Course Specifications

Course Title:	Database Security
Course Code:	CSEC 326
Program:	Information and Computer Sciences
Department:	Computer Science and Information
College:	College of Science at Az Zulfi
Institution:	Majmaah university

Table of Contents

A. Course Identification

1. Credit hours:3
2. Course type **a.** University ☐ College ☐ Department ☐ Others ☐ **b.** Required ☐ Elective ■
3. Level/year at which this course is offered: 6th level
4. Pre-requisites for this course (if any)**:** ICS 213
5. Co-requisites for this course (if any)**: Nil**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	48	80%
2	**Blended**	6	10%
3	**E-learning**	6	10%
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**	
4	**Others** (specify)	
	Total	60
Other Learning Hours*		
1	**Study**	30
2	**Assignments**	15
3	**Library**	30
4	**Projects/Research Essays/Theses**	15
5	**Others** (specify)	
	Total	60

***** 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

Study of principles and practices of implementing computer database security in modern businesses and industries, including database security principles, database auditing, security implementation and database reliability.

2. Course Main Objective

1. provide an overview of database security concepts
2. provide and discuss new directions of database security in the context of Internet information management
3. Topics covered include: Access control models for DBMSs, Inference controls, XML database security, Encrypted databases, Data Privacy and Query Authentication.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge:**	
1.1	Understand the fundamentals of security, and how it relates to information systems	K3-CSEC
1.2	Understand the various database security models and their advantages or disadvantages	
2	**Skills :**	
2.1	Identify risks and vulnerabilities in operating systems from a database perspective	S3-CSEC
2.2	implement administration policies for users	
2.3	Recognize and apply availability concepts for security	
3	**Competence:**	
3.1	Produce secure database designs	C3-CSEC
3.2	Articulate database security techniques and procedures and use them to develop a database security plan	

C. Course Content

No	List of Topics	Contact Hours
1	Introductions Course Overview	4
2	Security Concepts Discussion Security Architecture	4
3	Operating System Security Term Project Discussion	4
4	User Creation and Administration	8
5	Profiles, Passwords, Privileges, and Roles	4
6	Security Models for Database Applications	8
7	Virtual Private Databases	4
8	Database Auditing Models	4
9	Application and Data Auditing	8
10	Auditing Database Activities	8
11	Security and Auditing Project Cases	4
Total		60

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	Understand the fundamentals of security, and how it relates to information systems	Lectures. Case studies	Written Exam Homework assignments Quizzes
1.2	Understand the various database security models and their advantages or disadvantages		
2.0	**Skills**		
2.1	Identify risks and vulnerabilities in operating systems from a database perspective	Lectures. Lab Case studies. Individual presentations. Brainstorming.	Written Exam Homework assignments Lab assignments Class Activities Quizzes
2.2	implement administration policies for users		
2.3	Recognize and apply availability concepts for security		
3.0	**Competence**		
3.1	Produce secure database designs	Lectures. Lab Case studies. Individual group discussions. Brainstorming. Presentations.	Written Exam Homework assignments Lab assignments Class Activities Quizzes
	Articulate database security techniques and procedures and use them to develop a database security plan		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	First written mid-term exam	6	15%
2	Second written mid-term exam	12	15%
3	Presentation, class activities, and group discussion	Every week	10%
4	Homework assignments	After Every chapter	10%
5	Implementation of presented programs	Every two weeks	10%
6	Final written exam	16	40%
7			
8			

***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 : Office hours - Office call – Email - Mobile

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Handbook of Database Security: Applications and Trends, Michael Gertz (Editor), Sushil Jajodia (Editor), Springer, 2017
Essential References Materials	
Electronic Materials	
Other Learning Materials	Video and presentation

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom and Lab, as those that are available at college of science at AzZulfi.
Technology Resources (AV, data show, Smart Board, software, etc.)	Smart Board - data show
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	A/N

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
course evaluation	Student-faculty management meeting	Questionnaires
Evaluation of Teaching	Program/Department Instructor	Discussion within the staff members teaching the course Departmental internal review of the course.

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	

Reference No.	
Date	