2023
TP-153

Course Specification
(Bachelor)

Course Title:	Computer Security
Course Code:	CS1509
Program:	Computer Science
Department:	Computer Science and Engineering
College: :	Computer Science and information technology
Institution:	Al-Baha University
Version:	TP-153
Last Revision Date:	October 9, 2023

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: (3)					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (.....)					
4. Course general Description:					
This course provides an introduction to the critical area of information security and privacy. Topics include cryptography, security principles, authentication, formal security models, malware, buffer overflows, Internet security, intrusion detection, and privacy protection.					
5. Pre-requirements for this course (if any)**:**					
CS1257 (Computer Networks2)					
6. Pre-requirements for this course (if any)**:**					
7. Course Main Objective(s):					
The main purpose for this course is to teach students how to: • Describe computer security and privacy issues. • List the methods and techniques of computer security and privacy. • Recognize theoretical underpinnings of computer security and privacy. • Plan for computer security and privacy protection. • Demonstrate methods, technologies, and solutions for protecting organizations and individuals. • Communicate concepts and techniques in oral presentations.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	33	100%
2	E-learning		
3	Hybrid • Traditional classroom		

No	Mode of Instruction	Contact Hours	Percentage
	• E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	33
2.	**Laboratory/Studio**	
3.	**Field**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		33

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Describe computer security and privacy issues.	K1	-Lectures -Assignments	-Homework (Rubric) -Midterm exams -Final Exam
1.2	List the methods and techniques of computer security and privacy	K2	-Lectures -Debates/Discussion	-Homework (Rubric) -Midterm exams -Final Exam
1.3	Recognize theoretical underpinnings of computer security and privacy	K3	-Lectures -Debates/Discussion -Assignments	-Quizzes -Midterm exams -Final Exam
2.0	**Skills**			
2.1	Plan for computer security and privacy protection	S1	-Lectures -Assignments	-Homework (Rubric)

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
			-Group Discussion -Case Studies	-Midterm exams -Final Exam
2.2	Demonstrate methods, technologies, and solutions for protecting organizations and individuals	S2	-Group Discussion -Case Studies -Assignments	-Homework (Rubric) -Midterm exams -Final Exam
2.3	Communicate concepts and techniques in oral presentations	S3	-Oral Presentations	-Oral Presentations(Rubric)
3.0	**Values, autonomy, and responsibility**			
3.1	Interact in groups collaboratively	V1	-Small Groups	-Reports (Rubric) -Class discussions(Rubric)

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Information Security	3
2.	Classical Encryption Techniques	7
3.	Block Cipher Operation	3
4.	Public Key Cryptography and RSA	7
5.	IP Security	4
6.	Web Security	3
7.	Network Security Firewalls	3
8.	Malicious Software	3
Total		**33**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Homework exercises and/or programming assignments	Every two weeks	10%
2.	Report, presentation, and Class discussions	12	5%
3.	Midterm	6	20%
4.	Quiz	10	15%
5.	Final Exam	13	50%
6.	Total		100%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	"Introduction to Computer Security," by Matt Bishop, Addison Wesley Professional, 2004. Cryptography & Network Security principle & practices by William Stallings (Forth Editions or Later)
Supportive References	Computer Science Curriculum 2013 – http://cs2013.org ACM (Association for Computer Machinery) Curricula Recommendations -http://www.acm.org/education/curricula-recommendations
Electronic Materials	Security Engineering–by Ross Anderson (Second Edition or later)
Other Learning Materials	None

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	• A classroom or lecture hall with whiteboard for 25 students. A digital circuit's laboratory.
Technology equipment (projector, smart board, software)	• A digital image projection system with connection to desktop computer and laptop computer. • High speed Internet connection. • An instructor computer station.
Other equipment	None

Items	Resources
(depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	● Students ● Faculty ● Peer Reviewers ● Program Leader Course Coordinator	● Surveys (indirect). ● Direct feedback from students (interview between Program leader and students). ● Course evaluation by Peer Reviewers (indirect). ● Class visit by Program Leader Comprehensive Course report (where we can find information about teaching difficulties and action plan, …)
Effectiveness of Students assessment	● Students ● Faculty ● Peer Reviewers ● Course Coordinator ● Exam Evaluation Committee Course Coordinator	● Surveys (indirect). ● Direct feedback from students (interview between Program leader and students). ● Assessment results (direct) ● Course evaluation by Peer Reviewers (indirect). ● Comprehensive Course report (where we can find information about assessment difficulties and action plan, …) Exam evaluation by the Exam Evaluation Committee (indirect)
Quality of learning resources	● Students ● Faculty ● Peer Reviewers	● Surveys (indirect) ● Course evaluation by Peer Reviewers (indirect).

Assessment Areas/Issues	Assessor	Assessment Methods
	Course Coordinator	Comprehensive Course report (where we can find information about difficulties and challenges about learning resources as well as consequences and action plan, …)
The extent to which CLOs have been achieved	● Faculty ● Program Leader Course Coordinator	● Student Results (direct) Comprehensive Course report (where we can find the CLO assessment results)
Other	None	None

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	