



Course Specification

(Bachelor)

Course Title: **Business Intelligence**

Course Code: **IS1357**

Program: **Bachelor of Information Systems**

Department: **Information systems**

College: **College of Computer and Information Sciences**

Institution: **Imam Mohammad Ibn Saud Islamic University**

Version: **2**

Last Revision Date: **13-7-2025**

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A. General information about the course:

1. Course Identification

1. Credit hours: 3 credit hours (lectures:3)

2. Course type

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

3. Level/year at which this course is offered: Level 8/Fourth Year

4. Course general Description:

This course provides an introduction to the concepts of business intelligence (BI) as components and functionality of information systems. It explores how business problems can be solved effectively by using operational data to create data warehouses, and then applying data mining tools and analytics to gain new insights into organizational operations. Detailed discussion of the analysis, design and implementation of systems for BI, including: the differences between types of reporting and analytics, enterprise data warehousing, data management systems, decision support systems, knowledge management systems, big data and data/text mining.

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

IS1241- Principles of Project Management

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

No Co-requisites

7. Course Main Objective(s):

This course is designed to introduce students to business intelligence concepts and provide students with an understanding of data analytics and visualization along with associated techniques and their benefits to organizations of all sizes. It provides students with various problem-solving skills and knowledge of various techniques / tools / methods, to implement BI and Analytics solutions.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3 hours/week	100%
2	E-learning		
3	Hybrid - Traditional classroom - E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	45
2.	Laboratory/Studio	
3.	Field	
4.	Tutorial	
5.	Others (specify)	
Total		45

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	Understand the key concepts and current practices of business intelligence	K1(I)	Class Lectures	Quizzes, Midterm, Final, Assignments
1.2	Explain the role of data warehousing, OLAP, and data mining in Business Intelligence systems	K3(P)	Class Lectures, Case Discussions	Quizzes, Midterm, Final,
2.0	Skills			



Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
2.1	Design simple BI architectures using data warehouse modeling and OLAP techniques	S2(I)	Case Studies, Class Lectures, Tool Demos	Assignments, Final, Project
2.2	Apply data mining and visualization techniques to solve business problems	S4(P)	Tool-based Lab Sessions, Group Work	Assignments, Final, Project,
2.3	Analyze and evaluate decision support capabilities of BI tools for organizational operations	S3(M)	Class Discussion, Group Project, Presentations	Report, Project Presentation
3.0 Values, autonomy, and responsibility				
3.1	Demonstrate teamwork, ethical responsibility, and effective communication during BI projects	V1(I)	Group Projects, Peer Interaction, Presentations	Peer Evaluation, Reflective Report, Group Project
3.2	Identify and address ethical and legal considerations in the use of business intelligence	V2(P)	Case-Based Discussions, Role Play, Scenario-Based Learning	Reflective Report, Scenario-based Quizzes

C. Course Contents

No	List of Topics	Contact Hours
1.	Introduction to Decision-Making and Operations Research	3
2.	History and Evolution of Business Intelligence	3
3.	Components of BI: Data Sources, ETL, Data Warehousing Overview	3
4.	Data Warehouse Design and Modeling (Star/Snowflake schemas)	3
5.	OLAP Concepts and Operations (ROLAP, MOLAP)	3





6.	Data Mining for Business Intelligence: Classification, Clustering, ARM	3
7.	Business Intelligence Tools: Power BI, Tableau	6
8.	Data Visualization and Dashboard Design Principles	3
9.	Real-Time and Self-Service BI Concepts	3
10.	Cloud-Based and Mobile BI Platforms	3
11.	AI in BI – Natural Language Queries and Automated Insight Generation (e.g., Power BI Copilot)	3
12.	Text Mining and Sentiment Analysis	3
13.	Project Presentations and Use Case Discussions	6
Total		45

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quiz	4,11	10%
2.	Midterm Exam	8	20%
3.	Assignment	7	10%
4	Group Project	15	20%
5	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	<i>Successful Business Intelligence, Second Edition, 2nd Edition by Cindi Howson Released November 2013 Publisher(s): McGraw-Hill ISBN: 9780071809191</i>
Supportive References	N/A
Electronic Materials	N/A
Other Learning Materials	N/A

2. Required Facilities and equipment





Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classroom
Technology equipment (projector, smart board, software)	A projector connected to a PC preferably with Internet connection
Other equipment (depending on the nature of the specialty)	N/A

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Indirect using course evaluation survey
Effectiveness of Students assessment	Faculty members	Direct method using TOS file
Quality of learning resources	Students and Faculty	Indirect using course evaluation survey and faculty survey
The extent to which CLOs have been achieved	Faculty members	Direct method using TOS file
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	IS CURRICULUM APPROVAL & DEVELOPMENT COMMITTEE IS QAC / / IS COUNCIL
REFERENCE NO.	
DATE	

