Course Specifications

Course Title:	**Information Systems Security**
Course Code:	**463CIS-3**
Program:	**Information Systems**
Department:	**Information Systems**
College:	**College of Computer Science and Information Systems**
Institution:	**Najran University**

Table of Contents

A. Course Identification

1. Credit hours:3 (2,2,1)
2. Course type **a.** University ☐ College ☐ Department ☑ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: Level 8th / Year 4
4. Pre-requisites for this course (if any)**: None**
5. Co-requisites for this course (if any)**: None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	75	100%
2	**Blended**		
3	**E-learning**		
4	**Correspondence**		
5	**Other**		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	30
2	**Laboratory/Studio**	30
3	**Tutorial**	15
4	**Others** (specify)	
	Total	75
Other Learning Hours*		
1	**Study**	30
2	**Assignments**	7
3	**Library**	8
4	**Projects/Research Essays/Theses**	
5	**Others** (Presentations)	
	Total	45

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course is to make students familiar with the basic concepts of information systems security. The course aims to name basic security goals, security functions, and security mechanisms. The content is: Introduction to information security, information security and risk management, access control, security architecture and design, physical environmental

security, telecommunications and network security, business continuity and disaster recovery, application security and operation security. The choice of appropriate encryption/decryption is the key in the development of efficient secure information system. In fact, it is difficult to create a trusted information system without a good understanding of a number of fundamental information security issues.

2. Course Main Objective

To introduce the concepts of information security, cryptographic algorithms, authentication and access to secure data as well as applying needed actions to counter attacks.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge:**	
1.1	Explain the objectives of information security	K2
1.2	Discuss the importance and applications of confidentiality, integrity, and availability.	K2
2	**Skills :**	
2.1	Evaluate vulnerability of an information systems and establish a plan for risk management.	S1, S2
2.2	Analyze the local and global impact of information security on individuals, organizations, and society	S3
2.3	Apply contemporary theories, processes, tools, and solutions to problems of information security.	K1, S2, S4
3	**Competence:**	
3.1	Communicate solutions of information security effectively with peers and clients.	C1, C2

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to information Security	8
2	Information Security and Risk Management	16
3	Security Technology	16
4	Physical Environmental Security	16
5	introducing linux system and its use in information security	4
6	Introduce and explain basic concepts of kali linux which is an Advanced Penetration Testing Linux distribution used for Penetration Testing, Ethical Hacking and network security assessments	6
7	Port scanning tools	2
8	Vulnerability scanning tools	2
9	Penetration test tools and traffic analysis tools like wireshark and nmap	5
10	Revision	5
Total		75

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**		
1.1	Explain the objectives of information security	• Lecture: here the instructor addresses verbally in front of students the concepts associated with examples with taking help of writing on the board as needed. • Group discussion and presentation. • Student-centred learning should be designed to facilitate the learner in doing, thinking, manipulating, constructing, testing, analysing and reflecting. • Encourage students to browse different journals, seminars or websites at their leisure time to have better understanding about the process and latest advancement in this arena.	• Class Tests • Instant quizzes / Quiz by surprise • Individual homework assignments • Presentation • Think and present the best idea of a given problem in a quick session • Asking Questions about previous topics discussed and getting replies • Midterm exams (two) and Final written exam.
1.2	Discuss the importance and applications of confidentiality, integrity, and availability.		
2.0	**Skills**		
2.1	Evaluate vulnerability of an information systems and establish a plan for risk management.	• Lecture: Teacher gives concepts theoretically and by applying those to a real-world case study to be discussed using different examples on different situations.	• Class participation • Asking Questions about previous topics discussed and getting replies • Individual homework assignments
2.2	Analyze the local and global impact of information security on individuals, organizations, and society		
2.3	Apply contemporary theories, processes, tools, and solutions to problems of information security.		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
		• Discussions: the teacher throws an idea to students and asks them to give their viewpoints, as well as, their reasoning regarding it • Encouraging student participation • Use more easily understandable graphs/pictures to describe certain topic and in that process use interesting words or interactive sounds to help students to improve their receptive memory. • Before start the new lecture, ask the class to recall the topics of last lecture and the critical issues based on different topics, which certainly helps students to recall memory frequently and store that topic in their memory for long term.	• Think and present the best idea of a given problem in a quick session
3.0	**Competence**		
3.1	Communicate solutions of information security effectively with peers and clients.	Lab Demonstrations, Group Discussions	Assignments, project presentation
3…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes and Assignments	4,9,11	6,4
2	Midterm Examinations	6,11	30
3	Final Examination	16	40
4	Lab Test	15	10

#	Assessment task*	Week Due	Percentage of Total Assessment Score
5	Lab Performances	2-13	10
	Total		**100%**

***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 :

Weekly office hours =10

Weekly academic advising hours = 4

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	• Michael E. Whitman, Herbert J. Mattord, Principles of information security, Cengage Learning, 2013.
Essential References Materials	• Michael Whitman, Robert Mattord, "Principles of Information Security", Fourth Edition, Course Technology, ISBN-10: 1-111-13821-4. Vincent Nestler,"Principles of Computer Security CompTIA Security and Beyond Lab Manual", Second Edition, McGraw-Hill Osborne Media, ISBN-10: 0071748563 W. Stallings, Cryptography and Network Security: Principles and Practice, Prentice Hall, Six Edition. 2013.
Electronic Materials	www.iacr.org
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Lecture Rooms with appropriate number of seats, Projector with Screen and a white board or a smart board. • All the computers in all the laboratories should be installed with the latest version of the required software.
Technology Resources (AV, data show, Smart Board, software, etc.)	• One PC and one projector and data show in the lecture room • Number of PCs according to strength of students in the lab room

Item	Resources
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	• Online Course Survey: By the end of each semester, ***students*** give their opinions about many factors in the course. They give feedback about the teaching strategies, assessment methods, textbooks, instructor, etc. • Feedback about Course Learning Outcomes (CLOs): A course survey is distributed to ***students*** to take their opinions about the CLOs.	Direct
Strategies for Evaluation of Teaching by the Instructor or by the Department	• Consulting ***peers*** on teaching. • Discussion about the course in **department.** • Discussion with experienced **teaching staff** in the subject.	Direct
Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)	• Mid and Final exams are reviewed by ***Course Coordinators*** to check the compatibility between questions and CLOs. • All the exams (mid and final) and final grade sheet will be rechecked by a ***faculty member*** assigned by GEC before the final result. • *Vice Dean* and *Dean* will review and approve the final grades before publishing on the internet.	Direct

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.	• Each *instructor* has to teach the course according to the previous course materials and improvement plans. • By the end of each semester, a course file containing all activities and samples must be prepared and submitted to the college. • Evaluation of CLOs can be used to compare the improvement from previous evaluation. • Improvement plan based on the online course survey must be prepared. • Action plan based on the CLOs achievements must be prepared.	Indirect

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	Department Council
Reference No.	Session No. 10 (441-38-43300)
Date	17/02/2020