

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education		وزارة التعليم العالي
Syrian Virtual University		الجامعة الافتراضية السورية

### Course Definition File

#### 1- Basic Information:

Course Name	Introduction to Data Nodeling
Course ID	S101
Contact Hours (Registered Sessions)	18
Contact Hours (Synchronized Sessions)	18
Mid Term Exam	NO
Exam	2
Registered Sessions Work Load	36
Synchronized Session Work Load	18
Credit Hours	4

#### 2- Pre-Requisites:

Course	ID
NO	

#### 3- Course General Objectives:

At the end of this course, the learner should recognize the concepts of databases and database management systems and have the ability to use and manipulate DBMS tools

#### 4- Intended Learning Outcomes (ILO):

Learning Outcomes codes	Learning Outcomes
LO1:	• Information System, Databases, Database Management Systems
LO2:	• Relational Model
LO3:	• Analysis and Design
LO4:	• Normalization
LO5:	• Complementary: Storage and Object Oriented databases

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## 5- Course Content

LO	Course Syllabus	Recorded Sessions	Synchronized Sessions	Type	Additional Notes
LO1	Information System, Databases, Database Management Systems	2	1	<input type="checkbox"/> Exercises <input type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input checked="" type="checkbox"/> Discussions	
LO2	Relational Model	3	3	<input checked="" type="checkbox"/> Exercises <input checked="" type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input checked="" type="checkbox"/> Practices <input type="checkbox"/> Discussions	
LO3	Analysis and Design	4	4	<input checked="" type="checkbox"/> Exercises <input checked="" type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input checked="" type="checkbox"/> Projects <input checked="" type="checkbox"/> Practices <input type="checkbox"/> Discussions	
LO4	Normalization	3	2	<input checked="" type="checkbox"/> Exercises <input checked="" type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input checked="" type="checkbox"/> Projects <input checked="" type="checkbox"/> Practices <input type="checkbox"/> Discussions	
LO5	Complementary: Storage and Object Oriented databases	1	1	<input type="checkbox"/> Exercises <input type="checkbox"/> Assignments <input checked="" type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input checked="" type="checkbox"/> Discussions	

## 6- Assessment Criteria (Related to ILOs)

LO Code	LO	Assessment Type				
		Interactive Synchronized Collaboration	Practice	Exams	Presentations And Face-to-Face Assessments	Reports

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LO1	Information System, Databases, Database Management Systems	X		X		
LO2	Relational Model	X	X	X	X	X
LO3	Analysis and Design	X	X	X	X	X
LO4	Normalization	X	X	X	X	X
LO5	Complementary: Storage and Object Oriented databases	X		X		X

### 7- Course Syllabus (18 hours of total synchronized sessions)

LO	Chapter No	Chapter	Content
LO1	1	Introduction to databases	1- Database Definition 2- Database Characteristics 3- Database Techniques and the market 4- Types of commercial and free databases 5- How to build a DBMS
LO1	2	Database Development	1- Information Systems 2- Information System Lifecycle 3- Developing databases 4- Tools
LO2	3	Relational Model	1- Relational Model Definition 2- Elements of data modeling 3- Referential Integrity 4- Triggers 5- Views 6- Relational Algebra
LO3	4	Analysis	1- Database Modeling 2- Structural Analysis 3- Dataflow Diagram 4- Data Dictionary 5- Applications
LO3	5	Design Principles	1- Database System 2- Files Management Systems 3- Database Management Systems
LO3	6	Entity Relation Diagram	1- Definition 2- Weak Entities 3- Models 4- Applications

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LO3	7	Data Models	1- Data Models 2- Hierarchical Model 3- Network Model 4- Relational Model 5- Object Oriented Model 6- Comparison between different DB models
LO4	8	Normalization	1- Definition 2- Normal Forms
LO5	9	Storage	1- Physical Storage 2- Files Organization 3- Records Organization 4- Data Dictionary
LO5	10	Data warehouse	1- Datawarehousing and Decision Support Systems 2- Data Mining

#### 8- Practice Tools:

Tool Name	Description
Access, SQL Server	DBMS