Tamkang University Academic Year 106, 1st Semester Course Syllabus

Course Title	COMPUTER AND NETWORK SECURITY	Instructor	FU-YI HUNG
Course Class	TQIDB3A DIVISION OF APPLIED INFORMATICS, DEPARTMENT OF INNOVATIVE INFORMATION AND TECHNOLOGY (ENGLISH-TAUGHT PROGRAM), 3A	Details	◆ Selective ◆ One Semester ◆ 3 Credits

Departmental Aim of Education

Cultivate professional talents in developing and applying information system in various fields.

Departmental core competences

A. Capability of computer program coding, process planning, and problem solving
B. Capability of applying basic mathematics and information technology related mathematics
C. Capability of applying knowledge of internet structure and protocol in communication system
D. Capability of developing information system
E. Capability of integrating information system

Course Introduction	This course provides the basic principles and standards of computer and network security. It includes the following topics: computer security technology and principles, management issues, cryptographic algorithms and internet security.

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	Students should be able to understand and apply the fundamental security technology and principle	C3	E
2	Students should be able to understand and apply the cryptographic algorithms	C3	E
3	Students should be able to understand and apply the security management architecture	C3	E

Teaching Objectives, Teaching Methods and Assessment

No.	Teaching Objectives	Teaching Methods	Assessment
1	Students should be able to understand and apply the fundamental security technology and principle	Lecture, Problem solving	Written test, Report, Participation
2	Students should be able to understand and apply the cryptographic algorithms	Lecture, Problem solving	Written test, Report, Participation
3	Students should be able to understand and apply the security management architecture	Lecture, Problem solving	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	106/09/18 ~ 106/09/24	Introduction	
2	106/09/25 ~ 106/10/01	Introduction	
3	106/10/02 ~ 106/10/08	Malware	
4	106/10/09 ~ 106/10/15	Malware	
5	106/10/16 ~ 106/10/22	Symmetric-Key Encipherment	
6	106/10/23 ~ 106/10/29	Symmetric-Key Encipherment	
7	106/10/30 ~ 106/11/05	Symmetric-Key Encipherment	
8	106/11/06 ~ 106/11/12	Asymmetric-Key Encipherment	
9	106/11/13 ~ 106/11/19	Asymmetric-Key Encipherment	
10	106/11/20 ~ 106/11/26	Midterm Exam Week	
11	106/11/27 ~ 106/12/03	Message Integrity and Message Authentication	
12	106/12/04 ~ 106/12/10	Message Integrity and Message Authentication	

13	106/12/11 ~ 106/12/17	User Authentication and Access Control	
14	106/12/18 ~ 106/12/24	User Authentication and Access Control	
15	106/12/25 ~ 106/12/31	Firewalls, Intrusion Detection and Prevention Systems	
16	107/01/01 ~ 107/01/07	Firewalls, Intrusion Detection and Prevention Systems	
17	107/01/08 ~ 107/01/14	Final Presentation	
18	107/01/15 ~ 107/01/21	Final Exam Week	

Requirement	Cheating or plagiarism will receive a semester grade of zero for this course. 作弊或抄襲者學期總成績為零分。 If a student's class absence reaches one-third of the total class hours (in a semester) for a particular course, the course instructor will notify the Office of Academic Affairs, and the student will not be allowed to take part in the remaining course examinations and will receive a semester grade (for that course) of zero. 學生對某一科目之缺課總時數達該科全學期授課時數三分之一，經該科教師通知教務處時即不准參加該科目之考試，該科目學期成績以零分計算。
Teaching Facility	Computer, Projector
Textbook(s)	
Reference(s)	Cryptography and Network Security, 1st ed, Behrouz Forouzan, McGraw-Hill Education, 2007 Computer Security: Principles and Practice, 2nd ed, William Stallings and Lawrie Brown, Pearson, 2012 Introduction to Computer Security, 1st ed, Michael Goodrich and Roberto Tamassia, Pearson 2010
Number of Assignment(s)	(Filled in by assignment instructor only)
Grading Policy	◆ Attendance： % ◆ Mark of Usual：32.0 % ◆ Midterm Exam： 24.0 % ◆ Final Exam： 24.0 % ◆ Other〈Reports&Presentation〉：20.0 %
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.**