

Tamkang University Academic Year 112, 2nd Semester Course Syllabus

Course Title	INTRODUCTION TO MACHINE LEARNING	Instructor	TRAN, HUU KHOA
Course Class	TLMXB4P DEPARTMENT OF INFORMATION MANAGEMENT, 4P	Details	♦ General Course ♦ Selective ♦ One Semester
Relevance to SDGs	SDG3 Good health and well-being for people SDG4 Quality education SDG8 Decent work and economic growth SDG9 Industry, Innovation, and Infrastructure		
D e p a r t m e n t a l A i m o f E d u c a t i o n			
I . Refining information management skills. II. Enhancing information technology capabilities. III. Thinking independently with logic analysis. IV. Reinforcing team-working spirit. V . Valuing business and information ethics. VI. Cultivating global view.			
Subject Departmental core competences			
A. Problem analysis and critical thinking.(ratio:15.00) B. Functional business Areas and business practices.(ratio:5.00) C. Applications of information systems.(ratio:45.00) D. Computer programming.(ratio:15.00) E. Network system planning.(ratio:5.00) F. Database design and management.(ratio:5.00) G. Analysis, design and integration of information system.(ratio:5.00) H. Project management.(ratio:5.00)			
Subject Schoolwide essential virtues			
1. A global perspective. (ratio:5.00) 2. Information literacy. (ratio:30.00) 3. A vision for the future. (ratio:10.00) 4. Moral integrity. (ratio:5.00)			

5. Independent thinking. (ratio:20.00)				
6. A cheerful attitude and healthy lifestyle. (ratio:5.00)				
7. A spirit of teamwork and dedication. (ratio:20.00)				
8. A sense of aesthetic appreciation. (ratio:5.00)				
Course Introduction		This course introduce various learning algorithms which apply to different fields. Python programming is apply and evaluate these algorithms on real datasets.		
<p>The correspondences between the course's instructional objectives and the cognitive, affective, and psychomotor objectives.</p> <p>Differentiate the various objective methods among the cognitive, affective and psychomotor domains of the course's instructional objectives.</p> <p>I. Cognitive : Emphasis upon the study of various kinds of knowledge in the cognition of the course's veracity, conception, procedures, outcomes, etc.</p> <p>II.Affective : Emphasis upon the study of various kinds of knowledge in the course's appeal, morals, attitude, conviction, values, etc.</p> <p>III.Psychomotor: Emphasis upon the study of the course's physical activity and technical manipulation.</p>				
No.	Teaching Objectives			objective methods
1	Cognitive			Cognitive
2	Affective			Affective
3	Psychomotor			Cognitive
The correspondences of teaching objectives : core competences, essential virtues, teaching methods, and assessment				
No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	ABCDEFGH	12345678	Lecture, Discussion	Testing, Study Assignments, Discussion(including classroom and online), Report(including oral and written)

2	ACDGH	1257	Lecture, Discussion	Testing, Study Assignments, Discussion(including classroom and online), Report(including oral and written)
3	CEFGH	12345678	Lecture, Discussion	Testing, Study Assignments, Discussion(including classroom and online), Report(including oral and written)

Course Schedule

Week	Date	Course Contents	Note
1	113/02/19 ~ 113/02/25	Introduction to Machine Learning	
2	113/02/26 ~ 113/03/03	Getting started with WEKA	
3	113/03/04 ~ 113/03/10	Supervised Learning	
4	113/03/11 ~ 113/03/17	Regression I	
5	113/03/18 ~ 113/03/24	Regression II	
6	113/03/25 ~ 113/03/31	Regression III	
7	113/04/01 ~ 113/04/07	Classification I	
8	113/04/08 ~ 113/04/14	Classification II	
9	113/04/15 ~ 113/04/21	Midterm Exam Week	
10	113/04/22 ~ 113/04/28	Classification III	
11	113/04/29 ~ 113/05/05	Special Topics	
12	113/05/06 ~ 113/05/12	Special Topics	
13	113/05/13 ~ 113/05/19	Project presentation	
14	113/05/20 ~ 113/05/26	Project presentation	
15	113/05/27 ~ 113/06/02	Graduate Exam Week	
16	113/06/03 ~ 113/06/09		
17	113/06/10 ~ 113/06/16		
18	113/06/17 ~ 113/06/23		

Key capabilities	self-directed learning International mobility Information Technology Social Participation Humanistic Caring Problem solving Interdisciplinary
Interdisciplinary	Competency-based education 'competency exploration' sustained competency or global issues STEEP (Society, Technology, Economy, Environment, and Politics)
Distinctive teaching	USR curriculum Industry-university collaboration courses Project implementation course Special/Problem-Based(PBL) Courses
Course Content	AI application
Requirement	
Textbooks and Teaching Materials	Self-made teaching materials:Handouts Using teaching materials from other writers:Handouts
References	
Grading Policy	◆ Attendance : 10.0 % ◆ Mark of Usual : 20.0 % ◆ Midterm Exam : 5.0 % ◆ Final Exam : 5.0 % ◆ Other 〈Project Presentation〉 : 60.0 %
Note	<p>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.</p> <p>※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.</p>