



# Course Specification

## **DIPLOMA**

Course Title: **Data Security and Privacy**

Course Code: **APDA3213**

Program: **Diploma in Data Analytics**

Department: **Diploma Department**

College: **The Applied College**

Institution: **Umm Al-Qura University**

Version: **1**

Last Revision Date: **05 May 2025**



## Table of Contents

A. General information about the course: .....	3
B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods .....	4
C. Course Content.....	4
D. Students Assessment Activities .....	5
E. Learning Resources and Facilities.....	5
F. Assessment of Course Quality .....	5
G. Specification Approval .....	6





## A. General information about the course:

### 1. Course Identification

1. Credit hours: ( 2 )

#### 2. Course type

A. ☐ University ☐ College ☒ Department ☐ Track ☐ Others  
B. ☒ Required ☐ Elective

3. Level/year at which this course is offered: ( Level 3/ Year 2 )

#### 4. Course General Description:

This course introduces the foundational concepts of data security and privacy with a focus on the needs of data analytics professionals. Students will learn the basic principles of protecting data confidentiality, integrity, and availability, and explore threats, vulnerabilities, and risk mitigation approaches. Topics include access control, authentication, data anonymization, ethical considerations, and an overview of legal and regulatory frameworks. The course emphasizes practical awareness of data protection throughout the data analytics lifecycle, preparing students to make informed, responsible decisions when working with data.

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

APDA1205- Introduction to Data Visualization

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

None

#### 7. Course Main Objective(s):

The main objectives of this course are:

- Understand key principles of data security and privacy.
- Recognize common threats and vulnerabilities in data processing.
- Explore techniques for securing data access and controlling user authentication.
- Identify legal, ethical, and organizational requirements for protecting sensitive data.





- Analyze basic anonymization methods and assess privacy risks in data handling.

## 2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	30	100%
2	E-learning		
3	Hybrid <ul style="list-style-type: none"> <li>Traditional classroom</li> <li>E-learning</li> </ul>		
4	Distance learning		

## 3. Contact Hours (based on the academic semester)

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

## 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	Describe the basic principles of data security including confidentiality, integrity, and availability.	K3	Lectures Examples Guided discussions	Quizzes Exams



Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.2	Identify common threats, vulnerabilities, and basic countermeasures in data systems.	K3	Lectures Case Scenarios Real-world examples	Quizzes Exams
1.3	Explain the importance of regulatory frameworks and ethical responsibilities related to data privacy.	K3	Lectures Class discussions Articles, Legal case brief	Quizzes Exams Participations
<b>2.0</b>	<b>Skills</b>			
2.1	Apply basic techniques to assess mitigate privacy risks in data handling.	S4	Lectures Scenario analysis	Quizzes Exams Assignments
2.2	Analyze the role of access control and user authentication in protecting data.	S3	Lectures Comparative analysis Examples	Quizzes Exams Assignments
<b>3.0</b>	<b>Values, autonomy, and responsibility</b>			
3.1	Demonstrate awareness of responsible data use and protection of personal information.	V1	Ethics discussions Institutional policy review	Participation

### C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Data Privacy: Importance and Core Concepts	2
2.	Data Governance and Simple Privacy Approaches	2
3.	Identifying Sensitive Data and Understanding PII	2
4.	Data Documentation and Lineage Tracking	2





5.	Pseudonymization Techniques and Privacy by Design	2
6.	Anonymization Methods: Concepts and Applications	2
7.	Building Privacy into Data Pipelines	2
8.	Midterm Exam	2
9.	Understanding Privacy Attacks and Risk Assessment	2
10.	Overview of Privacy Regulations: GDPR, CCPA, and Local Laws	2
11.	Ethical Considerations in Data Privacy and Security	2
12.	Organizational Policies and Best Practices for Data Protection	2
13.	Case studies: Real-world Data Breaches and Lessons Learned	2
14.	Preparing for Secure Data Workflows in Practice	2
15.	Course Review and assignment discussion	2
Total		30

#### D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quizzes	4, 11	15%
2.	Midterm Exam	8	30%
3.	Assignment	13-15	15%
4.	Final Exam	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	Jarmul, K. (2021). <i>Practical Data Privacy: Building Responsible Data Workflows</i> . O'Reilly Media.
Supportive References	Stallings, W., & Brown, L. (2018). <i>Computer Security: Principles and Practice</i> (4th ed.). Pearson.
Electronic Materials	Selected policy documents and case reports on GDPR, Saudi Data and Privacy Law (PDPL), and real-world privacy breaches.
Other Learning Materials	University LMS



## 2. Required Facilities and equipment

Items	Resources
<b>facilities</b> (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Lecture classrooms with seating and whiteboard.
<b>Technology equipment</b> (projector, smart board, software)	Projector and instructor computer with internet access. Student access to university LMS.
<b>Other equipment</b> (depending on the nature of the specialty)	

## F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	<b>Indirect</b> Course survey and students' feedback.
Effectiveness of Students	Faculty Members, Peer Reviewers	<b>Direct</b> Report on the satisfaction of exam standards.
Quality of learning resources	Faculty Member, Course Coordinators	<b>Direct</b> Learning resources evaluation survey.
The extent to which CLOs have been achieved	Faculty Members, Program Leaders	<b>Direct</b> Course reports.
Other		

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

**Assessment Methods** (Direct, Indirect)



## G. Specification Approval

COUNCIL /COMMITTEE	Umm Al-Qura University Council
REFERENCE NO.	851281214463/193664
DATE	1447/01/20

