

Course Syllabus

1.	Course title	Information Security and Privacy
2.	Course number	1932322
3.	Credit hours (theory, practical)	3
	Contact hours (theory, practical)	3
4.	Prerequisites/corequisites	Introduction to Database Systems (1902223)
5.	Program title	Computer Information Systems
6.	Year of study and semester (s)	Third year
7.	Final Qualification	Bachelor degree
8.	Other department (s) involved in teaching the course	None
9.	Language of Instruction	English
10.	Date of production/revision	September 1, 2019
11.	Required/ Elective	Required

12. Course Coordinator:

Dr. Khair Eddin Sabri

Office numbers: KASIT 117

Office hours:

Monday: 9:30 – 11:00

Sunday, Tuesday: 10:00 – 11:00

Phone number: 22557

Email addresses: k.sabri@ju.edu.jo

13. Other instructors:

N/A

14. Course Description:

This course provides an introduction to information security and privacy. The course covers Cryptography, Digital Signature, Key Management, Authentication, Authorization, Steganography, Privacy, Risk Analysis, and applies the information security methods and managements to the development of information security within healthcare systems.

15. Course aims and outcomes:

A- Aims:

Goal:

The main goal of this course is to provide student an introduction to information security and privacy issues and focuses on application areas of the healthcare data privacy and security

Objectives:

- *Understand Cryptography and its elements: Symmetric key, public key, hash function, random number generators.*
- *Develop knowledge in various aspects of information security and privacy*
- *Understand security and privacy in the domain of health informatics.*

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to ...

A-Knowledge and understanding: with the ability to ...

- *A1) Understand the meaning of information security*
- *A2) Understand security threats, Security models, and building security functions*
- *A3) Understand Public key cryptography.*
- *A4) Understand Symmetric key cryptography.*
- *A5) Understand Cryptographic hash functions.*
- *A6) Understand Steganography, watermarking and information hiding.*
- *A7) Understand Access Control*
- *A8) Understand the roles and responsibilities of different actors involved in healthcare systems*
- *A9) Understand healthcare information regulation.*
- *A10) Understand blockchain technology*

B- Intellectual skills: with the ability to ...

- *B1) Distinguish between different security models.*
- *B2) Distinguish between public and symmetric key encryptions.*
- *B3) Explain some classical encryption methods.*
- *B4) Explain cryptographic hash functions*
- *B5) Distinguish between different steganography techniques.*
- *B6) Identify the different authentication and authorization techniques*
- *B7) Identify code vulnerabilities.*
- *B8) Identify security requirements in healthcare systems*

C- Subject specific skills – with ability to ...

- *C1) Analyze mathematical formula*
- *C2) Analyze some computational aspects related to public key cryptography.*
- *C3) Analyze some computational aspects related to symmetric key cryptography.*
- *C4) Develop a secure healthcare system.*

D- Transferable skills – with ability to

- *D1) Work in a group in order to represent mathematically specific subject.*
- *D2) Communicate effectively by oral and written means.*

16. Topic Outline and Schedule:

Topic	Week	ILOs	Student Outcomes	TLA (teaching, learning and Assessment)
Introduction	1	A1, A2, B1	1	T: Lecture L: CH 01 A: Assignments, Midterm, Final
Cryptography	2, 3	A1, A2, A3, A4, B1, B3	1	T: Lecture L: CH 02 A: Assignments, Midterm, Final
Symmetric Key Cryptography	4,5	A3, B2, C1, C3	1	T: Lectures and discussion L: CH 03 A: Assignments, Midterm, Final
Public Key Cryptography	6	A4, B2, C1, C2	1,2	T: Lectures and discussion L: CH 04 A: Assignments, Midterm, Final
Hash Function Secret Sharing Random Numbers	7	A5, B4, C1	1	T: Lectures and discussion L: CH 05 A: Assignments, Midterm, Final
Information Hiding	8	A6, B5, C1	1	T: Lecture and discussion L: CH 05 + lecture notes A: Assignments, Final
Midterm exam	8			
Authentication	9	A7, B6, C4	1,2	T: Lecture and discussion L: CH 07 A: Assignments, Final
Authorization	10	A7, B1, B6, C4	1,2	T: Lecture and discussion L: CH 08 A: Assignments, Final
Software and Web Security	10	B7, C4	1,2	T: Lecture and discussion L: CH 11 + lecture notes + OWSAP A: Assignments, Final
Blockchain	11	A10	1	T: Lecture and discussion L: lecture notes A: Final
Healthcare Overview	11	A1, A8, A9	6	T: Lecture, and discussion L: Murphy book A: Final
Healthcare Information Privacy and Security Management.	12	A1, A8, A9, B8, C4	1,2,4, 6	T: Lecture and discussion L: Murphy book A: Final
Project Discussion and Presentations	13,14	D1, D2	3	A: Presentations
Revision	15			
Final	16			

(Please mention instructors per topic if the course topics are being taught by more than one instructor)

17. Evaluation Methods and Course Requirements (Optional):

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

There will be several assessment methods of evaluation the performance of the students such as class participation, quizzes; assignments; programming, presentation, midterm and final exams

18. Course Policies:

A- Attendance policies:

Deliberate abstention from attending 1932322 classes and any other similar acts will lead to student deprivation from the course according to the UJ regulations

B- Absences from exams and handing in assignments on time:

If you miss the midterm, then a makeup exam will not be provided unless you submit a valid absence excuse, within three days from the midterm, to your lecturer. This excuse must be signed and stamped from the UJ hospital in order to be valid. If your lecturer accepts the excuse then you will be able to take the makeup. You need to follow up the departmental announcements regarding the makeup date and time. Please note that the lecturer may either accept or reject your excuse based on UJ regulations

C- Health and safety procedures:

N/A

D- Honesty policy regarding cheating, plagiarism, misbehavior:

All students in this course must read the University policies on plagiarism and academic honesty

http://registration.ju.edu.jo/RegRegulations/Forms/All_Regulations.aspx

E- Grading policy:

- Midterm Exam:	30%
- Assignments, class participants, Presentation	20%
- Final Exam:	50%

F- Available university services that support achievement in the course:

N/A

G- Statement on Students with disabilities

Students with Disabilities: Students with disabilities who need special accommodations for this class are encouraged to meet with the instructor and/or their academic advisor as soon as possible. In order to receive accommodations for academic work in this course, students must inform the course instructor and/or their academic advisor, preferably in a written format, about their needs no later than the 4th week of classes.

19. Required equipment:

Class rooms with data shows

20. References:

A- Required book (s), assigned reading and audio-visuals:

Information Security: Principles and Practice, Mark Stamp, Wiley, 2th edition, 2011.
Healthcare Information Security and Privacy, Sean Murphy, McGraw Hill, 2014.

B- Recommended books, materials, and media:

- *Digital Watermarking and Steganography: Fundamentals and Techniques, Frank Shih, CRC Press, 2nd Edition, 2017.*
- *Introduction to Modern Cryptography, Katz and Lindell, CRC Press, 2nd Edition, 2014*
- *A Course in Number Theory and Cryptography, Neal Koblitz, Springer, 2012.*
- *Cryptography and Information Security, Pachghare, PHI Learning, 2015.*

21. Additional information:

Course website:
elearning.ju.edu.jo

Date: -----

Name of Course Coordinator: -----Signature: -----

Head of curriculum committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of curriculum committee/Faculty: ----- Signature: -----

Dean: ----- -Signature: -----

Copy to:
Head of Department
Assistant Dean for Quality Assurance
Course File