Course Specification
(Bachelor)

Course Title:	**Information** Systems Security
Course Code:	463CIS-3
Program:	B**.S. in Information Systems**
Department:	Information Systems
College:	**College of Computer Science and Information Systems**
Institution:	Najran University
Version:	*Course Specification Version Number*
Last Revision Date:	

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A. General information about the course:

1. Course Identification

1. Credit hours: 3 (2, 1,0 [Theory, lab, tutorial])					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (.....)					
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 systems. In fact, it is difficult to create a trusted information system without a good understanding of a number of fundamental information security issues .					
5. Pre-requirements for this course (if any)**: None**					
6. Co-requisites for this course (if any)**: None**					
7. Course Main Objective(s):					
To introduce the basic concept of information systems security including confidently integrity and availability. In addition, discussing the basics countermeasure tools and techniques to minimize the risks of violating security measurement.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	75	100%
2	E-learning		
3	• Traditional classroom • E-learning		

No	Mode of Instruction	Contact Hours	Percentage
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	30
2.	**Laboratory/Studio**	30
3.	**Field**	
4.	**Tutorial**	15
5.	**Others (specify)**	
Total		75

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

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Explain the objectives of information security	**K1, K2**	• 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 • Student-centered learning should be designed to	• Class Tests • Instant quizzes /Quiz by surprise •Individual homework assignments •Think and present the best idea of a given problem in a quick session •Asking Questions about previous topics discussed and getting replies • Midterm exam and Final written exam.

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
			facilitate the learner in doing, thinking, manipulating, constructing, testing, analyzing and reflecting. Encourage students to browse different journals, attending seminars or websites at their leisure time to have better understanding about the process and latest advancement in this arena.	
1.2	Describe different cryptography techniques	**K1, K2**	• 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 • Student-centered learning should be designed to facilitate the learner in doing, thinking, manipulating, constructing, testing, analyzing and reflecting. Encourage students to browse different journals, attending seminars or websites at their	• Class Tests • Instant quizzes /Quiz by surprise • Individual homework assignments • Think and present the best idea of a given problem in a quick session • Asking Questions about previous topics discussed and getting replies • Midterm exam and Final written exam.

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
			leisure time to have better understanding about the process and latest advancement in this arena.	
1.3	Define the concepts of authentication and access control	**K1, K2**	• 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 • Student-centered learning should be designed to facilitate the learner in doing, thinking, manipulating, constructing, testing, analyzing and reflecting. •Encourage students to browse different journals, attending 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 • Think and present the best idea of a given problem in a quick session • Asking Questions about previous topics discussed and getting replies • Midterm exam and Final written exam.
1.4	Describe different countermeasures to stop or to recover from an attack	**K1, K2**	• Lecture: here the instructor addresses verbally in front of students	Quiz by surprise • Individual homework assignments

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
	Describe different countermeasures to stop or to recover from an attack		the concepts associated with examples with taking help of writing on the board as needed. • Group discussion • Student-centered learning should be designed to facilitate the learner in doing, thinking, manipulating, constructing, testing, analyzing and reflecting. Encourage students to browse different journals, attending seminars or websites at their leisure time to have better understanding about the process and latest advancement in this arena.	• Think and present the best idea of a given problem in a quick session • Asking Questions about previous topics discussed and getting replies • Midterm exam and Final written exam.
2.0	**Skills**			
2.1	Evaluate vulnerability of an information system and establish a plan for risk management.	**S1, S2**	• Lecture: Teacher gives concepts theoretically and by applying those to a real-world case study to be discussed using different examples on different situations • Discussion: the teacher throws an idea to students and asks them to give their	• Class participation • Asking Questions about previous topics discussed and getting replies • Individual homework assignments • Think and present the best idea of a given problem in a quick session

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
			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 starting 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.	
2.2	Apply contemporary theories, processes, tools, and solutions to problems of information security	**S2, S4**	• Lecture: Teacher gives concepts theoretically and by applying those to a real-world case study to be discussed using	• Class participation • Asking Questions about previous topics discussed and getting replies • Individual

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
			different examples on different situations • Discussion: the teacher throws an idea to students and asks them to give their viewpoints, as well as, their reasoning regarding it • Encouraging student participation in workshops, events or seminars. • 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 starting the new lecture, ask the class to recall the topics of last lecture	homework assignments • Think and present the best idea of a given problem in a quick session

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
			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.	
3.0	**Values, autonomy, and responsibility**			
3.1	Develop leadership, teamwork, self-learning in the implementation of the information systems Security.	**V1, V2**	Lab Demonstrations, Group Discussions	Assignments & projects

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to information Security	8
2.	Elementary Cryptography	8
3.	User authentication and access control	8
4.	Information security and risk management	5
5.	Malicious software, Intrusion prevention systems and Intrusion detection systems	8
6.	Introduce and explain basic concepts of kali linux	8
7.	Port scanning tools and vulnerability scanning tools	8
8.	Penetration test tools and traffic analysis tools like wireshark and nmap	10
9.	Security in Networks	8
10.	Revision	4
Total		**75**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quizzes	5, 9	15%
2.	Assignments	3, 7, 12	5%
3.	Midterm Examination	10	20%
4.	Final Examination	17-18	40%
5.	Final Lab Examinations	15	10%
6.	Lab Performances	2-14	10%

*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	• Michael E. Whitman, Herbert J. Mattord, Principles of information security, 7th edition, Cengage Learning, 2021, ISBN-13: 9780357677889
Supportive References	• 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, Pearson, 7th Edition. 2016. ISBN 13: 978-1-292-15858-7
Electronic Materials	www.iacr.org
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, 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 equipment (projector, smart board, software)	• One PC and one projector and data show in the lecture room

Items	Resources
	Number of PCs according to strength of students in the lab room
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
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
Effectiveness of Students assessment	Consulting peers on teaching. • Discussion about the course in department. • Discussion with experienced teaching staff in the subject.	Direct
Quality of learning resources	• 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
The extent to which CLOs have been achieved	• Each instructor has to teach the course according to the previous course	Indirect

Assessment Areas/Issues	Assessor	Assessment Methods
	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.	
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	17th Department Council
REFERENCE NO.	14460810-0976-00017
DATE	10/02/2025