Tamkang University Academic Year 112, 2nd Semester Course Syllabus

Course Title	CLOUD COMPUTING	Instructor	FENG-CHENG CHANG
Course Class	TEIDB2A DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING (ENGLISH-TAUGHT PROGRAM), 2A	Details	◆ General Course ◆ Selective ◆ One Semester
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:10.00)

B. Mathematical reasoning ability.(ratio:10.00)

C. Implementing computer systems ability.(ratio:30.00)

D. Computer networking application skills.(ratio:30.00)

E. Professional skills for information technology (IT) industry.(ratio:20.00)

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	Cloud computing has been evolved since it was introduced to the industry. It integrates a lot of technical concepts and tools to offer wide variety of functionalities for network-based applications. In this course, we will introduce the cloud computing concepts and the related fog/edge/IoT concepts. We also allocate a few hours for practicing the tools such as the kubernetes and docker. Since they should be installed as system services, it is better to have your own computer for installing the required software. Note: Some nice-to-have prerequisites are listed in the requirements section.

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	Learn the cloud computing concepts	Cognitive
2	Learn the overall architecture of cloud-based applications	Cognitive
3	Have a little experience of operating a cloud	Cognitive

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	ABCDE	123578	Lecture, Discussion	Testing, Study Assignments
2	ABCDE	123578	Lecture, Discussion	Testing, Study Assignments
3	ABCDE	12345678	Lecture, Discussion, Experience	Testing, Study Assignments, Discussion(including classroom and online), Report(including oral and written)

Course Schedule

Week	Date	Course Contents	Note
1	113/02/19 ~ 113/02/25	Course overview and review of network applications	

2	113/02/26 ~ 113/03/03	The fundamental concepts of modern network-based applications	
3	113/03/04 ~ 113/03/10	Cloud service model	
4	113/03/11 ~ 113/03/17	Virtual Machines	
5	113/03/18 ~ 113/03/24	Introduction of the OpenStack cloud architecture	
6	113/03/25 ~ 113/03/31	Containers	
7	113/04/01 ~ 113/04/07	LXC (1) concepts and installation	
8	113/04/08 ~ 113/04/14	LXC (2) network application and configuration (group prject)	
9	113/04/15 ~ 113/04/21	Midterm Exam Week	
10	113/04/22 ~ 113/04/28	Docker (1) concepts and installation	
11	113/04/29 ~ 113/05/05	Docker (2) image build	
12	113/05/06 ~ 113/05/12	Docker (3) compose	
13	113/05/13 ~ 113/05/19	Docker (4) application development (group project)	
14	113/05/20 ~ 113/05/26	Kubernetes (1) concepts and installation	
15	113/05/27 ~ 113/06/02	Kubernetes (2) application and configuration	
16	113/06/03 ~ 113/06/09	Kubernetes (3) application and configuration	
17	113/06/10 ~ 113/06/16	Final Exam Week (Date:113/6/11-113/6/17)	
18	113/06/17 ~ 113/06/23	Flex week, learning activities should be arranged.	

Key capabilities	
Interdisciplinary	
Distinctive teaching	

Course Content	Computer programming or Computer language (students have hands-on experience in related projects) Logical Thinking
Requirement	Without a good reason, no late submission and makeup assignments/exams. Some nice-to-have prerequisites: OS package management, OS command-line operations, concepts of inter-networking, and concepts of network-based application architectures. You also need a laptop for the practicals.
Textbooks and Teaching Materials	Self-made teaching materials:Presentations, Handouts, Videos Using teaching materials from other writers:Handouts, Videos
References	
Grading Policy	◆ Attendance： % ◆ Mark of Usual：10.0 % ◆ Midterm Exam： 15.0 % ◆ Final Exam： 15.0 % ◆ Other〈lab〉：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.**