Tamkang University Academic Year 109, 2nd Semester Course Syllabus

Course Title	CLOUD COMPUTING & VIRTUALIZATION TECHNOLOGY	Instructor	SHIH-HAO CHANG
Course Class	TEIBM1A MASTER'S PROGRAM, DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING (ENGLISH-TAUGHT PROGRAM),	Details	◆ General Course ◆ Selective ◆ One Semester
Relevance to SDGs	1A SDG9 Industry, Innovation, and Infrastructure SDG17 Partnerships for the goals		

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:50.00)

B. Independent innovative thinking ability.(ratio:50.00)

Subject Schoolwide essential virtues

2. Information literacy. (ratio:40.00)

5. Independent thinking. (ratio:30.00)

7. A spirit of teamwork and dedication. (ratio:30.00)

Course Introduction	The main objective of this master course is to guide master students regard with virtualization technology. This technology is the basement infrastructure of cloud computing which can significantly improve resource utilization, simplify huge amount of hardware costs, and also reduce power comsumption and operation costs to meet industrial requirements. This course will guide master students to learn the content of virtualization, infrastructure planning, hardware and performance evaluation.

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	1. Teach and present the basic concepts of virtualization. 2. Teach and preseent virtualization infrastucture planning. 3. Teach and present virtualization classification. 4. Presentation and discussion of enterprise level server-class virtual machine. 5. Experiment with cloud virtualization machine.	Cognitive

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	AB	257	Lecture, Discussion, Publication	Testing, Study Assignments, Discussion(including classroom and online), Practicum, Report(including oral and written), Activity Participation

Course Schedule

Week	Date	Course Contents	Note
1	110/02/22～110/02/28	Concept of Virtualization Technology (I)	
2	110/03/01～110/03/07	Concept of Virtualization Technology (II)	
3	110/03/08～110/03/14	Theory of Virtualization Technology	
4	110/03/15～110/03/21	Principle of of Virtualization Technology	
5	110/03/22～110/03/28	Virtualization Architecture and Classification (I)	
6	110/03/29～110/04/04	Virtualization Architecture and Classification (II)	
7	110/04/05～110/04/11	Describes the existing types of virtual machine	

8	110/04/12 ~ 110/04/18	Enterprise-Class Server Virtualization	
9	110/04/19 ~ 110/04/25	Software-Defined Network	
10	110/04/26 ~ 110/05/02	Network Functions Virtualization	
11	110/05/03 ~ 110/05/09	Desktop Virtualization using Virtual PC	
12	110/05/10 ~ 110/05/16	Virtualization Performance Evaluation (I)	
13	110/05/17 ~ 110/05/23	Virtualization Performance Evaluation (II)	
14	110/05/24 ~ 110/05/30	Cloud virtual machine experiments (I)	
15	110/05/31 ~ 110/06/06	Cloud virtual machine experiments (II)	
16	110/06/07 ~ 110/06/13	Cloud virtual machine experiments (II)	
17	110/06/14 ~ 110/06/20	Final-term exam	
18	110/06/21 ~ 110/06/27	Supplementary teaching: Cloud Virtual Technical Reports	

Requirement	
Teaching Facility	Computer, Projector
Textbooks and Teaching Materials	Cloud Computing Theory and Practice
References	Apache CloudStack Cloud Computing
Number of Assignment(s)	(Filled in by assignment instructor only)
Grading Policy	◆ Attendance： 30.0 ％ ◆ Mark of Usual：30.0 ％ ◆ Midterm Exam： ％ ◆ Final Exam： ％ ◆ Other〈Report Handout〉：40.0 ％
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.**