



Course Specifications

Course Title:	Software Security
Course Code:	502552-3
Program:	Bachelor in Information Technology
Department:	Department of Information Technology
College:	College of Computers and Information Technology
Institution:	Taif University

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A. Course Identification

1. Credit hours: 3
2. Course type a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/> b. Required <input type="checkbox"/> Elective <input checked="" type="checkbox"/>
3. Level/year at which this course is offered: 13/5
4. Pre-requisites for this course (if any): Computer System security 502459-3
5. Co-requisites for this course (if any): NAN

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	8	100%
2	Blended		
3	E-learning		
4	Distance learning		
5	Other		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	50
2	Laboratory/Studio	30
3	Tutorial	
4	Others (specify)	
	Total	80

B. Course Objectives and Learning Outcomes

1. Course Description This course introduces students to secure programming fundamentals. Topics to be covered include but not limited to: Software Security Problems, Static Analysis, Buffer Overflow
2. Course Main Objective The main objective of this course is to provide an in-depth understanding of integer security, formatted output, file I/O and secure practices



3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge and Understanding	
1.1	Describe the main problems related to software security	K1
2	Skills :	
2.1	Master the most important aspects of software security	S2
2.2	Identify some practices related of software security	S1
3	Values:	

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Software Security (chapter 1 in textbook)	10
2	Strings (chapter 2 in textbook)	10
3	Pointers (chapter 3 in textbook)	10
4	Dynamic Memory Management (chapter 4 in textbook)	10
5	Integer Security (chapter 5 in textbook)	10
6	Formatted Output (chapter 6 in textbook)	10
7	File I/O (chapter 8 in textbook)	10
8	Some Practices on secure coding (chapter 9 in textbook)	10
Total		80

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and Understanding		
1.1	Describe the main problems related to software security	Lecture Discussion	Written Exams Assignments
2.0	Skills		
2.1	Master the most important aspects of software security	Lecture Discussion Lab work	Written Exams Assignments Practical Exam
2.2	Identify some practices related of software security	Lecture Discussion Lab work	Written Exams Assignments Practical Exam
3.0	Values		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Assignments	10	10%
2	Mid Exam	5	20%
3	Quizzes	10	10%
4	Final presentation	10	0%
5	Labs	11	20%



#	Assessment task*	Week Due	Percentage of Total Assessment Score
6	Final Exam	12	40%
1	Assignments	10	10%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

Academic advising and counseling of students is an important component of teaching; student academic advising is a mandatory requirement of College of Computers and Information Technology (CCIT). Appropriate student advising provides support needed for the student during times of difficulty. In addition, it helps the student to build a close relationship with his/her advisor and to provide student motivation and involvement with the institution.

In addition, since faculty are usually the first to recognize that a student is having difficulty, faculty members play a key role in developing solutions for the students or referring them to appropriate services. Faculty members also participate in the formal student-mentoring program.

Additional counseling is provided by course directors, who provide students with academic reinforcement and assistance and refer “at risk” students to the Vice Dean for Academic Affairs and the Vice Dean for female section.

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Secure Coding in C and C++ Second Edition by Robert C. Seacord ISBN-13: 978-0-321-82213-0 ISBN-10: 0-321-82213-7 2013 Pearson Education
Essential References Materials	
Electronic Materials	Presentations
Other Learning Materials	-



2. Facilities Required

Item	Resources
<p>Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)</p>	<ul style="list-style-type: none"> • A Lecture room appropriate for maximum 25 students with a personal computer, a data show and a smart board. • A Lab room appropriate for maximum 15 students with a personal computer, a data show and a smart board.
<p>Technology Resources (AV, data show, Smart Board, software, etc.)</p>	Lab materials and required software
<p>Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)</p>	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Students' surveys and Students course evaluation
Improvement of Teaching	Course Coordinator	deficiencies based on the student Evaluation, faculty input, course file, and program assessment
Verifying Standards of Student Achievement	Curriculum Committee	<ul style="list-style-type: none"> • Review CAF (Course assessment file) • Alumni surveys. • Periodic exchange and remarking of tests or a sample of assignments with staff at another

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	IT Department Council/ Executive program committee
Reference No.	11
Date	23/10/21443



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