T-104
2022

Course Specification
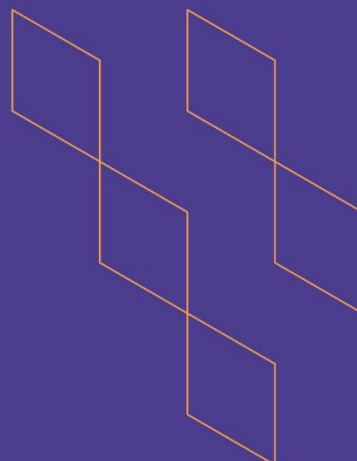
Course Title:	**Data Warehouse**
Course Code:	**IS1765**
Program:	**Computer Information System**
Department:	**Computer Information System**
College:	**Computer Science & Information Technology**
Institution:	**Al-Baha University**
Version:	**T104-V2**
Last Revision Date:	**25 May 2023**

Table of Contents:

A. General information about the course:

Course Identification	
1. Credit hours:	3 Credit Hours (3, 0, 0) (Lecture, Lab, Tutorial) (3 Contact Hours)

2. Course type

a.	University ☐	College ☐	Department ☒	Track ☐	Others ☐
b.	Required ☐	Elective ☒			

3. Level/year at which this course is offered:	Elective course (12th Level/4th Year)

4. Course general Description:

In this course, the students will develop and gain an understanding of the principles, concepts, functions and uses of data warehouses. It presents the main guidelines in data modeling, creating and querying data warehouse.

5. Pre-requirements for this course (if any): IS1503- **Data and Information Management**

6. Co- requirements for this course (if any): None

7. Course Main Objective(s)

This course introduces fundamental techniques and novel applications of data warehouse. Issues covered by this learning experience include data warehouse fundamentals, planning, business analytics modeling, data warehouse design and implementation. This course also covers topics of Extract-Transform-Load (ETL), Data Cubes, and Data Marts.

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	30	100%
2.	E-learning		
3.	Hybrid • Traditional classroom • E-learning		
4.	Distance learning		

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	30 hours
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 CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Differentiate the components/characteristics of a data warehouse	K3	- Lectures - Class discussion	*Direct Assessment Tool* Quiz Midterm *Indirect Assessment Tool* Course Exit Survey
1.2	Describe data warehouse models and architecture	K3	- Lectures - Class discussion	*Direct Assessment Tool* Midterm Final Exam *Indirect Assessment Tool* Course Exit Survey
2.0	Skills			
2.1	Explains dimensional modelling at conceptual and logical level	S1	- Lectures - Assignments - Self-learning exercice	*Direct Assessment Tool* Homework Final exam *Indirect Assessment Tool* Course Exit Survey
2.2	Explain the data warehouse creation process	S5	-Lectures - Self-learning exercice	*Direct Assessment Tool* Homework Final Exam *Indirect Assessment Tool* Course Exit Survey
2.3	Write queries (OLAP) and transformation operations	S5	- Lectures - Class work - Assignments	*Direct Assessment Tool* • Midterm • Quiz • Final exam *Indirect Assessment Tool* Course Exit Survey
3.0	Values, autonomy, and responsibility			
3.1	Express self-efficacy through a willingness to problems, learn and take challenges independently.	V1	- Assignment	*Direct Assessment Tool* ● Homework *Indirect Assessment Tool* Course Exit Survey

C. Course Content

No	List of Topics	Contact Hours

1	Introduction to Data warehousing	2
2	DW architecture	2
3	DW methodologies	2
4	DW conceptual design	6
5	DW logical design	6
6	ETL process	6
7	Querying data warehouse	6
Total		30

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Homeworks	periodically	10%
2.	Midterm Exam	5	15%
3.	Quiz	8	15%
4.	Final Exam	12	60%

*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	- Data Warehouse Systems : Design and Implementation, Alejandro Vaisman, Esteban Zimányi, ISBN 9783662651674, 366265167X, Springer Berlin Heidelberg, 2022.
Supportive References	•
Electronic Materials	• Access to the Saudi Digital Library (SDL). • Using the learning management system of the university – Rafid System (https://lms.bu.edu.sa/).
Other Learning Materials	None

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	A classroom or lecture hall with whiteboard for 25 students.
Technology equipment (projector, smart board, software)	• A digital image projection system with connection to desktop computer and laptop computer.

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Items	Resources
	• High speed Internet connection. • An instructor computer station.
Other equipment (depending on the nature of the specialty)	None

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	• Students • Faculty • Peer Reviewers • Program Leader • Course Coordinator	•Surveys (indirect). •Direct feedback from students. •Comprehensive Course report (where we can find information about teaching difficulties and action plan, …)
Effectiveness of students assessment	• Students • Faculty • Peer Reviewers • Exam Evaluation Committee • Course Coordinator	• Surveys (indirect). • Direct feedback from students. • Exam evaluation by the Exam Evaluation Committee (indirect)
Quality of learning resources	• Students • Faculty • Peer Reviewers • Course Coordinator	• Surveys (indirect) • Course evaluation by Peer Reviewers (indirect). • Comprehensive Course report (where we can find information about difficulties and challenges about learning resources as well as consequences and action plan, …)
The extent to which CLOs have been achieved	• Faculty • Program Leader • Course Coordinator	• Student Results (direct) • Comprehensive Course report (where we can find the CLO assessment results)
Other	None	None

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	Curriculum Committee Meeting
REFERENCE NO.	
DATE	