Course Title	RESEARCH METHODOLOGY	Instructor	
Course Class	TEIBM1A MASTER'S PROGRAM, DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING (ENGLISH-TAUGHT PROGRAM),	Details	◆ General Course ◆ Required ◆ 1st Semester
Relevance to SDGs	1A SDG4 Quality education SDG8 Decent work and economic growth SDG9 Industry, Innovation, and Infrastructure		

Departmental Aim of Education

Ⅰ. Cultivate the ability to conduct independent research and problem solving.

Ⅱ. Strengthen creativity and research capacity.

Ⅲ. Build profound professional knowledge in computer science and information engineering.

Ⅳ. Engage in self-directed lifelong learning.

Subject Departmental core competences

A. Independent problem solving ability.(ratio:20.00)

B. Independent innovative thinking ability.(ratio:20.00)

C. Research paper writing and presentation ability.(ratio:10.00)

D. Research & development (R&D) ability in information engineering.(ratio:20.00)

E. Project execution and control ability.(ratio:10.00)

F. Lifelong self-directed learning ability.(ratio:20.00)

Subject Schoolwide essential virtues

1. A global 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. 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 of aesthetic appreciation. (ratio:10.00)

Course Introduction	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.

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	The course aims to teach students to understand how to survey topics, build research models, carry out experiment problems, and present results during the semester.	Cognitive

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

No.	Core Competences	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	Course Contents	Note
1	111/09/05 ~ 111/09/11	Introduction to the course	
2	111/09/12 ~ 111/09/18	Problem research used by digital library	
3	111/09/19 ~ 111/09/25	Research on formulation, theory and model	
4	111/09/26 ~ 111/10/02	Experimental design and measurement (I)	

5	111/10/03 ~ 111/10/09	Experimental design and measurement (II)	
6	111/10/10 ~ 111/10/16	Quantitative research	
7	111/10/17 ~ 111/10/23	Qualitative research	
8	111/10/24 ~ 111/10/30	Benchmark and databank	
9	111/10/31 ~ 111/11/06	Statistical skill	
10	111/11/07 ~ 111/11/13	Midterm exam	
11	111/11/14 ~ 111/11/20	Case study research	
12	111/11/21 ~ 111/11/27	Introduction to technical writing tool	
13	111/11/28 ~ 111/12/04	Research ethics and integrity	
14	111/12/05 ~ 111/12/11	Introduction to mathematics editor and graph drawing tool	
15	111/12/12 ~ 111/12/18	Writing a paper (I)	
16	111/12/19 ~ 111/12/25	Writing a paper (II)	
17	111/12/26 ~ 112/01/01	Paper publication	
18	112/01/02 ~ 112/01/08	Final exam	

Requirement	Students should prepare their laptops in the classroom.
Teaching Facility	Computer, Projector
Textbooks and Teaching Materials	The lecture notes will be presented in the class.
References	Teaching materials are from academic articles and books.
Number of Assignment(s)	(Filled in by assignment instructor only)
Grading Policy	◆ Attendance： 20.0 ％ ◆ Mark of Usual：20.0 ％ ◆ Midterm Exam： ％ ◆ Final Exam： ％ ◆ Other〈assignment/report〉：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.**