



# Course Specification

— (Bachelor)

Course Title: **Data Warehouse**

Course Code: **502478-3**

Program: **Bachelor in Computer Science**

Department: **Department of Computer Science**

College: **College of Computers and Information Technology**

Institution: **Taif University**

Version: **V1.2024**

Last Revision Date: **01/02/2024**



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## 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: ( 7/4)

#### 4. Course general Description:

Data warehousing has drawn increasing interest within the software enterprises to gain critical insights of daily business analytic operations. Data warehouse is a tool providing comprehensive analysis of operational data and to identify patterns. This course provides an introduction to 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. In particular, the role of data warehouse in supporting business intelligence and effective decision making. Further, it involves an in-depth study of various concepts needed to design and develop a data warehouse. This course is designed to expose students to concepts, enabling methods and hands-on usage and problem solving in an integrated way. As one of IS depth electives, it provides a good balance between theory and practice. The participants will explore applications and have great opportunity for hands-on experimentation with data warehousing and reporting tools.

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

502372-3 & 202364-3

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

None

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

The main objective of this course is to understand the basic concepts, architecture and process in a data warehouse. Moreover, the student will learn through this course how to design a data warehouse using dimensional modeling concepts and how to manipulate the data warehouse through OLAP data cube operations

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

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3	100%
2	E-learning	0	0



No	Mode of Instruction	Contact Hours	Percentage
3	Hybrid <ul style="list-style-type: none"> <li>Traditional classroom</li> <li>E-learning</li> </ul>	0	0
4	Distance learning	0	0

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

No	Activity	Contact Hours
1.	Lectures	45
2.	Laboratory/Studio	0
3.	Field	0
4.	Tutorial	0
5.	Others (specify)	0
<b>Total</b>		<b>45</b>

## B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
<b>1.0</b>	<b>Knowledge and understanding</b>			
1.1	Explain the basic concepts and the main principles of data warehouse	K1	Lecture Discussion	Written Exams Assignments Quizzes
<b>2.0</b>	<b>Skills</b>			
2.1	Master the main components of a data warehouse	S1	Lecture Discussion	Written Exams Assignments Quizzes
2.2	Analyze the role of both types of data	S1	Lecture	Written Exams



Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
	warehouse infrastructures		Discussion	Assignments Quizzes
2.3	Design multidimensional data warehouse system	S2	Lecture Discussion	Written Exams Assignments Quizzes
2.4	Implement OLAP data cube operations in a data warehouse	S2	Lecture Discussion	Written Exams Assignments Quizzes
<b>3.0</b>	<b>Values, autonomy, and responsibility</b>			
3.1	Function effectively as a member or leader of a team engaged in activities to design a data warehouse system in a real-life application	V2	Discussion Work group	Mini-Project

### C. Course Content

No	List of Topics	Contact Hours
1	Overview of the data warehousing concepts	6
2	Data warehouse components	6
3	Architectural components of the data warehouse	6
4	Data warehouse components	9
5	Dimensional modeling in the data warehouse	9
6	OLAP data cube operations in the data warehouse	9





Items	Resources
<p><b>facilities</b> (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)</p>	<ul style="list-style-type: none"> <li>• A Lecture room appropriate for maximum 25 students with a personal computer, a data show and a smart board.</li> <li>• A Lab room appropriate for maximum 15 students with a personal computer, a data show and a smart board.</li> </ul>
<p><b>Technology equipment</b> (projector, smart board, software)</p>	<ul style="list-style-type: none"> <li>• Lab materials and required software</li> </ul>
<p><b>Other equipment</b> (depending on the nature of the specialty)</p>	<ul style="list-style-type: none"> <li>•</li> </ul>

## F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	<ul style="list-style-type: none"> <li>• Students</li> <li>• Faculty members</li> <li>• Coordinator</li> <li>• Council</li> <li>• Curriculum Committees</li> </ul>	<ul style="list-style-type: none"> <li>• Course exit survey</li> <li>• Feedback from Faculty members</li> <li>• Feedback from Course Coordinator</li> <li>• Feedback from council</li> <li>• Feedback from Curriculum Committees</li> </ul>
Effectiveness of Students assessment	<ul style="list-style-type: none"> <li>• Students</li> <li>• Faculty members</li> <li>• Coordinator</li> <li>• Council</li> <li>• Curriculum Committees</li> </ul>	<ul style="list-style-type: none"> <li>• Course exit survey</li> <li>• Feedback from Faculty members</li> <li>• Feedback from Course Coordinator</li> <li>• Feedback from council</li> <li>• Feedback from Curriculum Committees</li> </ul>
Quality of learning resources	<ul style="list-style-type: none"> <li>• Students</li> <li>• Faculty members</li> <li>• Coordinator</li> <li>• Council</li> <li>• Curriculum Committees</li> </ul>	<ul style="list-style-type: none"> <li>• Course exit survey</li> <li>• Feedback from Faculty members</li> <li>• Feedback from Course Coordinator</li> <li>• Feedback from council</li> <li>• Feedback from Curriculum Committees</li> </ul>
The extent to which CLOs have been achieved	<ul style="list-style-type: none"> <li>• Students</li> <li>• Faculty members</li> <li>• Coordinator</li> <li>• Council</li> <li>• Curriculum Committees</li> </ul>	<ul style="list-style-type: none"> <li>• Course exit survey</li> <li>• Feedback from Faculty members</li> <li>• Feedback from Course Coordinator</li> <li>• Feedback from council</li> <li>• Feedback from Curriculum Committees</li> </ul>





Assessment Areas/Issues	Assessor	Assessment Methods
Other		

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

**Assessment Methods** (Direct, Indirect)

### G. Specification Approval

<b>COUNCIL /COMMITTEE</b>	<b>CS COUNCIL</b>
<b>REFERENCE NO.</b>	<b>MEETING #11</b>
<b>DATE</b>	<b>07/03/2024</b>

