



Course Specifications

Course Title:	Decision Support Systems
Course Code:	CPIT430
Program:	Bachelor of Science in Information Technology
Department:	Information Technology
College:	Faculty of Computing and Information Technology
Institution:	Northern Border University, Rafha

Table of Contents

A. Course Identification.....	3
1. Credit hours:.....	3
2. Course type.....	3
3. Level/year at which this course is offered:.....	3
4. Pre-requisites for this course (if any):	3
5. Co-requisites for this course (if any):.....	3
6. Mode of Instruction (mark all that apply)	3
7. Contact Hours (based on academic semester).....	3
B. Course Objectives and Learning Outcomes.....	3
1. Course Description.....	3
2. Course Main Objective.....	4
3. Course Learning Outcomes	4
C. Course Content	4
D. Teaching and Assessment	4
1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods.....	4
2. Assessment Tasks for Students	5
E. Student Academic Counseling and Support	5
F. Learning Resources and Facilities.....	6
1. Learning Resources	6
2. Facilities Required.....	6
G. Course Quality Evaluation	6
H. Specification Approval Data	7

A. Course Identification

1. Credit hours: 3
2. Course type
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input type="checkbox"/> Elective <input checked="" type="checkbox"/>
3. Level/year at which this course is offered: - / -
4. Pre-requisites for this course (if any): CPIT330
5. Co-requisites for this course (if any): Nil

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Distance learning		
5	Other		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	45
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	45

B. Course Objectives and Learning Outcomes

1. Course Description

This course provides students with the necessary skills for designing, evaluating, employing, and managing decision support systems. It covers the mathematical foundations of decision support models used in various decision contexts, such as cases of uncertainty, risk, or lack of information, and the presence of multiple conflicting decision criteria or of multiple decision-makers with diverging preferences. It acquaints students with a variety of decision-analysis models such as Decision Trees, Utility Theory, Game theory, Multi-Attribute Utility Theory, Analytical Hierarchy Process, and Expert Systems. Moreover, we study the design, development, and implementation of these models to support managerial and operational decision-making, with an emphasis on the applicability and acceptability of the tools derived from these models.

2. Course Main Objective

The objective of this course is to explore the concept of decision support systems and components. It gives knowledge of decision-making models under different circumstances, as well as to identify the intelligent systems and their role in the process of decision support.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge and Understanding:	
1.1	Define and explain the need of Decision Support system and Business Intelligence in today's business environment.	K1
1.2	Discuss Simon's four phases of decision making: Intelligence, Design, Choice, and Implementation by explaining DSS characteristics, capabilities, and components.	K1
2	Skills:	
2.1	Analyze the basic concepts of Management Support System (MSS) modeling and Business performance management process.	S1
2.2	Explain current techniques such as Artificial intelligence, expert system, Group support system and knowledge base systems based on examples of DSS areas.	S1
2.3	Summarize the DSS project work in the form of a written document and present it clearly in front of audience.	S4
3	Values:	
3.1	Analyze the ethical issues and social responsibility as they apply to MIS organizations.	V1

C. Course Content

No	List of Topics	Contact Hours
1	Introduction: Decision Support Systems and Business Intelligence	6
2	Decision Making, Systems, Modeling, and Support	6
3	Decision Support Systems Concepts, Methodologies, and Technologies: An Overview	6
4	Modeling and Analysis	6
5	Business Performance Management	6
6	Collaborative Computer-Supported Technologies and Group Support Systems	6
7	Artificial Intelligence and Expert System	6
8	Managerial Ethics and Social Responsibility	3
Total		45

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		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.1	Define and explain the need of Decision Support system and Business Intelligence in today's business environment.	Class/Group Discussion Concept Map KWLH (Know, Want, Learned, How) technique	Writing – Oral
1.2	Discuss Simon's four phases of decision making: Intelligence, Design, Choice, and Implementation by explaining DSS characteristics, capabilities, and components.		
2.0	Skills		
2.1	Analyze the basic concepts of Management Support System (MSS) modeling and Business performance management process.	Problem-solving, Model-based learning	Writing – Oral- Performance – Observation
2.2	Explain current techniques such as Artificial intelligence, expert system, Group support system and knowledge base systems based on examples of DSS areas.	Generative Learning, Model-based Learning	
2.3	Summarize the DSS project work in the form of a written document and present it clearly in front of audience.	Generative Learning Project Based Learning	Performance
3.0			
3.1	Analyze the ethical issues and social responsibility as they apply to MIS organizations.	Collaborative Learning, Teamwork	Performance – Observation

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz-1	2	5
2	Quiz-2	8	5
3	Assignment-1	4	0
4	Assignment-2	10	0
5	Oral questions	1-11	0
6	Project	9 -11	15
7	Midterm exam	6	20
8	Final exam	13	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:

Every instructor has an announced office hours schedule. All students are encouraged to visit the concerned teacher according to the schedule. Students can also use Email address or Blackboard System to seek help or book an appointment.

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Efraim Turban, Ramesh Sharda, Dursun Delen (2010). Decision Support and Business Intelligence Systems (9th ed.). Prentice Hall
Essential References Materials	1. Gregory S. Parnell, Terry A. Bresnick, Steven N. Tani, Eric R. Johnson. (2013). Handbook of Decision Analysis, (1st ed.). John Wiley & Sons, Inc. 2. Burstein, Frada, Holsapple, Clyde (Eds.). (2008) Handbook on Decision Support Systems 1- Basic Themes, (1st ed.). International Handbooks on Information Systems Series, Springer Verlag.
Electronic Materials	1. Blackboard System: https://lms.nbu.edu.sa/ 2. Northern Border University Electronic Library: https://www.nbu.edu.sa/AR/Deanships/Library_Issues 3. Saudi Digital Library (SDL): https://portal.sdl.edu.sa/english/
Other Learning Materials	Nil

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data Show (Projectors) in Classroom
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• Nil

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment.	Students	Indirect
Quality of learning resources	Students	Indirect
Extent of achievement of course learning outcomes	Faculty	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	Information Technology Department Council
Reference No.	10
Date	27/02/2022