

## Tamkang University Academic Year 112, 1st Semester Course Syllabus

Course Title	INTRODUCTION TO INFORMATION SECURITY	Instructor	FU-YI HUNG
Course Class	TEIDB3A DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING (ENGLISH-TAUGHT PROGRAM), 3A	Details	<ul style="list-style-type: none"> <li>◆ General Course</li> <li>◆ Selective</li> <li>◆ One Semester</li> </ul>
Relevance to SDGs	SDG4 Quality education		
<b>Departmental Aim of Education</b>			
<ul style="list-style-type: none"> <li>I. Comprehend professional knowledge.</li> <li>II. Acquire mastery of Practical Skills.</li> <li>III. Establish creative achievement.</li> </ul>			
<b>Subject Departmental core competences</b>			
<ul style="list-style-type: none"> <li>A. Programming and application ability.(ratio:10.00)</li> <li>B. Mathematical reasoning ability.(ratio:30.00)</li> <li>C. Implementing computer systems ability.(ratio:30.00)</li> <li>D. Computer networking application skills.(ratio:10.00)</li> <li>E. Professional skills for information technology (IT) industry.(ratio:20.00)</li> </ul>			
<b>Subject Schoolwide essential virtues</b>			
<ul style="list-style-type: none"> <li>1. A global perspective. (ratio:10.00)</li> <li>2. Information literacy. (ratio:20.00)</li> <li>3. A vision for the future. (ratio:10.00)</li> <li>4. Moral integrity. (ratio:20.00)</li> <li>5. Independent thinking. (ratio:10.00)</li> <li>6. A cheerful attitude and healthy lifestyle. (ratio:10.00)</li> <li>7. A spirit of teamwork and dedication. (ratio:10.00)</li> <li>8. A sense of aesthetic appreciation. (ratio:10.00)</li> </ul>			

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.
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**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 should be able to understand and apply the fundamental security technology and principle	Cognitive
2	Students should be able to understand and apply the cryptographic algorithms	Cognitive
3	Students should be able to understand and apply the security management architecture	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	Testing
2	ABCDE	12345678	Lecture	Testing
3	ABCDE	12345678	Lecture	Testing

**Course Schedule**

Week	Date	Course Contents	Note
1	112/09/11 ~ 112/09/17	Introduction	

2	112/09/18 ~ 112/09/24	Malware	
3	112/09/25 ~ 112/10/01	Malware	
4	112/10/02 ~ 112/10/08	Symmetric-Key Encipherment	
5	112/10/09 ~ 112/10/15	Symmetric-Key Encipherment	
6	112/10/16 ~ 112/10/22	Symmetric-Key Encipherment	
7	112/10/23 ~ 112/10/29	Asymmetric-Key Encipherment	
8	112/10/30 ~ 112/11/05	Asymmetric-Key Encipherment	
9	112/11/06 ~ 112/11/12	Midterm Exam Week	
10	112/11/13 ~ 112/11/19	Asymmetric-Key Encipherment	
11	112/11/20 ~ 112/11/26	Message Integrity and Message Authentication	
12	112/11/27 ~ 112/12/03	Message Integrity and Message Authentication	
13	112/12/04 ~ 112/12/10	User Authentication and Access Control	
14	112/12/11 ~ 112/12/17	User Authentication and Access Control	
15	112/12/18 ~ 112/12/24	Firewalls, Intrusion Detection and Prevention Systems	
16	112/12/25 ~ 112/12/31	Firewalls, Intrusion Detection and Prevention Systems	
17	113/01/01 ~ 113/01/07	Final Exam Week	
18	113/01/08 ~ 113/01/14	Flex week, learning activities should be arranged.	
Key capabilities	Information Technology		
Interdisciplinary	STEAM course (S:Science, T:Technology, E:Engineering, M:Math, A field:Integration of Art and Humanist)		
Distinctive teaching			

Course Content	Computer programming or Computer language (students have hands-on experience in related projects)
Requirement	<p>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。</p> <p>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。</p>
Textbooks and Teaching Materials	<p>Using teaching materials from other writers:Textbooks Name of teaching materials: Computer Security: Principles and Practice, 4th ed, William Stallings and Lawrie Brown, Pearson, 2017</p>
References	<p>Cryptography and Network Security, 1st ed, Behrouz Forouzan, McGraw-Hill Education, 2007</p> <p>Computer Security: Principles and Practice, 4th ed, William Stallings and Lawrie Brown, Pearson, 2017</p> <p>Introduction to Computer Security, 1st ed, Michael Goodrich and Roberto Tamassia, Pearson 2010</p> <p>CompTIA Security+ Study Guide: Exam SY0-501, 1st ed, Emmett Dulaney and Chuck Easttom, Sybex, 2017</p>
Grading Policy	<p>◆ Attendance : 10.0 %   ◆ Mark of Usual : 26.0 %   ◆ Midterm Exam : 22.0 %</p> <p>◆ Final Exam : 22.0 %</p> <p>◆ Other (Assignments) : 20.0 %</p>
Note	<p>This syllabus may be uploaded at the website of Course Syllabus Management System at <a href="http://info.ais.tku.edu.tw/csp">http://info.ais.tku.edu.tw/csp</a> or through the link of Course Syllabus Upload posted on the home page of TKU Office of Academic Affairs at <a href="http://www.acad.tku.edu.tw/CS/main.php">http://www.acad.tku.edu.tw/CS/main.php</a>.</p> <p><b>※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.</b></p>