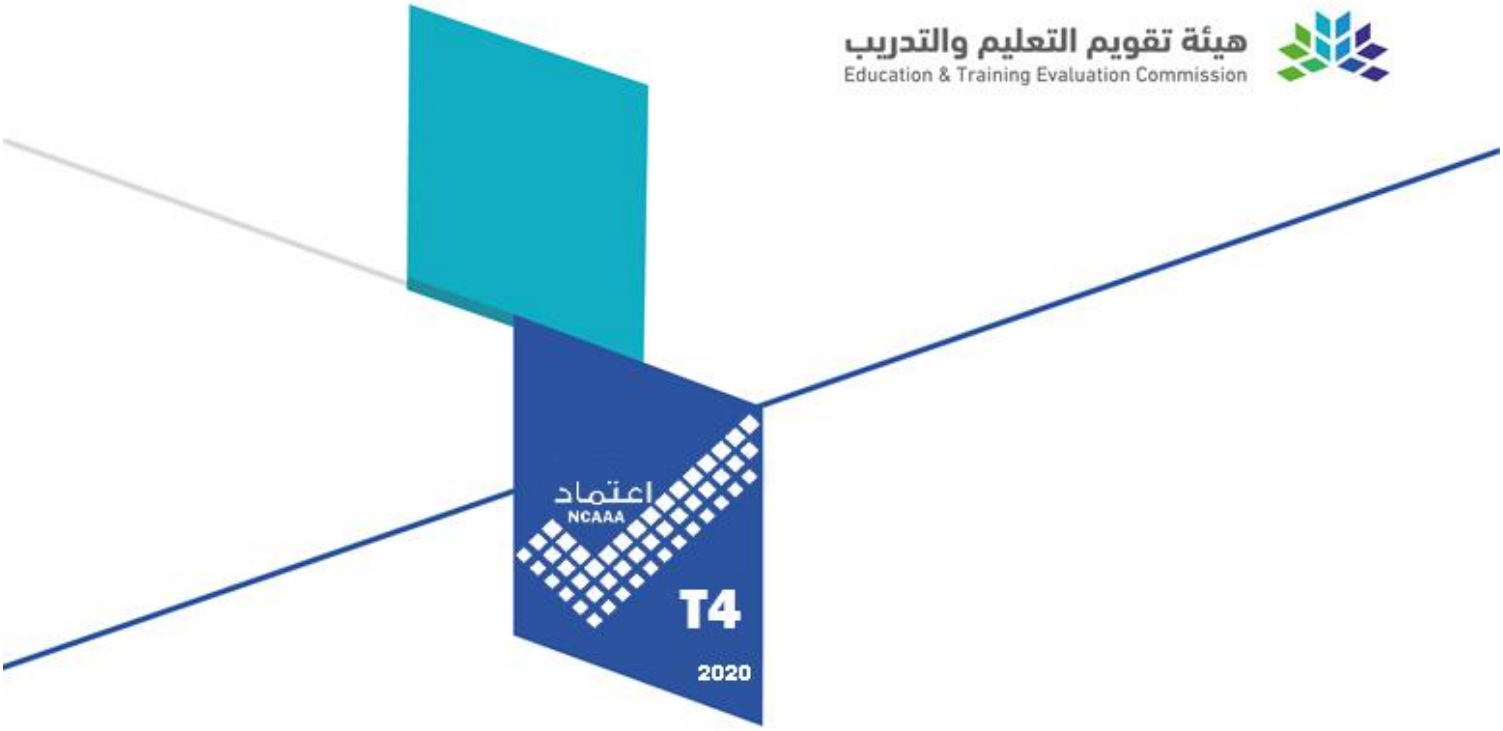
هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



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**

Table of Contents

A. Course Identification

1. Credit hours:	3 (2, 1, 0) [**Theory, Lab, Tutorial**]
2. Course type	
a.	University ☐ College ☐ Department ☑ Others ☐
b.	Required ☑ Elective ☐
3. Level/year at which this course is offered:	**Level 13/ Year 4**
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**	**50**	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	20
2	**Laboratory/Studio**	20
3	**Tutorial**	10
4	**Others** (specify)	
	Total	50

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, model- base management systems, DSS user interface design and management, decision support system construction methods, DSS hardware, software, and technology Levels, knowledge-basedsystems 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 theinsight needed to support selection of decision making.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Illustrate the concepts and theory of management information systems which exist the DSS.	K1
1.2	Identify the role of data mining and warehousing in decision-making process.	K3
1.3	Clarify the components of decision support systems, the decision-making phases, various types of intelligent systems.	K1
1...		
2	**Skills :**	
2.1	Design mathematical models for decision making process using software such as Excel.	S2,S4
2.2	Apply different method (what-if, Scenario, Product Mix Solver linear programming) in MS excel to solve small problem in DSS.	S2,S4
2.3	Apply decision analytic techniques in solving decision problems.	S4
2...		
3	**Values:**	
3.1		
3.2		
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Concept Managerial Decision Support System	5 Hrs
2	Managerial Decision Support System	4 Hrs
3	Making Decision in the Decision Support System Environment	4 Hrs
4	Introduction to Decision Support System	4 Hrs
5	Modeling and analysis	4 Hrs
6	Developing Decision Support System	4 Hrs
7	Expert Systems and Artificial Intelligence	4 Hrs
8	Expert Systems and Artificial Intelligence	4 Hrs
9	Data warehousing	4 Hrs
10	Data Mining	4 Hrs
11	Designing and Building Decision Support Systems	5 Hrs
12	Implementing and Integrating Decision Support Systems	4 Hrs
Total		50

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 and Understanding**		
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, finallab 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, finallab exam.
2.3	Apply decision analytic techniques in solving decision problems.	Class lectures Labs	Assignment, midterm exam, final lab exam.
3.0	**Values**		
3.1			
3.2			
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Lab activities	1-to-10th	10
2	Assignments	TBA	10
3	Quiz 1	5th	10
4	Midterm Exam	6th	20
5	Final Lab	11th	10
6	Final Exam	12th and 13th	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 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	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Room Laboratory
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
Achievement of course learning outcomes,	students	Indirect
Achievement of course learning outcomes,	Instructor	Direct

Evaluation Areas/Issues	Evaluators	Evaluation Methods
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.	14440729-0182-00018
Date	1444/08/01