



University/Academy: Arab Academy for Science and Technology & Maritime Transport
Faculty/Institute: College of Computing and Information Technology
Program: Information Systems / Computer Science / Software Engineering

Course title	Decision Support Systems
Course code	IS461

Form no. (11A) Knowledge and skills matrix for a course

Course content	Week study	Knowledge	Intellectual skills	Professional skills	General skills
Management Support systems an Overview	1	<ul style="list-style-type: none"> Explain how business decisions are made, the various types of decision support systems and the interrelationship between these. Describe examples of business decisions that are made with varying degrees of uncertainty and discuss how information technology can be used to assist managerial decision making. Define strategic, operational, and tactical decisions, indicating who makes the decisions and how they are typically implemented. Identify the importance of Web technologies in the implementation of decision support systems. 		<ul style="list-style-type: none"> Analyze typical activities in each phase of the decision making process applied on a real case problem 	<ul style="list-style-type: none"> Enhance Oral Communication Skills. Enhance Team Working skills
Decision Making Systems, Modelling and Support	2	<ul style="list-style-type: none"> Define the conceptual foundations for decision making. 	<ul style="list-style-type: none"> Assess and analyze different Decision situations. Demonstrate ideas concerning 	<ul style="list-style-type: none"> Assess Productivity of different Decision situations 	<ul style="list-style-type: none"> Enhance Oral Communication Skills. Enhance Team Working skills

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		<ul style="list-style-type: none"> Clarify the principles of choice in decision-making are also emphasized. Describe how Simon's four-phase decision-making process can be used in the development of decision models. 	the most appropriate development and application moods of DSS		
Decision Making Systems, Modelling and Support	3	<ul style="list-style-type: none"> Describing the decision-making process by walking through a simple decision and one that is more complex (e.g., purchases of a PC, forecasting the weather and so on). Describe appropriate models for each example. 	<ul style="list-style-type: none"> Assess and analyze different Decision situations. Demonstrate ideas concerning the most appropriate development and application moods of DSS 	<ul style="list-style-type: none"> Evaluate the Effectiveness and efficiency of different Decision situations 	<ul style="list-style-type: none"> Enhance Oral Communication Skills. Enhance Team Working skills Enhance Skills of Description, formulation and analysis of Decision Problems
Decision Support Systems: An Overview	4	<ul style="list-style-type: none"> Explain of the concept of a Decision Support System. Explain on a problem that is common in nature (e.g., forecast the weather, determine who will be elected in the next election and so on). Identify how does this meet the criteria for a decision support system? 	<ul style="list-style-type: none"> Assess and analyze different Decision situations. Demonstrate ideas concerning the most appropriate development and application moods of DSS 	<ul style="list-style-type: none"> Analyze typical activities in each phase of the decision making process applied on a real case problem Devise a list of possible strategic, tactical, and operational models for real case business or organization 	<ul style="list-style-type: none"> Enhance Oral Communication Skills. Enhance Team Working skills Enhance Skills of Description, formulation and analysis of Decision Problems
Modelling and Analysis	5	<ul style="list-style-type: none"> Define the concepts of modeling and to begin to understand how models can be used to simulate real world problems. 	<ul style="list-style-type: none"> Investigate appropriate DSS tools, methods and computer software systems for Specific decision situations. 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Enhance Skills of Description, formulation and analysis of Decision Problems
Modelling and Analysis	6	<ul style="list-style-type: none"> Explaining useful graphical tools to represent decision problems such as decision tables and decision trees 	<ul style="list-style-type: none"> Investigate appropriate DSS tools, methods and computer software systems for Specific decision situations. 	<ul style="list-style-type: none"> Apply decision tables and decision trees on practical real life problems 	<ul style="list-style-type: none"> Enhance Skills of Description, formulation and analysis of Decision Problems
7 th week examination	7	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">

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Modelling and Analysis	8	<ul style="list-style-type: none"> Explaining linear programming (LP) is probably one of the most widely utilized quantitative techniques for modeling and solving decision analysis problems. 	<ul style="list-style-type: none"> Investigate appropriate DSS tools, methods and computer software systems for Specific decision situations. 	<ul style="list-style-type: none"> Solve Practical applications of LP are quite widespread and include production scheduling, staff scheduling, resource allocation, portfolio selection, etc. Solving profit maximization or cost minimization problems 	<ul style="list-style-type: none"> Enhance Skills of Description, formulation and analysis of Decision Problems Enhance Computer Tools skills
Business Intelligence: Data Warehousing, Data Acquisition, Data Mining, Business Analytics, And Visualization	9	<ul style="list-style-type: none"> Explain the concepts of business intelligence and data management. 	<ul style="list-style-type: none"> Analyze DSS tools and methods to alternative decision problems 	<ul style="list-style-type: none"> Apply intelligence tools to demonstrate how an end user can analyze vast amounts of data with limited knowledge of the structure of a database. Practicing the use of WEKA as a data mining tool 	<ul style="list-style-type: none"> Enhance Computer Tools skills
Business Intelligence: Data Warehousing, Data Acquisition, Data Mining, Business Analytics, And Visualization	10	<ul style="list-style-type: none"> Explain data warehousing, data mining and business intelligence concepts. 	<ul style="list-style-type: none"> Analyze DSS tools and methods to alternative decision problems 	<ul style="list-style-type: none"> Practicing the use of WEKA as a data mining tool 	<ul style="list-style-type: none"> Enhance Computer Tools skills
Artificial Intelligence And Expert Systems: Knowledge-Based Systems	11	<ul style="list-style-type: none"> Define artificial intelligence concepts 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Evaluate how each AI technique is employed to create problem-solving systems 	<ul style="list-style-type: none"> Enhance Team Working skills Enhance Computer Tools skills
12 th week examination	12	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
Knowledge Acquisition, Representation And Reasoning	13	<ul style="list-style-type: none"> Define Knowledge representation as a fundamental concept to enable the development of knowledge management system, expert systems, and neural networks. If the student has no background in OOD, consider first Explaining an overview of OOD. 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Enhance Team Working skills

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Project presentations	14	•	•	• Demonstrate intelligent systems.	• Enhance Team Working skills
Revision	15	•	•	•	•

Course Instructor

Name:

Signature:

Head of Department

Name:

Signature: