

Tamkang University Academic Year 112, 1st Semester Course Syllabus

Course Title	INTRODUCTION TO ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEMS	Instructor	CHEN, DUEN-KAI
Course Class	TEIDB3A DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING (ENGLISH-TAUGHT PROGRAM), 3A	Details	<ul style="list-style-type: none"> ◆ Blended Course ◆ Selective ◆ One Semester ◆ 3 Credits
Relevance to SDGs	SDG4 Quality education SDG9 Industry, Innovation, and Infrastructure		
Departmental Aim of Education			
I. Comprehend professional knowledge. II. Acquire mastery of Practical Skills. III. Establish creative achievement.			
Subject Departmental core competences			
A. Programming and application ability.(ratio:10.00) B. Mathematical reasoning ability.(ratio:30.00) C. Implementing computer systems ability.(ratio:20.00) D. Computer networking application skills.(ratio:10.00) E. Professional skills for information technology (IT) industry.(ratio:30.00)			
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:10.00) 5. Independent thinking. (ratio:10.00) 6. A cheerful attitude and healthy lifestyle. (ratio:10.00) 7. A spirit of teamwork and dedication. (ratio:20.00) 8. A sense of aesthetic appreciation. (ratio:10.00)			

Course Introduction	<p>This class aims to provide an introduction to efforts from a wide range of artificial intelligence researches, including symbolic approaches, such as Expert Systems, as well as numerical approaches, such as artificial neural networks and genetic algorithms. Fundamental machine learning concepts is also covered in this course.</p> <p>This course will also touch the social impact of AI.</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	Introduce efforts from a wide range of artificial intelligence researches to students.	Cognitive

The correspondences of teaching objectives : core competences, essential virtues, teaching methods, and assessment

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	ABCDE	12345678	Lecture, Discussion, Practicum, Experience	Study Assignments, Discussion(including classroom and online), Practicum, Report(including oral and written), Activity Participation

Course Schedule

Note for Blended Course : When utilizing weekly digital instruction, please fill in "Online Asynchronous Instruction".

Week	Date	Course Contents	Note
1	112/09/11 ~ 112/09/17	Overview of this course	
2	112/09/18 ~ 112/09/24	Uses and Limitations. Introduction to AI applications.	
3	112/09/25 ~ 112/10/01	Introduction to AI applications.	

4	112/10/02 ~ 112/10/08	Brief History of Artificial Intelligence	
5	112/10/09 ~ 112/10/15	Brief History of Artificial Intelligence	
6	112/10/16 ~ 112/10/22	Social impact of AI	
7	112/10/23 ~ 112/10/29	Text to Image	
8	112/10/30 ~ 112/11/05	Search Methodologies and Game Playing	
9	112/11/06 ~ 112/11/12	Midterm Exam Week	Online Asynchronous Instruction
10	112/11/13 ~ 112/11/19	Expert systems and Rule-based systems	Online Asynchronous Instruction
11	112/11/20 ~ 112/11/26	Expert systems and Rule-based systems	
12	112/11/27 ~ 112/12/03	Expert systems and Rule-based systems	
13	112/12/04 ~ 112/12/10	Introduction to Machine Learning	
14	112/12/11 ~ 112/12/17	Introduction to Machine Learning	Online Asynchronous Instruction
15	112/12/18 ~ 112/12/24	Introduction to Machine Learning	
16	112/12/25 ~ 112/12/31	Introduction to Machine Learning	
17	113/01/01 ~ 113/01/07	Final Exam Week	Online Asynchronous Instruction
18	113/01/08 ~ 113/01/14	Flex week, learning activities should be arranged.	
Key capabilities	self-directed learning Information Technology		
Interdisciplinary			
Distinctive teaching	Project implementation course		
Course Content	Logical Thinking AI application		

Requirement	Details of grading policy and how course project works will be announce in the first class. Lecturer remain the rights to adjust grading policy. 成績計算方式及專題執行細節將於課堂上說明，且授課教師保留調整計算方式的彈性。
Textbooks and Teaching Materials	Self-made teaching materials:Presentations, Videos Using teaching materials from other writers:Presentations, Videos
References	Artificial Intelligence: a guide to intelligent systems 2nd Edition by Michael Negnevitsky, Addison Wesley
Grading Policy	◆ Attendance : % ◆ Mark of Usual : 50.0 % ◆ Midterm Exam : 10.0 % ◆ Final Exam : % ◆ Other 〈course project〉 : 40.0 %
Note	<p>1. This syllabus may be uploaded at the website of the Course Syllabus Management System at https://info.ais.tku.edu.tw/csp or through the link of the Course Syllabus Upload posted on the home page of the TKU Office of Academic Affairs http://www.acad.tku.edu.tw/CS/main.php</p> <p>2. According to the Implementation regulations of distance education for junior college and above are prescribed pursuant to Article 2, "The distance learning course referred to in these Measures refers to more than one-half of the teaching hours in each subject."</p> <p>3. According to the regulations of Tamkang University Enforcement Rules for digital teaching, Paragraph 2 and Article 3, the distance learning course of our school must be "The course of digital teaching with distance learning platform or synchronous video system in our school. Teaching Hours include course lectures, teacher-student interaction discussions, quizzes and other learning activities."</p> <p>4. If there are any temporary course changes (including time changes and classroom changes of distance learning courses, blended courses), please make out an application according to regulations to the Office of Academic Affairs.</p> <p>※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.</p>