Tamkang University Academic Year 112, 2nd Semester Course Syllabus

Course Title	THE TREND OF AI INDUSTRY	Instructor	HAN-CHIEH CHAO
Course Class	TGKXB0A ELECTIVES COURSES BY COLLEGE OF ARTIFICIAL INNOVATIVE INTELLIGENCE, 0A	Details	◆ General Course ◆ Selective ◆ One Semester
Relevance to SDGs	SDG4 Quality education SDG9 Industry, Innovation, and Infrastructure SDG17 Partnerships for the goals		

Departmental Aim of Education

1. Students may analyze problems in applied science based on the fundamental knowledge of programming, mathematics, and artificial intelligence.
2. Students may plan and implement an AI system following the procedures of problem analysis, experiment testing, data visualizing, derivation and deduction.
3. Educate the students to be AI engineers who may accomplish their missions indepedently and may collaborate with their colleagues in the workplace.
4. Students may have basic skills and global competence for career diversification, and may keep lifelong learning.

Subject Departmental core competences

A. Professional analysis.(ratio:50.00)

B. Practical application.(ratio:10.00)

C. Professional attitude.(ratio:10.00)

D. Global Mobility.(ratio:30.00)

Subject Schoolwide essential virtues

1. A global perspective. (ratio:10.00)
2. Information literacy. (ratio:30.00)
3. A vision for the future. (ratio:15.00)
4. Moral integrity. (ratio:5.00)
5. Independent thinking. (ratio:15.00)
6. A cheerful attitude and healthy lifestyle. (ratio:5.00)
7. A spirit of teamwork and dedication. (ratio:15.00)
8. A sense of aesthetic appreciation. (ratio:5.00)

Course Introduction	This course thoroughly explores AI, encompassing core concepts, industry connections, and trends. Students gain a nuanced understanding of applying AI principles across diverse industries. The focus is on developing analytical skills to assess AI's impact on industry structures and job markets, enabling students to evaluate practical applications and risks in business. Through in-depth study, students comprehend and effectively respond to AI's transformative effects, establishing a solid foundation for a successful career in artificial intelligence.

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	This course guides students in understanding AI's core concepts, industry ties, and future trends, fostering awareness of principles and technologies. It cultivates analytical skills to assess AI's impact on industry and employment, enabling evaluation of practical applications and risks. Equipping students to comprehend and navigate AI-driven transformations lays a solid foundation for a successful career.	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	Testing, Study Assignments, Discussion(including classroom and online)

Course Schedule

Week	Date	Course Contents	Note
1	113/02/19 ~ 113/02/25	The Artificial Intelligence Perspective of Literary Figures – A Case Study of Science Fiction Works by Sir Kazuo Ishiguro and Higashino Keigo	

2	113/02/26 ~ 113/03/03	Emerging Trends and Innovations in AI Technology and Intelligent Services	
3	113/03/04 ~ 113/03/10	Artificial Intelligence: Trends in Industrial Applications and Development	
4	113/03/11 ~ 113/03/17	Application of Smart Agriculture Big Data and Analytical Models in Artificial Cultivation of Truffles	
5	113/03/18 ~ 113/03/24	Digital Transformation and Intelligent Reinvention: Artificial Intelligence within Manufacturing	
6	113/03/25 ~ 113/03/31	Generative AI Practices and Applications：Introduction to disco diffusion	
7	113/04/01 ~ 113/04/07	Teaching Observation Day	
8	113/04/08 ~ 113/04/14	Applying Artificial Intelligence Technology to STEM Education	
9	113/04/15 ~ 113/04/21	Research and Application of Artificial Intelligence in Education	
10	113/04/22 ~ 113/04/28	Artificial intelligence applied to multimedia technology	
11	113/04/29 ~ 113/05/05	From Traditional to Modern: New Opportunities in Teaching and Learning with AI	
12	113/05/06 ~ 113/05/12	Introduction of AIoTs applications	
13	113/05/13 ~ 113/05/19	Enhancing Robustness in Deep Learning: A Universal Mechanism for Adversarial Example Detection in Multiple Types Data	
14	113/05/20 ~ 113/05/26	Federated Learning in Mobile Networks	
15	113/05/27 ~ 113/06/02	The Development of Droned-based Smart Agriculture with AIoT and Deep Learning	
16	113/06/03 ~ 113/06/09	Research and Application of Artificial Intelligence in Judicial System	
17	113/06/10 ~ 113/06/16	Dragon Boat Festival	
18	113/06/17 ~ 113/06/23	Artificial Intelligence-Driven Information Security Technologies and Applications	
Key capabilities		self-directed learning International mobility Information Technology Social Participation Problem solving Interdisciplinary	

Interdisciplinary	STEAM course (S:Science, T:Technology, E:Engineering, M:Math, A field:Integration of Art and Humanist) Competency-based education 'competency exploration' sustained competency or global issues STEEP (Society, Technology, Economy, Environment, and Politics) In addition to teaching content of the teacher's professional field, integrate other subjects or invite experts and scholars in other fields to share knowledge or teaching
Distinctive teaching	Industry-university collaboration courses Project implementation course Special/Problem-Based(PBL) Courses Learning technologies (such as AR/VR,etc.) incorporated to physical courses
Course Content	AI application
Requirement	
Textbooks and Teaching Materials	Self-made teaching materials:Presentations, Handouts Using teaching materials from other writers:Presentations, Handouts
References	N/A
Grading Policy	◆ Attendance： 40.0 % ◆ Mark of Usual：20.0 % ◆ Midterm Exam： 20.0 % ◆ Final Exam： 20.0 % ◆ 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.**