Tamkang University Academic Year 114, 2nd Semester Course Syllabus

Course Title	INTRODUCTION TO INTERNET OF THINGS	Instructor	FU-YI HUNG
Course Class	TEIDB3A DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING (ENGLISH-TAUGHT PROGRAM), 3A	Details	◆ General Course ◆ Selective ◆ One Semester ◆ 3 Credits
Relevance to SDGs	SDG4 Quality education		

Departmental Aim of Education

Ⅰ. Comprehend professional knowledge.

Ⅱ. Acquire mastery of Practical Skills.

Ⅲ. Establish creative achievement.

Subject Departmental core competences

A. Programming and application ability.(ratio:15.00)

B. Mathematical reasoning ability.(ratio:15.00)

C. Implementing computer systems ability.(ratio:15.00)

D. Computer networking application skills.(ratio:40.00)

E. Professional skills for information technology (IT) industry.(ratio:15.00)

Subject Schoolwide essential virtues

1. A global perspective. (ratio:10.00)

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:20.00)

8. A sense of aesthetic appreciation. (ratio:10.00)

Course Introduction	This course provides the basic principles and practice of Internet of Things (IoTs). It includes 3 main parts. Part I covers the building blocks of IoTs and their characteristics. Part II introduces the programming aspects of IoTs with a view towards rapid prototyping of complex IoT applications. Part III introduces some advanced topics on IoT including IoT data analytics and Tools for IoT.

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	Students can understand the fundamental principles and architecture of IoT system	Cognitive
2	Students can understand the main data collection, transmission, storage and analysis tools for the IoTs	Cognitive

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	ABCDE	12345678	Lecture, Discussion	Testing, Discussion(including classroom and online), Report(including oral and written)
2	ABCDE	12345678	Lecture, Discussion	Testing, Discussion(including classroom and online), Report(including oral and written)

Course Schedule

Week	Date	Course Contents	Note
1	115/02/23 ~ 115/03/01	Introduction	

2	115/03/02 ~ 115/03/08	IoT Architecture	
3	115/03/09 ~ 115/03/15	IoT Architecture	
4	115/03/16 ~ 115/03/22	IoT - Device Layer	
5	115/03/23 ~ 115/03/29	IoT - Device Layer	
6	115/03/30 ~ 115/04/05	IoT - Device Layer	
7	115/04/06 ~ 115/04/12	IoT - Network Layer	
8	115/04/13 ~ 115/04/19	IoT - Network Layer	
9	115/04/20 ~ 115/04/26	Midterm Exam/Midterm Assessment Week (teachers can adjust the week as needed)	
10	115/04/27 ~ 115/05/03	IoT - Application Layer	
11	115/05/04 ~ 115/05/10	IoT - Application Layer	
12	115/05/11 ~ 115/05/17	Data Analytics for IoT	
13	115/05/18 ~ 115/05/24	Data Analytics for IoT	
14	115/05/25 ~ 115/05/31	Case Studies	
15	115/06/01 ~ 115/06/07	Case Studies	
16	115/06/08 ~ 115/06/14	Final Week of Diverse Assessments	
17	115/06/15 ~ 115/06/21	Final Week of Diverse Assessments/Flexible Teaching Week for Teachers	
18	115/06/22 ~ 115/06/28	Flexible Teaching Week for Teachers	

Key capabilities	
Interdisciplinary	
Distinctive teaching	

Course Content	Computer programming or Computer language (students have hands-on experience in related projects)
Requirement	
Textbooks and Teaching Materials	Using teaching materials from other writers:Textbooks Name of teaching materials: IoT Fundamentals: Networking Technologies, Protocols, and Use Cases for the Internet of Things, by David Hanes, Cisco Press, 2017
References	
Grading Policy	◆ Attendance： 10.0 % ◆ Mark of Usual：15.0 % ◆ Midterm Exam： 25.0 % ◆ Final Exam： 25.0 % ◆ Other〈Projects〉：25.0 %
Note	This syllabus may be uploaded at the website of Course Syllabus Management System at https://web2.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. ※"Adhere to the concept of intellectual property rights" and "Do not illegally photocopy, download, or distribute." Using original textbooks is advised. It is a crime to improperly photocopy others' publications.