

## Course E-Syllabus

1	<b>Course title</b>	Expert Systems & Decision Support Systems
2	<b>Course number</b>	1605442
3	<b>Credit hours</b>	3 Credit hours
	<b>Contact hours (theory, practical)</b>	3 hours
4	<b>Prerequisites/corequisites</b>	1605339
5	<b>Program title</b>	Management Information Systems
6	<b>Program code</b>	05
7	<b>Awarding institution</b>	The University of Jordan
8	<b>School</b>	School of Business
9	<b>Department</b>	Management Information Systems
10	<b>Level of course</b>	3
11	<b>Year of study and semester (s)</b>	2020/2021 First Semester
12	<b>Final Qualification</b>	No
13	<b>Other department (s) involved in teaching the course</b>	None
14	<b>Language of Instruction</b>	English
15	<b>Teaching methodology</b>	<input type="checkbox"/> Blended <input checked="" type="checkbox"/> Online
16	<b>Electronic platform(s)</b>	<input checked="" type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....
17	<b>Date of production/revision</b>	Oct 18, 2020

### 18 Course Coordinator:

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### 19 Other instructors:

Name: None  
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Name: None  
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## **20 Course Description:**

As stated in the approved study plan.

The course focuses on the identification, acquisition, analysis, interpretation and application of data management and decision-making strategies within the professional business environment. Classical architectures of data warehouses or data mining algorithms are also covered in addition to processing and managing data. This course deals with important topics such as: complex data warehousing and complex data mining. The recent tools and techniques of data management for decision support systems (DSS) and how they can be used to improve the quality of management decisions are also introduced. The students are provided with the essential concepts of Data Mining, Data Warehousing, and Data Marts and how they can be utilized within the decision support context..

## **21 Course aims and outcomes:**

**A- Aims:**

1. to have students understand the general principles of Decision Support Systems, Business Intelligence and Analytics.
2. to have students realize challenges, and limitations associated with Decision Support Systems, Business Intelligence and Analytics.
3. to have the students understand the overall technologies used in Decision Support Systems, Business Intelligence and Analytics
4. to give the student a practical experience on the development of Decision Support Systems, Business Intelligence and Analytics.

**B- Intended Learning Outcomes (ILOs):** Upon successful completion of this course, students will be able to:

1. Knowledge and Understanding
  - a. Define the fundamental terms, concepts and theories associated with Decision Support Systems, computerized decision aids, expert systems, group support systems and executive information systems
  - b. Illustrate that most Decision Support Systems are designed to support rather than replace decision makers and the consequences of this perspective for designing DSS
  - c. Analyze and evaluate data for use in a business environment.
  - d. Acquire the ability to summarize and compare the fundamental concepts and techniques of data management within the decision support systems area.
  - e. Recommend data manipulation and analysis algorithms for management decision making.
2. Intellectual Analytical and Cognitive Skills
  - a. Discuss and develop skills in the analysis, design and implementation of computerized Decision Support Systems
  - b. Examine user interface design issues and evaluate the user interfaces and capabilities of Decision Support Systems
  - c. Acquire the experience of how to approach complex data warehouse foundations, design and architecture.
  - d. Get the awareness of the data management role in the real business environment
  - e. Acquire the ability to insights deeply the DSS in the business society
3. Subject- Specific Skills
  - a. Improve hands-on skills through the DSS project using using technical tools for building state-of-the-art Decision Support Systems, especially Web-Based systems that use advanced computing and networking technologies
  - b. Perform the organizational and social implications of Decision Support Systems
  - c. Master the fundamental data management protocols within the DSS architecture
  - d. Acquire the experience of how the data management can be utilized as a stand-alone DSS
  - e. Acquire the ability to get hands-on the link between the data modeling and DSS.
4. Transferable Key Skills
  - a. Report examples and case studies documenting computer support for organizational decision making, and various planning, analysis and control tasks.
  - b. Apply On-Line analytical processing, Data Warehousing, Data Mining, and Data Marts along with real DSS
  - c. Handle complex data in warehousing or mining.

## 22. Topic Outline and Schedule:

Week	Lecture	Topic	Teaching Methods*/platform	Evaluation Methods**	References
1	1.1	Chapter 1: An Overview of Business Intelligence, Analytics, and Decision Support	Synchronous / MS teams	None	Reference book and case studies
	1.2	Chapter 1: An Overview of Business Intelligence, Analytics, and Decision Support	Synchronous / MS teams	None	Reference book and case studies
	1.3	Chapter 1: An Overview of Business Intelligence, Analytics, and Decision Support	Synchronous / MS teams	Homework	Reference book and case studies
2	2.1	Chapter 1: An Overview of Business Intelligence, Analytics, and Decision Support	Synchronous / MS teams	Homework	Reference book and case studies
	2.2	Chapter 1: An Overview of Business Intelligence, Analytics, and Decision Support	Synchronous / MS teams	Homework	Reference book and case studies
	2.3	Chapter 1: An Overview of Business Intelligence,	Synchronous / MS teams	Homework	Reference book and case studies

		Analytics, and Decision Support			
3	3.1	Chapter 2: Foundations and Technologies for Decision Making	Synchronous / MS teams	Homework	Reference book and case studies
	3.2	Chapter 2: Foundations and Technologies for Decision Making	Synchronous / MS teams	Homework	Reference book and case studies
	3.3	Chapter 2: Foundations and Technologies for Decision Making	Synchronous / MS teams	Homework	Reference book and case studies
4	4.1	Chapter 2: Foundations and Technologies for Decision Making	Synchronous / MS teams	Homework	Reference book and case studies
	4.2	Chapter 2: Foundations and Technologies for Decision Making	Synchronous / MS teams	Homework	Reference book and case studies
	4.3	Chapter 2: Foundations and Technologies for Decision Making	Synchronous / MS teams	Homework	Reference book and case studies
5	5.1	Chapter 3: Data Warehousing	Synchronous / MS teams	Exam	Reference book and case studies
	5.2	Chapter 3: Data Warehousing	Synchronous / MS teams	Exam	Reference book and case studies
	5.3	Chapter 3: Data Warehousing	Synchronous / MS teams	Exam	Reference book and case studies
6	6.1	Chapter 3: Data Warehousing	Synchronous / MS teams	Homework	Reference book and case studies
	6.2	Chapter 3: Data Warehousing	Synchronous / MS teams	Homework	Reference book and case studies
	6.3	Chapter 3: Data Warehousing	Synchronous / MS teams	Homework	Reference book and case studies
7	7.1	Chapter 4: Business Reporting, Visual Analytics,	Synchronous / MS teams	Homework	Reference book and case studies

		and Business Performance Management			
	7.2	Chapter 4: Business Reporting, Visual Analytics, and Business Performance Management	Synchronous / MS teams	Homework	Reference book and case studies
	7.3	Chapter 4: Business Reporting, Visual Analytics, and Business Performance Management	Synchronous / MS teams	Homework	Reference book and case studies
8	8.1	Chapter 4: Business Reporting, Visual Analytics, and Business Performance Management	Synchronous / MS teams	Homework	Reference book and case studies
	8.2	Chapter 4: Business Reporting, Visual Analytics, and Business Performance Management	Synchronous / MS teams	Homework	Reference book and case studies
	8.3	Chapter 4: Business Reporting, Visual Analytics, and Business Performance Management	Synchronous / MS teams	Homework	Reference book and case studies
9	9.1	Chapter 5: Data Mining	Synchronous / MS teams	Homework	Reference book and case studies
	9.2	Chapter 5: Data Mining	Synchronous / MS teams	Homework	Reference book and case studies
	9.3	Chapter 5: Data Mining	Synchronous / MS teams	Homework	Reference book and case studies
10	10.1	Chapter 5: Data Mining	Synchronous / MS teams	Homework	Reference book and case studies

	10.2	Chapter 5: Data Mining	Synchronous / MS teams	Homework	Reference book and case studies
	10.3	Chapter 5: Data Mining	Synchronous / MS teams	Homework	Reference book and case studies
11	11.1	Chapter 9: Model-Based Decision Making: Optimization and Multi-Criteria Systems	Synchronous / MS teams	Homework	Reference book and case studies
	11.2	Chapter 9: Model-Based Decision Making: Optimization and Multi-Criteria Systems	Synchronous / MS teams	Homework	Reference book and case studies
	11.3	Chapter 9: Model-Based Decision Making: Optimization and Multi-Criteria Systems	Synchronous / MS teams	Homework	Reference book and case studies
12	12.1	Chapter 9: Model-Based Decision Making: Optimization and Multi-Criteria Systems	Synchronous / MS teams	Analysis Project	Reference book and case studies
	12.2	Chapter 9: Model-Based Decision Making: Optimization and Multi-Criteria Systems	Synchronous / MS teams	Analysis Project	Reference book and case studies
	12.3	Chapter 9: Model-Based Decision Making: Optimization and Multi-Criteria Systems	Synchronous / MS teams	Analysis Project	Reference book and case studies
13	13.1	Chapter 13: Big Data and Analytics	Synchronous / MS teams	Analysis Project	Reference book and case studies

	13.2	Chapter 13: Big Data and Analytics	Synchronous / MS teams	Analysis Project	Reference book and case studies
	13.3	Chapter 13: Big Data and Analytics	Synchronous / MS teams	Analysis Project	Reference book and case studies
14	14.1	Chapter 14: Business Analytics: Emerging Trends and Future Impacts	Synchronous / MS teams	Analysis Project	Reference book and case studies
	14.2	Chapter 14: Business Analytics: Emerging Trends and Future Impacts	Synchronous / MS teams	Analysis Project	Reference book and case studies
	14.3	Chapter 14: Business Analytics: Emerging Trends and Future Impacts	Synchronous / MS teams	Analysis Project	Reference book and case studies
15	15.1	Business Technology and Systems Ethics	Synchronous / MS teams	Analysis Project	Reference book and case studies
	15.2	Business Technology and Systems Ethics	Synchronous / MS teams	Homework	Reference book and case studies
	15.3	Business Technology and Systems Ethics	Synchronous / MS teams	Homework	Reference book and case studies

- Teaching methods include: Synchronous lecturing/meeting; Asynchronous lecturing/meeting
- Evaluation methods include: Homework, Quiz, Exam, pre-lab quiz...etc

### 23 Evaluation Methods:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	Period (Week)	Platform
Midterms	30	Topics 1 - 4	Week 9	Forms
Assignments	5	Different	Week 1-14	MS teams and Moodle
Projects/Case Studies	15	All practical material	Week 12	MS teams and Moodle
Final	50	All material	Final Week	Forms



**24 Course Requirements (e.g: students should have a computer, internet connection, webcam, account on a specific software/platform...etc):**

The courses require students to have a computer or smartphone and internet connection.

**25 Course Policies:**

A- Attendance policies: Based on University Bylaws

B- Absences from exams and submitting assignments on time: Based on University Bylaws

C- Health and safety procedures: Based on University Bylaws

D- Honesty policy regarding cheating, plagiarism, misbehavior: Based on University Bylaws

E- Grading policy: Based on University Bylaws

F- Available university services that support achievement in the course: NA

**26 References:**

A- Required book(s), assigned reading and audio-visuals:

**RAMESH. DELEN SHARDA (DURSUN. TURBAN, EFRAIM.), 2016. BUSINESS INTELLIGENCE AND ANALYTICS: Systems for Decision Support. PRENTICE HALL.**

B- Recommended books, materials and media:

1. Holsapple, C.W. and Whinston, A.B. eds., 2013. Decision support systems: theory and application (Vol. 31). Springer Science & Business Media.
2. Papathanasiou, J., Ploskas, N. and Linden, I. eds., 2016. Real-World Decision Support Systems: Case Studies (Vol. 37). Springer.
3. Negash, S. and Gray, P., 2008. Business intelligence. In Handbook on decision support systems 2 (pp. 175-193). Springer, Berlin, Heidelberg.
4. Burstein, F. and Holsapple, C.W. eds., 2008. Handbook on Decision Support Systems 1: Basic Themes. Springer Science & Business Media.
5. Power, D.J., 2002. Decision support systems: concepts and resources for managers. Greenwood Publishing Group.

**27 Additional information:**

N/A

Name of Course Coordinator: Dr.Ashraf Bany Mohammed Signature: ----- Date: Oct 18, 2020

Head of Curriculum Committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of Curriculum Committee/Faculty: ----- Signature: -----

Dean: ----- Signature: -----