

**Faculty of Computers and Information Technology**

**Decisions Support Systems**

**Information :**

**Course Code :** IS433

**Level :** Undergraduate

**Course Hours :** 3.00- Hours

**Department :** Department of Information Systems

**Instructor Information :**

Title	Name	Office hours
Professor	AMIRA MOHAMMED IBRAHIM IDREES	1
Teaching Assistant	Maha Farghaly Ali Ahmed	1

**Area Of Study :**

Explain different kinds of decision support systems and their functions.  
 Explain how decision support systems can be used in different kinds of organizations.  
 Analyze a typical decision situation to evaluate different alternatives.  
 Use effectively communication skills.  
 Explain how decision support systems can be used in different kinds of organizations and how computing is utilized as a management tool which is an integral part of the management decision making process.  
 Implement and evaluate information technology-based systems that support managerial and business functions, data-driven DSS and model-driven DSS.  
 Illustrate the operational, strategic and practical issues in decision support systems.

**Description :**

This course covers the following topics: Introduction to decision support systems; DSS components; Decision making and DSS; DSS software and hardware; developing DSS; DSS models; types of DSS; group DSS; executive information systems; data mining; artificial intelligence and expert systems. It is devoted to introduce decision support systems; show their relationship to other computer-based information systems, demonstrate DSS development approaches, and show students how to utilize DSS capacities to support different types of decisions.

**Course outcomes :**

**a.Knowledge and Understanding: :**

1 -	Illustrate the basic components, types and methods of computer-based Decision Support Systems (DSS)
2 -	Operate and develop appropriate context and applications of DSS tools and techniques
3 -	Identify different computer-aided data management and modeling tools for DSS, and explain basic features and applications of two DSS model Building Languages.
4 -	Describe decision support techniques.

**b.Intellectual Skills: :**

1 -	Demonstrate the role of DSS in different fields
2 -	Analyze different examples of decision support systems to alternative decision situations, and apply DSS tools and methods to different decision problems.
3 -	Select appropriate DSS tools for application in specific situation.

4 -	Evaluate and verify the productivity and efficiency of alternative DSS modeling Languages.
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**c. Professional and Practical Skills: :**

1 -	Apply data retrieval techniques.
2 -	Analyze decision problems and select appropriate analytical tools.
3 -	Execute different systems in terms of general quality attributes and possible tradeoffs presented within the given problem.

**d. General and Transferable Skills: :**

1 -	Work in a team effectively and obtain problem solving skills.
2 -	Apply oral communication skills and techniques in report writing.

**ABET Course outcomes :**

1 -	Demonstrate adequate understanding of the general architecture of decision support systems and their functions
2 -	Demonstrate adequate understanding of the theories related to human decision-making process
3 -	Apply advanced methodologies and techniques to develop decision support systems
4 -	Analyze and evaluate typical decision situation to consider and evaluate different alternatives
5 -	Demonstrate adequate understanding of the processes, and knowledge-based systems targeting the enhancement of human knowledge and expertise
6 -	Implement and evaluate information technology-based systems that support managerial and business functions, data-driven DSS and model-driven DSS
7 -	Demonstrate adequate understanding of the operational, strategic and practical issues of decision support systems
8 -	Communicate effectively

**Course Topic And Contents :**

Topic	No. of hours	Lecture	Tutorial / Practical
Decision making, Systems, Modeling and Computer Support, Decision Support Systems (DSS) - An Overview	4	2	2
Application, experience and Impact of DSS	4	2	2
Data-centered Decision Support Systems	4	2	2
Data preprocessing and Extraction	4	2	
Quiz	2		
Data Analysis and Visualization	4	2	2
Model-centered Decision Support Systems	4	2	2
Optimization Models	4	2	2
Mid-Term Exam	2	2	2
Predictive Models	4	2	2
Descriptive Models	4	2	2
Developing DSS using visual Decision Support Language (VDSS)	4	2	2
Developing DSS using General Algebraic Modeling System (GAMS)	4	2	2
Final Exam	2		

**Teaching And Learning Methodologies :**

Interactive Lectures including Discussions

Practical Lab Sessions

Self-Study (Project / Reading Materials / Online Material / Presentations)

Case Studies

**Course Assessment :**

Methods of assessment	Relative weight %	Week No	Assess What
Assignments	10.00	4	
Final Exam	40.00	14	
Midterm Exam (s)	20.00	9	
Practical Exam	15.00	10	
Presentations	5.00	12	
Quizzes	10.00	5	

**Course Notes :**

An Electronic form of the Course Notes and all the slides of the Lectures is available on the Students Learning Management System (Moodle)

**Web Sites :**

[www.ekb.eg](http://www.ekb.eg)