



Course Specification

DIPLOMA

Course Title: **Applications in Data Analytics**

Course Code: **APDA2209**

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:

3

2. Course type

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

3. Level/year at which this course is offered: Level 2, 1st Year

4. Course General Description:

This course provides practical exposure to widely-used data analytics tools, focusing on user-friendly, no-code or low-code platforms. Students will learn how to collect, clean, analyze, and visualize data using tools like Microsoft Excel, Power BI, and Tableau. The course emphasizes hands-on experience and real-world applications in business, healthcare, marketing, and operations. Students will be equipped to create interactive dashboards and reports that support data-driven decision-making without writing code.

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

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

7. Course Main Objective(s):

By the end of this course, students will be able to:

1. Understand key data analytics concepts and tools.
2. Perform data cleaning, summarization, and visualization using intuitive interfaces.
3. Apply analytics tools to real-world datasets for meaningful insights.
4. Create professional reports and dashboards to communicate findings.
5. Work collaboratively on analytics projects across various domains.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	100%
2	E-learning	None	
3	Hybrid	None	





No	Mode of Instruction	Contact Hours	Percentage
	<ul style="list-style-type: none"> Traditional classroom E-learning 		
4	Distance learning	None	

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	30
2.	Laboratory/Studio	30
3.	Field	None
4.	Tutorial	None
5.	Others (specify)	None
Total		60

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	Identify and describe common data analytics tools.	K1	<ul style="list-style-type: none"> Lectures Lab Exercises 	<ul style="list-style-type: none"> Midterm and Final exams Quiz Lab assessment
1.2	Understand the role of data analytics in organizational contexts.	K2	<ul style="list-style-type: none"> Lectures Lab Exercises 	<ul style="list-style-type: none"> Midterm and Final exams Quiz Lab assessment
2.0	Skills			
2.1	Use Excel, Power BI, and Tableau for data analysis and visualization.	S3	<ul style="list-style-type: none"> Lectures Lab Exercises 	<ul style="list-style-type: none"> Midterm and Final exams Quiz Lab exam Project





Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
2.2	Build dashboards and create reports with minimal technical skills.	S3	<ul style="list-style-type: none"> Lectures Lab Exercises 	<ul style="list-style-type: none"> Lab assessment Project
2.3	Interpret data trends and communicate insights effectively.	S4	<ul style="list-style-type: none"> Lectures Lab Exercises 	<ul style="list-style-type: none"> Lab assessment Project
3.0	Values, autonomy, and responsibility			
3.1	Appreciate the value of data-informed decision-making.	V1	<ul style="list-style-type: none"> Lectures Lab Exercises 	Project
3.2	Recognize the ethical use and privacy considerations of data.	V2	<ul style="list-style-type: none"> Lectures Lab Exercises 	Exams
3.3	Collaborate with peers to explore and solve real-world problems.	V3	<ul style="list-style-type: none"> Lectures Lab Exercises 	Project

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Data Analytics Tools	4
2.	Data Sources and Importing Data	4
3.	Data Cleaning & Transformation	4
4.	Data Types and Descriptive Statistics	4
5.	Data Visualization Basics	4
6.	Dashboard Design Principles	4
7.	Interactive Dashboards	4
8.	Case Study: Business Analytics	4
9.	Case Study: Healthcare Analytics	4
10.	Time-Based Trends and Comparisons	4
11.	Sharing Reports and Publishing Dashboards	4
12.	Data Ethics and Responsible Analytics	4
13.	Final Group Project: Analytics Report	4





14.	Project Presentations & Course Wrap-up	4
15.	Quizzes, exams and revision	4
Total		60

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quizzes	Week 3,9,12	10%
2.	Midterm Exam	Week 7	20%
3.	Lab Assessment	Week 2-11	15%
4.	Project	Continuous	15%
5.	Final Exam	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	MS Excel, MS Bi and Tableau Tutorials
Supportive References	Video Tutorials
Electronic Materials	Tutorials and open datasets from sites like Kaggle, UCI
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classrooms
Technology equipment (projector, smart board, software)	Data show projector Collab
Other equipment (depending on the nature of the specialty)	Tableau MS BI MS Excel Google Collab using Python version 3



F. Assessment of Course Quality

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

