

Course Description Form

1. Course Name:	
Data Warehouse	
2. Course Code:	
CSAI4117	
3. Semester / Year:	
1st Course 2025–2026	
4. Description Preparation Date:	
2025	
5. Available Attendance Forms:	
On Campus	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 hours	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Prof. Dr. Khalil Ibrahim Ghathwan Email: khalil.i.ghathwan@uotechnology.edu.iq	
8. Course Objectives	
Course Objectives	1. Understanding Data Warehousing Concepts: Education aims to introduce students to the concepts of data warehousing and its fundamentals, including design, data structure, data extraction, management, and analysis processes. 2. Developing Analysis and Design Skills: Students learn how to analyze enterprise requirements and design data warehouses to meet strategic and tactical needs. 3. Learning to Use Techniques and Tools: Students become familiar with the techniques and tools used in building and managing data warehouses, such as database management systems specific to warehouses and query and reporting tools.
9. Teaching and Learning Strategies	
Strategy	Interactive Discussions: Foster interactive discussions where students can engage with the material, ask questions, and share insights. Encourage peer-to-peer learning and critical thinking through group discussions and debates on data warehousing topics.

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	1,3,5,6,7	History of Data, History of data warehousing, Data warehouse Concept What is a Data Warehouse?	Face to face lectures	Attendance + answering discussion questions
2	2	1,3,5,6,7	Subject Oriented ,Integrated Nonvolatile, Time Variant Reasons for building Data warehouse	Face to face lectures	Attendance + answering discussion questions
3	2	1,3,5,6,7	Granularity, The Benefits of Granularity, Data of Data Warehouse, Data Warehouse Definition,	Face to face lectures	Attendance + answering discussion questions
4	2	1,3,5,6,7	A Multidimensional Data Model, Data Cube: From Tables and Spreadsheets to Data Cubes	Face to face lectures	Attendance + answering discussion questions
5	2	1,3,5,6,7	Stars, Snowflakes, and Fact Constellations: Schemas for Multidimensional Data Models	Face to face lectures (Videos + Notes)	Attendance + answering discussion questions
6	2	1,3,5,6,7	OLAP Operations on a multidimensional data model	Face to face lectures	Attendance + answering discussion questions

7	2	1,3,5,6,7	MID Exam		
8	2	1,3,5,6,7	Data Warehouse Components, Source Data Component, Data Staging Component (DSA), Data Storage Component,	Face to face lectures	Attendance + answering discussion questions
9	2	1,3,5,6,7	Information Delivery Component, Metadata Component	Face to face lectures	Attendance + answering discussion questions
10	2	1,3,5,6,7	Data Warehouse Architecture, Metadata, Data Mart	Face to face lectures	Attendance + answering discussion questions
11	2	1,3,5,6,7	Steps for the Design and Construction of Data Warehouse, Data Warehouse Design Process	Face to face lectures	Attendance + answering discussion questions
12	2	1,3,5,6,7	Test		
13	2	1,3,5,6,7	Final Exam		

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Prabhu, S., and N. Venkatesan. "Data Mining and Warehousing". Published by New Age International (P) Ltd., Publishers. 2007.
Main references (sources)	The Data Warehouse Toolkit: The Definitive Guide to Dimensional Modeling, 3rd Edition Ralph Kimball

	2013
Recommended books and references (scientific journals, reports...)	Database Systems: Introduction to Databases and Data Warehouses Nenad Jukic, Susan Vrbsky, Svetlozar Nestorov , 2016
Electronic References, Websites	https://cloud.google.com/learn/what-is-a-data-warehouse .