Course Specification
(Bachelor)

Course Title:	Decision Support Systems
Course Code:	٢٦١CIS-٣
Program:	information system
Department:	computer
College:	Applied College
Institution:	Najran University
Version:	٢
Last Revision Date:	٢٩/ ٣/١٤٤٦

Table of Contents

A. General information about the course:

١. Course Identification

١. Credit hours: (٣)					
٢. Course type					
A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required		☐Elective		
٣. Level/year at which this course is offered: (٤th level second year)					
٤. Course General Description:					
Addressing the most important concepts of the decision-making process, by highlighting the concept of decision and its most important classifications, stages, decision-making environments and how to build the mathematical model for one-stage decisions and the decision-making process in the case of risk by addressing the expected monetary value criterion and choosing the best alternatives and the value of information in This environment and the method of building the mathematical model in the case of multi-value decisions expected for the sample information by studying the modified probabilities by applying Bayes' theory and the concept of utility and its inclusion in the decision-making process					
٥. Pre-requirements for this course (if any):					
٦. Co-requisites for this course (if any):					
٧. Course Main Objective(s):					
This course teaches students the required skills and gives them knowledge of the various decisionmaking models so that decisions based on logical and mathematical foundations under different circumstances such as in cases of uncertainty, lack of information or certainty. It equips students with a mathematical framework on which a set of statistical algorithms built to help the decisionmakers. It acquaints the students with a variety of decision-making theories that can be used in various applications					

٢. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
١	Traditional classroom	٤ hrs per week	
٢	E-learning		
٣	Hybrid • Traditional classroom • E-learning		

No	Mode of Instruction	Contact Hours	Percentage
٤	Distance learning		

٣. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
١.	**Lectures**	٢٨
٢.	**Laboratory/Studio**	٢٨
٣.	**Field**	
٤.	**Tutorial**	
٥.	**Others (specify)**	
Total		٥٦

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
١,٠	**Knowledge and understanding**			
١,١	Understand the decision-making process and criteria for decisionmaking.	K١	Lectures/discussions in forums/seminars	Discussion-based evaluation Practical tests Application duties research
١,٢	To know the methods of risk analysis and sensitivity of models	K٢		
١,٣				
٢,٠	**Skills**			
٢,١	To be able to develop appropriate criteria for decision making.	S١	Discussion and dialogue style / problem solving behavior / scientific statement style / workshop style / group activities / cooperative education / case study style	Tests and assignments
٢,٢	To be able to develop appropriate criteria for decision making.	S٢		

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
...				
٣,٠	**Values, autonomy, and responsibility**			
٣,١	The student is committed to work ethics in the work environment	٧١	Individual and group activities	Note cards
٣,٢	The student is Communicates effectively in writing and orally	٧٢	cooperative education ٣,٢ Worksheet	
...				

C. Course Content

No	List of Topics	Contact Hours
١.	Decision-making criteria. Practical: Steps to form a decision matrix	٤ ٤
٢.	The concept of a decision tree - the general structure of a decision tree - steps to draw a decision tree - a decision tree and modified probabilities. Practical: illustrative examples of the decision tree	٦ ٦
٣.	Decision model design based on several variables. Practical: : illustrative examples of the decision tree	٤ ٤
٤.	Criteria for decision-making under risk - sensitivity analysis - expected value of complete information - The expected missed opportunity - The expected value of the sample information - - The efficiency of the sample information Practical: modifying probabilities by applying Bayes' theory - designing and programming a simplified decision support system	٦ ٦
٥.	Analysis of decision-making processes for business purposes Practical: designing and programming a simplified decision support system	٤ ٨
٦.	Review	٢
٧.	Practical exam	٢
Total		٥٦

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
١.	duties and participation	٤ , ٦	١٠٪
٢.	semester exam	٨	٢٠٪
٣.	Practical test	١١	٢٠٪
...	Practical test	١٣	٥٠٪

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

E. Learning Resources and Facilities

١. References and Learning Resources

Essential References	Decision Support Systems and Intelligent Systems/ Vth Ed. Efraim Turban and Jay E. Aronson; Prentice-Hall, ٢٠٠٥.
Supportive References	
Electronic Materials	
Other Learning Materials	

٢. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	A classroom equipped with a projector (image and sound) and a smart board
Technology equipment (projector, smart board, software)	laboratory equipped with computers and connected to the Internet
Other equipment (depending on the nature of the specialty)	Electrical connections for use when necessary

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Questionnaires
Effectiveness of Students assessment	Faculty members / quality committee / peer reviewer	Direct observation/peer review/correction of a sample by another member of a similar programmer
Quality of learning resources	Faculty members and leaders/students	Achievement file / typical tests and answers / assessments and assignments / questionnaires
The extent to which CLOs have been achieved	Planning and curricula committee/students/faculty members	Expert pinion /questionnaires/ workshops
Other	Students and faculty members	Students and faculty members

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	