Course Specification
(Bachelor)

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
Version:	
Last Revision Date:	

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A. General information about the course:

1. Course Identification

1. Credit hours: 3(2,1,0)					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (9th level/ 4th year)					
4. Course General 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, model- base 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					
5. Pre-requirements for this course (if any)**:**					
N/A					
6. Co-requisites for this course (if any)**:**					
N/A					
7. Course Main Objective(s):					
This course introduces the areas in which computers can be used as tools to gain the insight needed to support selection of decision making.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	75	100%
2	E-learning		
3	Hybrid		

No	Mode of Instruction	Contact Hours	Percentage
	• Traditional classroom • E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	30
2.	**Laboratory/Studio**	30
3.	**Field**	0
4.	**Tutorial**	15
5.	**Others (specify)**	
Total		75

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Illustrate the concepts and theory of management information systems which exist the DSS	**K1**	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.	**K3**	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

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.3	Clarify the components of decision support systems, the decision-making phases, various types of intelligent systems.	**K1**	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.	**S2,S4**	Class lectures, Labs	Assignment, midterm exam, finallab exam.
2.2	Apply different method (what-if, Scenario, Product Mix Solver linear programming) in MS excel to solve small problem in DSS.	**S2,S4**	Class lectures, Labs	Assignment, midterm exam, finallab exam.
2.3	Apply decision analytic techniques in solving decision problems.	**S4**	Class lectures, Labs	Assignment, midterm exam, finallab exam.
3.0	**Values, autonomy, and responsibility**			
3.1				
3.2				
...				

C. Course Content

No	List of Topics	Contact Hours
1.	Concept Managerial Decision Support System	6 Hrs
2.	Managerial Decision Support System	6 Hrs
3.	Making Decision in the Decision Support System Environment	6 Hrs
4.	Introduction to Decision Support System	6 Hrs
5.	Modeling and analysis	6 Hrs
6.	Developing Decision Support System	6 Hrs
7.	Expert Systems and Artificial Intelligence	5 Hrs
8.	Expert Systems and Artificial Intelligence	6 Hrs
9.	Data warehousing	6 Hrs
10.	Data Mining	6 Hrs

11.	Designing and Building Decision Support Systems	8 Hrs
12.	Implementing and Integrating Decision Support Systems	8 Hrs
Total		**75**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Lab activities	2nd to 9th week	10%
2.	Assignments	3rd to 7th week	10%
3.	Quizzes	3rd to 10th week	10%
4.	Midterm Exam	11th week	20%
5.	Final Lab	13th week	10%
6.	Final Exam	15th week	40%
...			**100%**

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	Decision Support Systems and Intelligent System, Efraim Turban , Ramesh Sharda, Dursun Delen, 11th ed, 2019. Prentice-Hall. ISBN-13: 978-0135192016
Supportive References	• Business Analytics, 3rd Edition ISBN10: 1-337-40642-2 , 2018 • Business Analytics, Second Edition , 2022 • Management Decision-Making, Big Data and Analytics 1st Edition, 2020.
Electronic Materials	Decision Support Systems and Electronic Commerce https://www.journals.elsevier.com/decision-support-systems
Other Learning Materials	**NA**

2. Required Facilities and equipment

Items	Resources
facilities	Room Laboratory

Items	Resources
(Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	
Technology equipment (projector, smart board, software)	Data show multimedia system, PCs Headset and Microphone system.
Other equipment (depending on the nature of the specialty)	**NA**

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	• Online Course Survey: By the end of each semester, students give their opinions about many factors in the course. They give feedback about the teaching strategies, assessment methods, textbooks, instructor, etc. • Feedback about Course Learning Outcomes (CLOs): A course survey is distributed to students to take their opinions about the CLOs.	Direct
Effectiveness of Students assessment	• Consulting peers on teaching. • Discussion about the course in department. • Discussion with experienced teaching staff in the subject.	Direct
Quality of learning resources	• Mid and Final exams are reviewed by Course Coordinators to check the compatibility between questions and CLOs. • All the exams (mid and final) and final grade sheet will be rechecked by a faculty member assigned by GEC before the final result. • Vice Dean and Dean will review and approve the final grades before publishing on the internet.	Direct
The extent to which CLOs have been achieved	• Each instructor has to teach the course according to the previous course materials and	• Each instructor has to teach the course according to the previous course materials and

Assessment Areas/Issues	Assessor	Assessment Methods
	improvement plans. • By the end of each semester, a course file containing all activities and samples must be prepared and submitted to the college. • Evaluation of CLOs can be used to compare the improvement from previous evaluation. • Improvement plan based on the online course survey must be prepared. • Action plan based on the CLOs achievements must be prepared.	improvement plans. • By the end of each semester, a course file containing all activities and samples must be prepared and submitted to the college. • Evaluation of CLOs can be used to compare the improvement from previous evaluation. • Improvement plan based on the online course survey must be prepared. • Action plan based on the CLOs achievements must be prepared.
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	**17th Department Council**
REFERENCE NO.	**14460810-0976-00017**
DATE	**10/02/2025**