





Course Specifications

Course Title:	Decision Support Systems
Course Code:	546CIS-3
Program:	Information Systems
Department:	Information Systems
College:	College of Computer Science and Information Systems
Institution:	Najran University





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A. Course Identification

1. Credit hours: 3 (2,2,1)
2. Course type
a. University College Department $$ Others
b. Required $$ Elective
3. Level/year at which this course is offered: Level 9/ Year 5
4. Pre-requisites for this course (if any):
5. Co-requisites for this course (if any):

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	75	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Conta	et Hours	
1	Lecture	30
2	Laboratory/Studio	30
3	Tutorial	15
4	Others (specify)	
	Total	75
Other Learning Hours*		
1	Study	30
2	Assignments	7
3	Library	
4	Projects/Research Essays/Theses	
5	Others (Presentations)	8
	Total	45

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course covers the following topics: the decision making process, decision making and support systems (DSS), modeling and support, categorization of problem-solving techniques, data management and concepts of the data warehousing, modeling of management problems;





linear programming models, simulation models, and heuristics and forecasting models, modelbase management systems, DSS user interface design and management, decision support system construction methods, DSS hardware, software, and technology Levels, knowledge-based systems and expert systems, expert system architecture, representation of knowledge, forward and backward chaining, inferences making process, applications of expert systems in decision making, group, distributed, and executive decision support systems.

2. Course Main Objective

This course introduces the areas in which computers can be used as tools to gain the insight needed to support selection of decision making.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	Knowledge:	
1.1	Illustrate the concepts and theory of management information systems	<mark>K1</mark>
1.2	Identify the role of data mining and warehousing in decision-making process.	<mark>K1, K3</mark>
1.3	Clarify the components of decision support systems, the decision- making phases, various types of intelligent systems.	
2	Skills :	
2.1	Design mathematical models for decision making process using software such as Excel.	<mark>S2, S4</mark>
2.3	Apply different method (what-if, Scenario, Product Mix Solver linear programming) in MS excel to solve small problem in DSS.	<mark>82, K3, S4</mark>
2.4	Apply decision analytic techniques in solving decision problems.	
3	Competence:	
3.1		

C. Course Content

No	List of Topics	Contact Hours	
1	Concept Managerial Decision Support System	7 Hrs	
2	Managerial Decision Support System	5 Hrs	
3	Making Decision in the Decision Support System Environment	5 Hrs	
4	Introduction to Decision Support System	5 Hrs	
5	Modeling and analysis	8 Hrs	
6	6 Developing Decision Support System		
7	Expert Systems and Artificial Intelligence	5 Hrs	
8	Expert Systems and Artificial Intelligence	5 Hrs	
9	Data warehousing	6 Hrs	
10 Data Mining		6 Hrs	
11	11 Designing and Building Decision Support Systems		
12	12 Implementing and Integrating Decision Support Systems		
13	13GIS to DSS5 Hr		
	Total 75		

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Illustrate the concepts and theory of management information systems which exist the DSS.	Class lectures (Showing and delivering PPT presentation in the class), and lecture notes, are designed to achieve the course objectives.	Quiz, midterm exams, assignments, Final exam
1.2	Identify the role of data mining and warehousing in decision-making process.	Class lectures (Showing and delivering PPT presentation in the class), and lecture notes, are designed to achieve the course objectives.	Quiz, midterm exams, assignments, Final exam
1.3	Clarify the components of decision support systems, the decision-making phases, various types of intelligent systems.	Class lectures (Showing and delivering PPT presentation in the class), and lecture notes, are designed to achieve the course objectives.	Quiz, midterm exams, assignments, Final exam
2.0	Skills:		
2.1	Design mathematical models for decision making process using software such as Excel.	Class lectures Labs	Assignment, midterm exam, final lab exam.
2.2	Apply different method (what-if, Scenario, Product Mix Solver linear programming) in MS excel to solve small problem in DSS.	Class lectures Labs	Assignment, midterm exam, final lab exam.
2.3	Apply decision analytic techniques in solving decision problems.	Class lectures Labs	Assignment, midterm exam, final lab exam.
3.0	Competence		
3.1			
3.2			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Lab activities	1-to-13	10
2	Assignment 1	4	3
3	Quiz 1	5	4
4	First Midterm Exam	7	15
5	Assignment 2	8	3
6	Second Midterm Exam	9	15

#	Assessment task*	Week Due	Percentage of Total Assessment Score
7	Final Lab	15	10
8	Final Exam	16	40

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

- weekly office hours =10
- weekly academic advising hours = 4

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Decision Support Systems and Intelligent System, Efraim Turban, Ramesh Sharda, Dursun Delen, 11th ed, 2019. Prentice-Hall. ISBN-13: 978-0135192016	
Essential References Materials	 Business Intelligence and Analytics: Systems for Decision Support (10th Edition), 2014 Making Hard Decisions with DecisionTools by Robert T. Clemen and Terence Reilly, 2013 Decision Support Systems and Intelligent Systems, Ephraim Turban and Jay Aronson, Prentice-Hall, 2001. Bettinger, Michael G Wing, latest edition, Geographic Information System 2003 	
Electronic Materials	Decision Support Systems and Electronic Commerce https://www.journals.elsevier.com/decision-support-systems	
Other Learning Materials		

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Room Laboratory

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Item	Resources
Technology Resources (AV, data show, Smart Board, software, etc.)	data show multimedia system, PCs Headset and Microphone system.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	students	Indirect
Extent of achievement of course learning outcomes,	students	Indirect
Extent of achievement of course learning outcomes,	Instructor	Direct
The quality of learning resources	Program Leaders	direct

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify) Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Department Council
Reference No.	Session No. 10 (441-38-43300)
Date	17/02/2020
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