Tamkang University Academic Year 110, 1st Semester Course Syllabus

Course Title	SOFT COMUPTING	Instructor	
Course Class	TLMXM1A MASTER'S PROGRAM, DEPARTMENT OF INFORMATION MANAGEMENT, 1A	Details	◆ General Course ◆ Selective ◆ One Semester
Relevance to SDGs	SDG8 Decent work and economic growth SDG9 Industry, Innovation, and Infrastructure		

Departmental Aim of Education

Devoting to the integration and research of information technology and business management knowledge, and cultivating, for the society, middle and higher level managers with both information capabilities and modern management skills.

Subject Departmental core competences

A. Use of modern management knowledge.(ratio:50.00)

D. Integration of information technology and business management.(ratio:50.00)

Subject Schoolwide essential virtues

1. A global perspective. (ratio:50.00)

2. Information literacy. (ratio:50.00)

Course Introduction

The course will discuss the theory and applications of the following methodologies and algorithms:

1. Fuzzy Logic
2. Neuron Network
3. Meta-heuristic algorithms, such as: Simulated annealing, Genetic algorithms, Particle swarm intelligence and Ant-colony system

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	1. Inspiring students interest in learning Computational Intelligence (CI). , and cultivating their basic core competence of CI so as to make it reality in daily lives.	Cognitive
2	2 Guiding students CI skills with diverse examples so that they can apply what they have learned in their live and work	Affective
3	3 Keeping abreast of the developments and applications of information communication and technology.	Affective

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	AD	12	Lecture, Discussion	Testing, Discussion(including classroom and online), Report(including oral and written)
2	AD	12	Lecture, Discussion	Testing, Discussion(including classroom and online), Report(including oral and written)
3	AD	12	Lecture, Discussion	Testing, Discussion(including classroom and online), Report(including oral and written)

Course Schedule

Week	Date	Course Contents	Note
1	110/09/22 ~ 110/09/28	Introduction. Overview and motivation.	
2	110/09/29 ~ 110/10/05	Fuzzy Set and Fuzzy Logic	

3	110/10/06 ~ 110/10/12	Fuzzy type I and type II	
4	110/10/13 ~ 110/10/19	Fuzzy in Applications	
5	110/10/20 ~ 110/10/26	Neuron Networks	
6	110/10/27 ~ 110/11/02	Neuron Networks II	
7	110/11/03 ~ 110/11/09	Neuron Networks in Application	
8	110/11/10 ~ 110/11/16	ANFIS System	
9	110/11/17 ~ 110/11/23	Simulated Annealing	
10	110/11/24 ~ 110/11/30	Midterm Exam Week	
11	110/12/01 ~ 110/12/07	Genetic Algorithms	
12	110/12/08 ~ 110/12/14	Particle Swarm Intelligence	
13	110/12/15 ~ 110/12/21	Ant Colony System	
14	110/12/22 ~ 110/12/28	New Meta-heuristic Algorithms	
15	110/12/29 ~ 111/01/04	Project Presentations	
16	111/01/05 ~ 111/01/11	Project Presentations	
17	111/01/12 ~ 111/01/18	Final Exam Week	
18	111/01/19 ~ 111/01/25		

Requirement	
Teaching Facility	Computer, Projector
Textbooks and Teaching Materials	- Textbook "Soft Computing and Its Applications", Ray Kumar S., Apple Academic Press, c2015.
References	- References: Selected Journal Papers
Number of Assignment(s)	3 (Filled in by assignment instructor only)
Grading Policy	◆ Attendance： 10.0 % ◆ Mark of Usual： % ◆ Midterm Exam： 30.0 % ◆ Final Exam： % ◆ Other〈Project presentation〉：60.0 %

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.**