## Tamkang University Academic Year 113, 2nd Semester Course Syllabus

Course Title RESEARCH METHODOLOGY		Instructor	HSIA-HSIANG CHEN			
Course Class	TEIBM1A MASTER'S PROGRAM, DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING (ENGLISH-TAUGHT PROGRAM),	Details	<ul> <li>General Course</li> <li>Required</li> <li>2nd Semester</li> <li>1 Credits</li> </ul>			
Relevance to SDGs	elevance SDG4 Quality education SDG8 Decent work and economic growth SDG9 Industry, Innovation, and Infrastructure					
Departmental Aim of Education						
<ul> <li>I. Cultivate the ability to conduct independent research and problem solving.</li> <li>II. Strengthen creativity and research capacity.</li> <li>II. Build profound professional knowledge in computer science and information engineering.</li> <li>IV. Engage in celf-directed lifelong learning.</li> </ul>						
Subject Departmental core competences						
A. Indepen	dent problem solving ability.(ratio:20.00)					
B. Indepen	dent innovative thinking ability.(ratio:20.00)					
C. Research	ו paper writing and presentation ability.(ratio:10.00)					
D. Research	າ & development (R&D) ability in information engineering.(ratic	):20.00)				
E. Project e	execution and control ability.(ratio:10.00)					
F. Lifelong	F. Lifelong self-directed learning ability.(ratio:20.00)					
Subject Schoolwide essential virtues						
1. A globa	l perspective. (ratio:20.00)					
2. Information literacy. (ratio:20.00)						
3. A vision for the future. (ratio:10.00)						
4. Moral integrity. (ratio:10.00)						
5. Indepen	5. Independent thinking. (ratio:10.00)					
6. A cheerful attitude and healthy lifestyle. (ratio:10.00)						
7. A spirit of teamwork and dedication. (ratio:10.00)						
8. A sense	8. A sense of aesthetic appreciation. (ratio:10.00)					

In	In the course, we will introduce and explore the research method in the computer science field. The course covers the procedure of research, which is for problem definition, theoretical formulation, methodology, experimental design, statistical analysis, and measurement index. Moreover, there will be relevant aspects of reading, writing, evaluating literature, and researching publications in the lectures.						
<ul> <li>The correspondences between the course's instructional objectives and the cognitive, affective, and psychomotor objectives.</li> <li>Differentiate the various objective methods among the cognitive, affective and psychomotor domains of the course's instructional objectives.</li> <li>I. Cognitive : Emphasis upon the study of various kinds of knowledge in the cognition of the course's veracity, conception, procedures, outcomes, etc.</li> <li>II.Affective : Emphasis upon the study of various kinds of knowledge in the course's appeal, morals, attitude, conviction, values, etc.</li> <li>III.Psychomotor: Emphasis upon the study of the course's physical activity and technical manipulation.</li> </ul>							
No.		Teaching Objectives objective methods					
1	The course aims to teach students to understand how to survey       Cognitive         topics, build research models, carry out experiment problems, and       present results during the semester.				Cognitive		
	The c	correspond	lences of teaching objectives	: core competences, essential virtues, teaching me	thods, and assessment		
No.	Core Compet	tences	Essential Virtues	Teaching Methods	Assessment		
1	ABCDEF		12345678	Lecture, Discussion	Study Assignments, Discussion(including classroom and online), Report(including oral and written)		
	Course Schedule						
Week	Date		Cour	rse Contents	Note		
1	114/02/17 ~ 114/02/23	Course introduction					
2	114/02/24~ 114/03/02	Digital library for research					
3	114/03/03~ 114/03/09	Digital library for research					
4	114/03/10~ 114/03/16	Formulation, theory and model					

5	114/03/17 ~ 114/03/23	Formulation, theory and model	
6	114/03/24 ~ 114/03/30	Student presentation I	
7	114/03/31~ 114/04/06	Student presentation I	
8	114/04/07 ~ 114/04/13	Experiment design and performance evaluation	
9	114/04/14 ~ 114/04/20	Experiment design and performance evaluation	
10	114/04/21~ 114/04/27	Midterm exam	
11	114/04/28 ~ 114/05/04	Student presentation II	
12	114/05/05 ~ 114/05/11	Student presentation II	
13	114/05/12 ~ 114/05/18	Qualitative research and quantitative research	
14	114/05/19~ 114/05/25	Qualitative research and quantitative research	
15	114/05/26~ 114/06/01	Student presentation III	
16	114/06/02 ~ 114/06/08	Student presentation III	
17	114/06/09~ 114/06/15	Final exam	
18	114/06/16~ 114/06/22	Complementary materials	
Key capabilities		self-directed learning Information Technology Problem solving Interdisciplinary	
Interdisciplinary		STEAM course (S:Science, T:Technology, E:Engineering, M:Math, A field:Integratior Humanist)	of Art and
Distinctive teaching		Methodology course	
Course Content		Computer programming or Computer language (students have hands-on experier related projects) Logical Thinking	nce in
Requirement		ALapplication	
Re	quirement	Students should prepare their laptops or mobiles in the classroom.	

Textbooks and Teaching Materials	Self-made teaching materials:Textbooks, Presentations, Handouts Using teaching materials from other writers:Textbooks, Presentations, paper or report				
Grading Policy	<ul> <li>Attendance: 10.0 % ◆ Mark of Usual: 40.0 % ◆ Midterm Exam: %</li> <li>Final Exam: %</li> <li>Other ⟨presentation/report⟩: 50.0 %</li> </ul>				
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