Tamkang University Academic Year 111, 1st Semester Course Syllabus

Course Title	INTRODUCTION TO ARTIFICIAL INTELLIGENCE	Instructor	YU, KUO-CHUNG
Course Class	TKFXB1B DEPARTMENT OF ARTIFICIAL INTELLIGENCE, 1B	Details	◆ General Course ◆ Required ◆ One Semester
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:35.00)

B. Practical application.(ratio:30.00)

C. Professional attitude.(ratio:15.00)

D. Global Mobility.(ratio:20.00)

Subject Schoolwide essential virtues

1. A global perspective. (ratio:10.00)

2. Information literacy. (ratio:20.00)

3. A vision for the future. (ratio:20.00)

4. Moral integrity. (ratio:5.00)

5. Independent thinking. (ratio:20.00)

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	This course aims to provide the basic concept and the applications of artificial intelligence to the learners. The developments including automation, computer information, networking as well as AI will be introduced. In addition, the important applications of AI techniques on Industry, including image processing, natural language processing and data analysis will be introduced.

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	Learners will understand the development of computer technologies and their applications	Cognitive
2	Learners will understand the basic concepts of AI	Cognitive
3	Learners will understand the key values of AI, especially in Industry applications	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), Report(including oral and written)
2	ABCD	12345678	Lecture, Discussion	Testing, Study Assignments, Discussion(including classroom and online), Report(including oral and written)

3	ABCD	12345678	Lecture, Discussion	Testing, Study Assignments, Report(including oral and written)

Course Schedule

Week	Date	Course Contents	Note
1	111/09/05 ~ 111/09/11	Introduction to this Course and Computer Architecture	
2	111/09/12 ~ 111/09/18	Computer Hardware	
3	111/09/19 ~ 111/09/25	Computer Software	
4	111/09/26 ~ 111/10/02	Programming Language and Logic	
5	111/10/03 ~ 111/10/09	Language Structure	
6	111/10/10 ~ 111/10/16	Operating Systems and Database	
7	111/10/17 ~ 111/10/23	Computer Networks and Internet	
8	111/10/24 ~ 111/10/30	Introduction to Artificial Intelligence	
9	111/10/31 ~ 111/11/06	Development, Applications, and Challenges of AI in Computer Vision	
10	111/11/07 ~ 111/11/13	Midterm Exam Week	
11	111/11/14 ~ 111/11/20	Development, Applications, and Challenges of AI in Data Analysis	
12	111/11/21 ~ 111/11/27	Supervised and Unsupervised Learning	
13	111/11/28 ~ 111/12/04	Machine Learning Concepts	
14	111/12/05 ~ 111/12/11	Deep Learning Concepts	
15	111/12/12 ~ 111/12/18	AI Applications Case Study (I)	
16	111/12/19 ~ 111/12/25	AI Applications Case Study (II)	
17	111/12/26 ~ 112/01/01	Case Study Reports and Sharing	
18	112/01/02 ~ 112/01/08	Final Exam Week	

Requirement	

Teaching Facility	Computer, Projector
Textbooks and Teaching Materials	Lecture Notes from Instructor
References	None
Number of Assignment(s)	(Filled in by assignment instructor only)
Grading Policy	◆ Attendance： 5.0 % ◆ Mark of Usual：25.0 % ◆ Midterm Exam： 25.0 % ◆ Final Exam： 25.0 % ◆ Other〈hand-on course〉：20.0 %
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.**