM), 1A	Details	◆ General Course ◆ Required ◆ 1st Semester ◆ 2 Credits
Relevance to SDGs	SDG10 Reducing inequalities SDG11 Sustainable cities and communities SDG12 Responsible consumption and production SDG13 Climate action		

Departmental Aim of Education

Ⅰ. Acquisition of professional knowledge.

Ⅱ. Learning effective self-planning.

Ⅲ. Theoretical application of practical matters.

Ⅳ. Interpersonal communication and teamwork.

Ⅴ. Analysis of problems and recommendations.

Ⅵ. Awareness of Ethics as a global citizen.

Subject Departmental core competences

A. Students can demonstrate that they have program basic knowledge of business and management.(ratio:10.00)

B. Students can demonstrate that they have capability in professional knowledge expression. (ratio:10.00)

C. Students can demonstrate that they have capability in using information technology. (ratio:70.00)

D. Students can demonstrate that they are critical thinkers.(ratio:10.00)

Subject Schoolwide essential virtues

1. A global perspective. (ratio:10.00)

2. Information literacy. (ratio:30.00)

3. A vision for the future. (ratio:5.00)

4. Moral integrity. (ratio:15.00)

5. Independent thinking. (ratio:25.00)

6. A cheerful attitude and healthy lifestyle. (ratio:5.00)

7. A spirit of teamwork and dedication. (ratio:5.00)

8. A sense of aesthetic appreciation. (ratio:5.00)

Course Introduction	Digital technology and AI transform industries by enabling intelligent decision-making, improving efficiency, and fostering innovation, while also raising challenges of ethics, privacy, and adaptation.

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	Explore real-world applications of AI in business, education, and society. Build awareness and critical thinking regarding AI ethics, privacy, and bias.Design and complete a small-scale AI project with presentation of results.	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	Report(including oral and written)

Course Schedule

Week	Date	Course Contents	Note
1	114/09/15 ~ 114/09/21	1.Introduction to AI: History, evolution, and application domains.	

2	114/09/22 ~ 114/09/28	2. Foundations of Digital Technology: Cloud, IoT, and big data integration.	
3	114/09/29 ~ 114/10/05	3. Data Collection and Preprocessing: Cleaning, feature selection, and normalization.	
4	114/10/06 ~ 114/10/12	4. Basics of Machine Learning: Supervised and unsupervised learning.	
5	114/10/13 ~ 114/10/19	5. Classification and Regression Models: Decision trees, linear and logistic regression.	
6	114/10/20 ~ 114/10/26	6. Clustering and Dimensionality Reduction: K-means, PCA.	
7	114/10/27 ~ 114/11/02	7. Introduction to Deep Learning: Neural network architectures and applications.	
8	114/11/03 ~ 114/11/09	8. Natural Language Processing (NLP): Text mining, chatbots.	
9	114/11/10 ~ 114/11/16	9. Computer Vision (CV): Image recognition and applications.	
10	114/11/17 ~ 114/11/23	10. Generative AI: Large language models, image generation.	
11	114/11/24 ~ 114/11/30	11. AI in Business Applications: Marketing, finance, and manufacturing.	
12	114/12/01 ~ 114/12/07	12. AI in Education: Smart learning and educational data analytics.	
13	114/12/08 ~ 114/12/14	13. AI Ethics and Social Impact: Privacy, bias, and regulations.	
14	114/12/15 ~ 114/12/21	14. AI Project Practice I: Data analysis and model building.	
15	114/12/22 ~ 114/12/28	15. AI Project Practice II: Project presentation and future outlook.	
16	114/12/29 ~ 115/01/04	Final Week of Diverse Assessments	
17	115/01/05 ~ 115/01/11	Final Week of Diverse Assessments/Flexible Teaching Week for Teachers	
18	115/01/12 ~ 115/01/18	Flexible Teaching Week for Teachers	
Key capabilities			

Interdisciplinary	
Distinctive teaching	
Course Content	Computer programming or Computer language (students have hands-on experience in related projects) Intellectual Property (learning intellectual property) Gender Equality Education Logical Thinking Green Energy AI application Sustainability issue
Requirement	
Textbooks and Teaching Materials	Self-made teaching materials:Presentations, Handouts
References	
Grading Policy	◆ Attendance： 20.0 % ◆ Mark of Usual： % ◆ Midterm Exam： 5.0 % ◆ Final Exam： 55.0 % ◆ Other〈助教〉：20.0 %
Note	This syllabus may be uploaded at the website of Course Syllabus Management System at https://web2.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. ※"Adhere to the concept of intellectual property rights" and "Do not illegally photocopy, download, or distribute." Using original textbooks is advised. It is a crime to improperly photocopy others' publications.