



T-104
2022

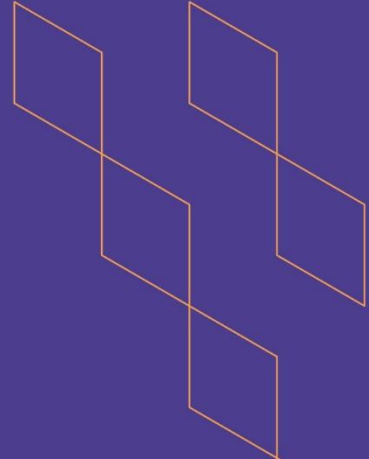
Course Specification





T-104
2022

Course Specification



Course Title: Apps Privacy and Security
Course Code: 2341 CSA
Program: Web and Mobile Application Development
Department: NA
College: Applied College
Institution: King Khalid University
Version: 1
Last Revision Date: 6 August 2023



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A. General information about the course:

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: 4th Level

4. Course general Description:

In a rapidly changing world, the need for web & mobile application development needs to be focus on privacy & security. The environment needs to be addressed the privacy and security issues. They need to adopt new adhoc technologies and tools that support security issues.

5. Pre-requirements for this course (if any): 2333 CSA

6. Co- requirements for this course (if any):

7. Course Main Objective(s):

The purpose of this course is to provide understanding of the main issues related to security in modern systems. This covers underlying concepts and foundations of Web security, basic knowledge about security-relevant decisions in designing IT infrastructures, techniques to secure complex systems and practical skills in managing a range of systems, from personal laptop to large-scale infrastructures.

The objective of this course is to create architectural, algorithmic and technological foundations for the maintenance of the privacy of individuals, the confidentiality of organizations, and the protection of sensitive information, despite the requirement that information be released publicly or semi-publicly.

Learning Outcomes:

On completion of this course, students should have gained a good understanding of the concepts and foundations of Web and Mobile security, and identify vulnerabilities of IT systems. The students can use basic security tools to enhance system security and can develop basic security enhancements in stand-alone applications.

- Understand the concepts of privacy in today's environment.
- Obtain the understanding of how automation is changing the concepts and expectations concerning privacy and the increasingly interconnected issue of security.
- Obtain the knowledge of the role of private regulatory and self-help efforts.
- Have an understanding of how emerging issues are affecting society and business, with a concentration on how information security must shape corporate practices.



1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	64	100
2.	E-learning		
3.	Hybrid <ul style="list-style-type: none"> • Traditional classroom • E-learning 		
4.	Distance learning		

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	32
2.	Laboratory/Studio	32
3.	Field	
4.	Tutorial	
5.	Others (specify)	
	Total	64





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	Define Systems Security and outlines its majors components.	K1	Lectures + Lab	Exams, Assignments, Quizzes
1.2	Outline the basic principles and techniques when building a secure organization	K2	Lectures + Lab	Exams, Assignments, Quizzes
2.0	Skills			
2.1	Identify basic security threads and concepts as confidentiality, integrity, and availability, threats which are used frequently in the field of Privacy and Security.	S2	Lectures + Lab	Exams, Assignments, Quizzes
2.2	Explain the obstacles and challenges to build a secure Application	S1	Lectures, Lab, Group Discussion	Exams, Assignments, Quizzes
2.3	Analyze to detecting/preventing systems intrusions	S3	Lectures, Lab, Group Discussion	Exams, Assignments, Quizzes
3.0	Values, autonomy, and responsibility			
3.1	Participate/Communicate with other students about specific IS security case to use of such security tools/concepts as firewalls, VPN, Cloud Security and Linux Security, Android and IOS security.	V1	Lectures, Lab, Case Study, Groupwork	Exams, Assignments and presentation
3.2	Recognize the importance of Web security algorithms used in security in the context of the overall information systems	V2	Lab, Groupwork, Presentation	Exams, Assignments and presentation
3.3	Demonstrate the security Threats	V3		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Security issues	5



	Data and network security, Integrity and Availability assets and Threats	
2	<p>Web application Security</p> <ul style="list-style-type: none"> ▪ Basic Web Security Model <p>Web application Security</p> <p>Network Protocols and Vulnerabilities</p> <ul style="list-style-type: none"> ▪ IP, TCP, Routing Protocols, DNS <p>Network Defenses</p> <ul style="list-style-type: none"> ▪ Secure Protocols, Firewalls, VPNS, Intrusion Detection and Filters 	6
3	<p>Malicious Software and Software security</p> <ul style="list-style-type: none"> ▪ Internet security issues ▪ Computer viruses ▪ Spyware ▪ Key loggers ▪ Electronic and information warfare. <p>Mobile Platform security models</p> <ul style="list-style-type: none"> ▪ Android, ▪ IOS Mobile platform security models, ▪ Detecting Android malware in Android markets. 	6
4	<p>Privacy</p> <ul style="list-style-type: none"> ▪ Data Privacy Attacks, ▪ Data linking and profiling, ▪ Access control models, ▪ Role based access control, ▪ Privacy policies, their specifications, languages and implementation, ▪ Privacy policy languages, privacy in different Domains. 	5
5	<p>Protection Models.</p> <p>Null-map, k-map, Wrong map</p>	4
6	Computation systems for protecting delimited data-	6





MinGen, Datafly, Mu-Argus, k-Similar, Protecting textual documents: Scrub. Technology, Policy, Privacy and Freedom- Medical privacy legislation, policies and best practices, Examination of privacy matters specific to the World Wide Web, Protections provided by the Freedom of Information Act or the requirement for search warrants.	
Total	64

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quiz 1	4	5
2.	Midterm Exam 1	7	10
3.	Practical Assessment	1 to 16	30
4.	Midterm Exam 2	12	10
5.	Quiz 2	14	5
6.	Final Exam	After week 16	40

*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	<p>1. List Required Textbooks</p> <p>1. William Stallings, Network Security Essentials: Applications and Standards, Prentice Hall, 4th edition, 2011. ISBN 13: 978-0-13-610805-4</p> <p>2. Michael T. Goodrich and Roberto Tamassia, Introduction to Computer Security, Addison Wesley, 2010. ISBN-13: 978-0321512949</p>
Supportive References	<p>2. List Essential References Materials (Journals, Reports, etc.)</p> <ul style="list-style-type: none"> ✚ JOC-Journal of Cryptology. ✚ TISSEC-ACM Transactions on Information and System Security. ✚ COMPSEC-Computers & Security. ✚ DCC-Designs, Codes and Cryptography. ✚ IEEE Security & Privacy. ✚ IEEE Transactions on Information Forensics and Security. <p>IEEE Transactions on Dependable and Secure Computing.</p>
Electronic Materials	
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	<ul style="list-style-type: none"> • Lecture Room with a capacity of More than 30 Chairs and Tables for Students and 1 Teacher's Table and Chair and 1 Projector/Screen. • Laboratories with at least 25 Computers for students and 1 for Lab Instructor and Lab Assistant with Computer Table/Chair with the same number and 1 Projector/Screen.
Technology equipment (projector, smart board, software)	<ul style="list-style-type: none"> • Projectors, Computer for Theory Classes and Practical Sessions. • Internet connection.



Items	Resources
Other equipment (depending on the nature of the specialty)	<ul style="list-style-type: none"> ● Overhead projector ● Computer for individual students ● Internet access ● Networked laboratory systems

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Indirect
Effectiveness of students assessment	Course Teacher	Direct
Quality of learning resources	Program Supervisor, Quality Unit	Direct
The extent to which CLOs have been achieved	Course Teacher	Direct
Other	Course Teacher, Quality Unit	Direct

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

Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	

