Tamkang University Academic Year 105, 2nd Semester Course Syllabus

Course Title	COMPUTER NETWORK	Instructor	CHIEN-FU CHENG
Course Class	TEIBM1A MASTER'S PROGRAM, DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING (ENGLISH-TAUGHT PROGRAM), 1A	Details	◆ Selective ◆ One Semester ◆ 3 Credits

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.

Departmental core competences

A. Independent problem solving ability.

B. Independent innovative thinking ability.

C. Research paper writing and presentation ability.

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

E. Project execution and control ability.

F. Lifelong self-directed learning ability.

Course Introduction	This course provides an introduction to fundamental concepts in the design and implementation of computer communication networks, their protocols, and applications. Moreover, the students can realize the state-of-the-art technology via literature survey, paper presentation and discussions.

The Relevance among Teaching Objectives, Objective Levels and Departmental core competences

I.Objective Levels (select applicable ones) :
 (i) Cognitive Domain   : C1-Remembering,   C2-Understanding,   C3-Applying,
                           C4-Analyzing,   C5-Evaluating,   C6-Creating
 (ii) Psychomotor Domain : P1-Imitation,   P2-Mechanism,   P3-Independent Operation,
                           P4-Linked Operation, P5-Automation,   P6-Origination
 (iii) Affective Domain : A1-Receiving,   A2-Responding,   A3-Valuing,
                           A4-Organizing,   A5-Charaterizing,   A6-Implementing

II.The Relevance among Teaching Objectives, Objective Levels and Departmental core competences :
 (i) Determine the objective level(s) in any one of the three learning domains (cognitive, psychomotor, and affective) corresponding to the teaching objective. Each objective should correspond to the objective level(s) of ONLY ONE of the three domains.
 (ii) If more than one objective levels are applicable for each learning domain, select the highest one only. (For example, if the objective levels for Cognitive Domain include C3,C5,and C6, select C6 only and fill it in the boxes below. The same rule applies to Psychomotor Domain and Affective Domain.)
 (iii) Determine the Departmental core competences that correspond to each teaching objective. Each objective may correspond to one or more Departmental core competences at a time. (For example, if one objective corresponds to three Departmental core competences: A,AD, and BEF, list all of the three in the box.)

No.	Teaching Objectives	Relevance	
		Objective Levels	Departmental core competences
1	Conforming the professional features of the departments	C5	D
2	Establishing the information and network proficiency	C3	D
3	Development of skills of using computer networks	P3	D
4	Students may have the abilities of facing the changing features of networking technology and challenges form information impact	C6	D

Teaching Objectives, Teaching Methods and Assessment

No.	Teaching Objectives	Teaching Methods	Assessment
1	Conforming the professional features of the departments	Lecture, Discussion, Problem solving	Written test, Report, Participation
2	Establishing the information and network proficiency	Lecture, Discussion	Written test, Report, Participation
3	Development of skills of using computer networks	Lecture, Discussion	Written test, Report, Participation
4	Students may have the abilities of facing the changing features of networking technology and challenges form information impact	Lecture, Discussion	Written test, Report, Participation

This course has been designed to cultivate the following essential qualities in TKU students	
Essential Qualities of TKU Students	Description
◆ A global perspective	Helping students develop a broader perspective from which to understand international affairs and global development.
◆ Information literacy	Becoming adept at using information technology and learning the proper way to process information.
◆ A vision for the future	Understanding self-growth, social change, and technological development so as to gain the skills necessary to bring about one's future vision.
◇ Moral integrity	Learning how to interact with others, practicing empathy and caring for others, and constructing moral principles with which to solve ethical problems.
◆ Independent thinking	Encouraging students to keenly observe and seek out the source of their problems, and to think logically and critically.
◇ A cheerful attitude and healthy lifestyle	Raising an awareness of the fine balance between one's body and soul and the environment; helping students live a meaningful life.
◇ A spirit of teamwork and dedication	Improving one's ability to communicate and cooperate so as to integrate resources, collaborate with others, and solve problems.
◇ A sense of aesthetic appreciation	Equipping students with the ability to sense and appreciate aesthetic beauty, to express themselves clearly, and to enjoy the creative process.

Course Schedule

Week	Date	Subject/Topics	Note
1	106/02/13 ~ 106/02/19	Class overview, Introduction to Networking	
2	106/02/20 ~ 106/02/26	Introduction to Networking	
3	106/02/27 ~ 106/03/05	Application Layer	
4	106/03/06 ~ 106/03/12	Socket Programming	
5	106/03/13 ~ 106/03/19	Paper Presentation (Application Layer)	
6	106/03/20 ~ 106/03/26	Paper Presentation (Application Layer)	
7	106/03/27 ~ 106/04/02	Transport Layer	
8	106/04/03 ~ 106/04/09	TCP&UDP Protocols	
9	106/04/10 ~ 106/04/16	Paper Presentation (Transport Layer)	
10	106/04/17 ~ 106/04/23	Paper Presentation (Transport Layer)	
11	106/04/24 ~ 106/04/30	Network Layer	
12	106/05/01 ~ 106/05/07	Internet Protocol	

13	106/05/08 ~ 106/05/14	Routing Protocols	
14	106/05/15 ~ 106/05/21	Paper Presentation (Network Layer)	
15	106/05/22 ~ 106/05/28	Paper Presentation (Network Layer)	
16	106/05/29 ~ 106/06/04	Data Link Layer	
17	106/06/05 ~ 106/06/11	Media Access Control Protocols	
18	106/06/12 ~ 106/06/18	Paper Presentation (Data Link Layer)	

Requirement	
Teaching Facility	Computer, Projector
Textbook(s)	James F. Kurose, Keith W. Ross, Computer Networking: A Top-Down Approach, 6th ed.: Pearson Education, 2013.
Reference(s)	
Number of Assignment(s)	(Filled in by assignment instructor only)
Grading Policy	◆ Attendance： 10.0 %　◆ Mark of Usual：20.0 %　◆ Midterm Exam： 20.0 % ◆ Final Exam： 20.0 % ◆ Other〈paper 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.**