Tamkang University Academic Year 109, 2nd Semester Course Syllabus

Course Title	WIRELESS SENSOR NETWORKS AND INTERNET OF THINGS	Instructor	SU, WEI-TSUNG
Course Class	TEIBM1A MASTER'S PROGRAM, DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING (ENGLISH-TAUGHT PROGRAM), 1A	Details	◆ General Course ◆ Selective ◆ One Semester
Relevance to SDGs	SDG2 Zero hunger SDG9 Industry, Innovation, and Infrastructure SDG11 Sustainable cities and communities		

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:20.00)

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:10.00)

Subject Schoolwide essential virtues

2. Information literacy. (ratio:40.00)

3. A vision for the future. (ratio:30.00)

5. Independent thinking. (ratio:30.00)

Course Introduction	The Internet of things (IoT) is the network of interconnected devices that contain electronics, software, sensors, actuators, and connectivity. This course is to introduce the communication and security technologies of IoT. Students will be evaluated by hands-on assignments and paper presentations.

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	Student will be able to understand the underlying technologies of IoT.	Cognitive
2	Students can create innovative IoT technologies and applications to improve human's life.	Affective
3	Students can design and implement IoT technologies and applications.	Psychomotor

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	BD	2	Lecture	Testing, Study Assignments
2	ABC	235	Lecture, Discussion	Study Assignments, Discussion(including classroom and online), Report(including oral and written)
3	ADEF	25	Experience	Study Assignments, Final Project

Course Schedule

Week	Date	Course Contents	Note

1	110/02/22 ~ 110/02/28	Course Introduction	
2	110/03/01 ~ 110/03/07	Introduction to IoT	
3	110/03/08 ~ 110/03/14	IoT Devices	
4	110/03/15 ~ 110/03/21	IoT Communication Protocols (1)	
5	110/03/22 ~ 110/03/28	IoT Communication Protocols (2)	
6	110/03/29 ~ 110/04/04	IoT Communication Protocols (3)	
7	110/04/05 ~ 110/04/11	IoT Communication Protocols: Hands-on (1)	
8	110/04/12 ~ 110/04/18	IoT Communication Protocols: Hands-on (2)	
9	110/04/19 ~ 110/04/25	Presentation	
10	110/04/26 ~ 110/05/02	Midterm Exam	
11	110/05/03 ~ 110/05/09	IoT Platform (1)	
12	110/05/10 ~ 110/05/16	IoT Platform (2)	
13	110/05/17 ~ 110/05/23	IoT Security (1)	
14	110/05/24 ~ 110/05/30	IoT Security (2)	
15	110/05/31 ~ 110/06/06	IoT Security: Hands-on (1)	
16	110/06/07 ~ 110/06/13	IoT Security: Hands-on (2)	
17	110/06/14 ~ 110/06/20	Final Report (1)	
18	110/06/21 ~ 110/06/27	Final Report (2)	

Requirement	Basics of Linux, C programming language, and GitHub
Teaching Facility	(None)
Textbooks and Teaching Materials	Qusay F. Hassan, "Internet of Things A to Z: Technologies and Applications," Wiley-IEEE Press
References	Selected papers from IEEE, ACM, and other publishers Robert Barton, Patrick Grossetete, David Hanes, Jerome Henry, Gonzalo Salgueiro, "IoT Fundamentals: Networking Technologies, Protocols, and Use Cases for the Internet of Things," Cisco Press

Number of Assignment(s)	3 (Filled in by assignment instructor only)
Grading Policy	◆ Attendance： 10.0 % ◆ Mark of Usual：40.0 % ◆ Midterm Exam： 20.0 % ◆ Final Exam： % ◆ Other〈Presentation〉：30.0 %
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.**