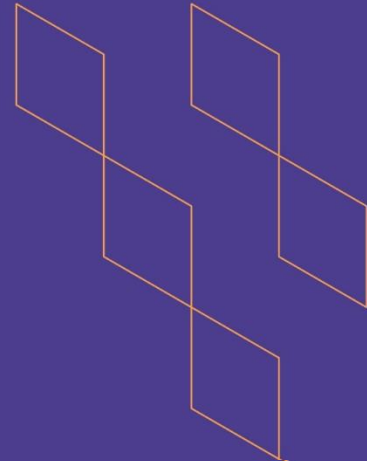




T-104  
2022

## Course Specification



<b>Course Title:</b> Decision Support Systems
<b>Course Code:</b> IS1515
<b>Program:</b> Computer Information Systems
<b>Department:</b> Computer Information Systems
<b>College:</b> Computer Science & Information Technology
<b>Institution:</b> Al-Baha University
<b>Version:</b> T104 – V2
<b>Last Revision Date:</b> May 25, 2023



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## A. General information about the course:

### Course Identification

1. **Credit hours:** 3 Credit Hours (3, 0, 0) (Lecture, Lab, Tutorial)  
(3 Contact Hours)

#### 2. Course type

a. University  College  Department  Track  Others

b. Required  Elective

3. **Level/year at which this course is offered:**

9<sup>th</sup> Level/ 3<sup>rd</sup> Year

#### 4. Course general Description

The purpose of this course is to provide the students with conceptual understanding of Decision Support Systems (DSS), decision-making process, and modeling in Management Support Systems (MSS). It also includes the key technical and managerial issues in the effective design, development, use, and evaluation of intelligent decision support systems

5. **Pre-requirements for this course (if any):** IS1004 - Database 1

6. **Co-requirements for this course (if any):** None

#### 7. Course Main Objective(s)

The main objective of this course to develop students the required skills and gives them knowledge of the various decision-making models so that decisions be 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 is built to help the decision-makers. It acquaints the students with a variety of decision-making theories such as (the Decision Theory itself, Pragmatic Theory and Players Theory) that can be used in various applications.

#### 1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	30	100%
2.	E-learning		
3.	Hybrid <ul style="list-style-type: none"> <li>• Traditional classroom</li> <li>• E-learning</li> </ul>		
4.	Distance learning		

#### 2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	30
2.	Laboratory/Studio	-
3.	Field	-
4.	Tutorial	-
5.	Others (specify)	-
	<b>Total</b>	<b>30</b>





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

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Recognize the decision-making process and criteria for decision-making	K3	<ul style="list-style-type: none"> <li>Lectures</li> <li>Class discussions</li> </ul>	<p><b>Direct Assessment Tool</b></p> <ul style="list-style-type: none"> <li>Midterm</li> <li>Final exam</li> </ul> <p><b>Indirect Assessment Tool</b></p> <p>Course Exit Survey</p>
1.2	Describe the methods of risk analysis and the sensitivity of models	K3	<ul style="list-style-type: none"> <li>Lectures</li> <li>Class discussions</li> </ul>	<p><b>Direct Assessment Tool</b></p> <ul style="list-style-type: none"> <li>Oral presentation</li> <li>Midterm</li> <li>Final exam</li> </ul> <p><b>Indirect Assessment Tool</b></p> <p>Course Exit Survey</p>
2.0	Skills			
2.1	Apply appropriate criteria for decision-making	S1	<ul style="list-style-type: none"> <li>Lectures</li> <li>Class discussions</li> </ul>	<p><b>Direct Assessment Tool</b></p> <ul style="list-style-type: none"> <li>Quiz</li> <li>Oral presentation</li> <li>Final exam</li> </ul> <p><b>Indirect Assessment Tool</b></p> <p>Course Exit Survey</p>
2.2	Use the necessary skills to analyze problems and design the right solution models	S1	<ul style="list-style-type: none"> <li>Lectures</li> <li>Class discussions</li> <li>Team based learning</li> </ul>	<p><b>Direct Assessment Tool</b></p> <ul style="list-style-type: none"> <li>Oral Presentation</li> <li>Final exam</li> </ul> <p><b>Indirect Assessment Tool</b></p> <p>Course Exit Survey</p>
2.3	Use the appropriate mathematical model to take the right decision	S5	<ul style="list-style-type: none"> <li>Lectures</li> <li>Class discussions</li> </ul>	<p><b>Direct Assessment Tool</b></p> <ul style="list-style-type: none"> <li>Midterm</li> <li>Final exam</li> </ul> <p><b>Indirect Assessment Tool</b></p> <p>Course Exit Survey</p>
3.0	Values, autonomy, and responsibility			
3.1	Work both independently and collaboratively.	V1	<ul style="list-style-type: none"> <li>Teamwork (smaller group)</li> </ul>	<p><b>Direct Assessment Tool</b></p> <ul style="list-style-type: none"> <li>Oral Presentation</li> </ul> <p><b>Indirect Assessment Tool</b></p> <p>Course Exit Survey</p>





## C. Course Content

No	List of Topics	Contact Hours
1.	Overview Decision-making & Data processing	3
2.	components of the decision-making system	3
3.	Decision-making criteria and decision tree	6
4.	Players Theory and Pay analysis	3
5.	Model sensitivity analysis	3
6.	Decision model design based on several variables	3
7.	Risk analysis and indecisiveness	3
8.	Analysis of decision-making processes for business purposes	3
9.	decision-making processes for business Intelligence	3
<b>Total</b>		<b>30</b>

## D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Midterm	6	20%
2.	Quiz	8	10%
3.	presentation	10	10%
4.	Final Exam	12	60%

\*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	- Predictive Maintenance in Dynamic Systems; Advanced Methods, Decision Support Tools and Real-World Applications Springer, Hashes 2019 Edwin Lughofer Moamar Sayed-Mouchaweh Editors.
Supportive References	Smaranda Belciug Florin Gorunescu, Intelligent Decision Support Systems-A Journey to Smarter Healthcare , 2020
Electronic Materials	<ul style="list-style-type: none"> <li>• Access to the Saudi Digital Library (SDL).</li> <li>• Using the learning management system of the university – Rafid System (<a href="https://lms.bu.edu.sa/">https://lms.bu.edu.sa/</a>).</li> </ul>
Other Learning Materials	None





## 2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	A classroom or lecture hall with whiteboard for 25 students.
Technology equipment (projector, smart board, software)	<ul style="list-style-type: none"> <li>• A digital image projection system with connection to desktop computer and laptop computer.</li> <li>• High speed Internet connection.</li> <li>• An instructor computer station.</li> </ul>
Other equipment (depending on the nature of the specialty)	None

## F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	<ul style="list-style-type: none"> <li>• Students</li> <li>• Faculty</li> <li>• Peer Reviewers</li> <li>• Program Leader</li> <li>• Course Coordinator</li> </ul>	<ul style="list-style-type: none"> <li>• Surveys (indirect).</li> <li>• Direct feedback from students.</li> <li>• Course evaluation by Peer Reviewers (indirect).</li> <li>• Class visit by Program Leader (indirect)</li> <li>• Comprehensive Course report (where we can find information about teaching difficulties and action plan, ...)</li> </ul>
Effectiveness of students assessment	<ul style="list-style-type: none"> <li>• Students</li> <li>• Faculty</li> <li>• Peer Reviewers</li> <li>• Program Leader</li> <li>• Exam Evaluation Committee</li> <li>• Course Coordinator</li> </ul>	<ul style="list-style-type: none"> <li>• Surveys (indirect).</li> <li>• Direct feedback from students.</li> <li>• Course evaluation by Peer Reviewers (indirect).</li> <li>• Class visit by Program Leader (indirect)</li> <li>• Exam evaluation by the Exam Evaluation Committee (indirect)</li> </ul>
Quality of learning resources	<ul style="list-style-type: none"> <li>• Students</li> <li>• Faculty</li> <li>• Peer Reviewers</li> <li>• Course Coordinator</li> </ul>	<ul style="list-style-type: none"> <li>• Surveys (indirect)</li> <li>• Course evaluation by Peer Reviewers (indirect).</li> <li>• Comprehensive Course report (where we can find information about difficulties and challenges about learning resources as well as consequences and action plan, ...)</li> </ul>
The extent to which CLOs have been achieved	<ul style="list-style-type: none"> <li>• Faculty</li> <li>• Program Leader</li> <li>• Course Coordinator</li> </ul>	<ul style="list-style-type: none"> <li>• Student Results (direct)</li> <li>• Comprehensive Course report (where we can find the CLO assessment results)</li> </ul>
Other	None	None





**Assessor** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

## G. Specification Approval Data

COUNCIL /COMMITTEE	Curriculum Committee Meeting
REFERENCE NO.	
DATE	25 MAY 2023

