

**Faculty of Computers and Information Technology**

**Data Warehousing**

**Information :**

**Course Code :** IS442

**Level :** Undergraduate

**Course Hours :** 3.00- Hours

**Department :** Department of Information Systems

**Instructor Information :**

Title	Name	Office hours
Associate Professor	Manal Abdel Kader Abdel Fattah Youssif	1
Lecturer	Mohamed Attia Mohamed	1

**Area Of Study :**

Gather requirements for data warehousing.  
 Explain data warehouse architecture.  
 Design a dimensional model for data warehousing.  
 Design a physical model for data warehousing.  
 Discuss extract, transform and load strategies.  
 Identify Online Analytical Processing (OLAP) databases.  
 Design and develop business intelligence applications.  
 Expand and support a data warehouse.  
 Use effectively communication skills.

**Description :**

Introduction to Data Warehousing, Evolution of DSS, DW General Topics, Data Warehouse Structure: Granularity, Data Warehouse Design, Building Dimensional DW, OLAP tools, Aggregates, ELT Extraction/Transformation/ Load processes and tools, Issues of DW Architecture, Enterprise DW vs. Data Marts, DW and Data Mining

**Course outcomes :**

**a.Knowledge and Understanding: :**

1 -	Discuss the concepts of data warehousing and data mining.
2 -	Explain data warehouse architectures, OLAP and the project planning aspects in building a data warehouse
3 -	Discuss extract, transform and load strategies
4 -	Explain the role played by knowledge in a diverse range of intelligent systems

**b.Intellectual Skills: :**

1 -	Apply the dimensional modeling technique for designing a data warehouse
2 -	Develop a data warehouse architecture

**c.Professional and Practical Skills: :**

1 -	Identify Online Analytical Processing (OLAP) databases
2 -	Design and develop business intelligence applications.

**d.General and Transferable Skills: :**

1 -	Work in a team effectively and efficiently considering time and stress management
2 -	Apply communication skills and techniques in presentations and report writing for range of audiences using various methods and tools

**ABET Course outcomes :**

1 -	Demonstrate adequate understanding of basic architecture and techniques for storage and provision of enterprise data
2 -	Develop queries and essential business intelligence reporting
3 -	Demonstrate adequate understanding of data modeling, including dimensional modeling
4 -	Develop steps of an enterprise data warehousing solution
5 -	Use Business Intelligence tools from end-to-end perspective

**Course Topic And Contents :**

Topic	No. of hours	Lecture	Tutorial / Practical
Data Warehouse Concepts	4	2	2
Data Warehouse Design Concepts	4	2	2
Data Warehouse Lifecycle	4	2	2
Dimensional Model Concepts	4	2	2
Dimensional Model Design	4	2	2
Designing the Physical Database	4	2	2
Concepts of Extract, Transform	4	2	2
Concepts of Load (ETL)	4	2	2
Mid-Term Exam	2		
Concepts of Business Intelligence Applications	4	2	2
Concepts of Business Intelligence Applications	4	2	2
Designing and Developing Business Intelligence Applications	4	2	2
Presentation/Discussion of Case Studies	4	2	2
Final Exam	2		

**Teaching And Learning Methodologies :**

Interactive Lectures including discussion
Practical Lab Sessions
Self-Study (Project / Reading Materials / Online Material / Presentations)
Case Studies
Problem Solving

**Course Assessment :**

Methods of assessment	Relative weight %	Week No	Assess What
Assignments	5.00	4	

Final Exam	40.00	14	
Midterm Exam (s)	20.00	9	
Others (Participation)	5.00		
Presentations	5.00	10	
Quizzes	10.00	5	
Team Work Projects	15.00	12	

**Course Notes :**

An Electronic form of the Course Notes and all the slides of the Lectures is available on the Students Learning Management System (Moodle)

**Web Sites :**

[www.ekb.eg](http://www.ekb.eg)