OSTIM TECHNICAL UNIVERSITY
FACULTY OF ECONOMICS AND ADMINISTRATIVE SCIENCES
MANAGEMENT INFORMATION SYSTEMS DEPARTMENT
COURSE SYLLABUS FORM

MIS 302 Decision Support Systems							
Course Name	**Course Code**	**Period**	**Hours**	**Application**	**Laboratory**	**Credit**	**ECTS**
Decision Support Systems	MIS 302	7	4	0	0	4	4

Language of Instruction	English
Course Status	Elective
Course Level	Bachelor
Learning and Teaching Techniques of the Course	Lecture, Question-Answer, Problem Solving, Example

Course Objective
The aim of this course; To enable students to know the stages of a DSS, to understand the decision-making process, to model using multi-criteria decision-making techniques, to develop an expert system application by understanding the components of expert systems.

Learning Outcomes
Upon successful completion of this course, a student is expected to have the following abilities: 1. To understand how decisions can be supported by computerized methods, 2. To be able to understand the types of DSS and the basic functional elements of a DSS, 3. Having a system perspective in DSS design and evaluation, 4. To be able to solve decision making problems using decision modeling tools, 5. Ability to analyze a DSS, evaluate its capabilities and design, 6. Ability to create a prototype decision support system using the methods learned in the course.

Course Outline
The aim of this course is to enable students to have information about the theoretical foundations and applications of decision support systems and development processes and to develop a decision support system application with the knowledge they learned in the course.

Weekly Topics and Related Preparation Studies		
Weeks	**Topics**	**Preparation Studies**
1	Introduction to Decision Support Systems	–
2	Decision-Making Systems, Modeling, and Support	–
3	Model analysis and optimization in decision support systems	–
4-5	Data modeling in decision support systems	–
6	Data warehouses and distributed databases	–
7	Decision support systems lifecycle	–
8	**MIDTERM EXAM**	
9	Design principles in decision support systems	
10	Collaborative Computing Technologies: Group Support Systems	–
11	Artificial Intelligence and Expert Systems: Knowledge-Based System	–
12	Knowledge Acquisition, Representation, and Reasoning	–
13	Advanced Intelligent Systems	–
14-15	Group project presentations	–
16	**FINAL EXAM**	

Textbook(s)/References/Materials:
Textbook: Efraim, T., Jay, E. A., Liang, T. P., & McCarthy, R. V. (2005). Decision support systems and intelligent systems. Yogyakarta: Andi. Marakas, G. (2003). Decison Support Systems, George Marakas, Prentice-Hall.

Taylor, J. (2011). Decision management systems: a practical guide to using business rules and predictive analytics. Pearson Education. Burstein, F., & Holsapple, C. W. (Eds.). (2008). Handbook on decision support systems 2: variations. Springer Science & Business Media.
Supplementary References:
Other Materials:

Assessment		
Studies	**Number**	**Contribution margin (%)**
Attendance		
Lab		
Class participation and performance		
Field Study		
Course-Specific Internship (if any)		
Quizzes / Studio / Critical		
Homework		
Presentation		
Projects	**1**	**20**
Report		
Seminar		
Midterm Exam/Midterm Jury	**1**	**30**
General Exam / Final Jury	**1**	**50**
Total		**100**
Success Grade Contribution of Semester Studies		**50**
Success Grade Contribution of End of Term		**50**
Total		**100**

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Course hours (Including the exam week): 16 x totalcourse hours)	16	4	64
Laboratory			
Application			
Course-Specific Internship (if any)			
Field Study			
Study Time Out of Class			
Presentation / Seminar Preparation			
Projects	1	20	20
Reports			
Homework			
Quizzes / Studio Review			
Preparation Time for Midterm Exams / Midterm Jury	1	20	20
Preparation Period for the Final Exam / General Jury	1	30	30
Total Workload	**(134/30 = 4,4)**		**134**

Course' Contribution Level to Learning Outcomes						
Nu	**Learning Outcomes**	**Contribution Level**				
		1	**2**	**3**	**4**	**5**
LO1	To understand how decisions can be supported by computerized methods.					X
LO2	To be able to understand the types of DSS and the basic functional elements of a DSS.					X
LO3	Having a system perspective in DSS design and evaluation.					X
LO4	To be able to solve decision making problems using decision modeling tools.					X
LO5	Ability to analyze a DSS, evaluate its capabilities and design.					X
LO6	Ability to create a prototype decision support system using the methods learned in the course.					X

	Relationship Between Course Learning Outcomes and Program Competencies (Department of Management Information Systems)							
Nu	**Program Competencies**	**Learning Outcomes**						**Total Effect (1-5)**
		LO1	**LO2**	**LO3**	**LO4**	**LO5**	**LO6**	
1	Recognize and distinguish the basic concepts such as data, information, and knowledge in the field of Management Information Systems and know the processes to be followed for data acquisition, storage, updating, and security.	x	x	x	x	x	x	**5**
2	Develop and manage databases suitable for collecting, storing, and updating data.	x	x	x	x	x	x	**4**
3	As a result of his/her ability to think algorithmically, and easily find solutions to problems concerning basic business functions.			x	x		x	**3**
4	Learn programming logic, and have information about current programming languages.	x	x	x	x	x		**3**
5	Be able to use up-to-date programming languages.			x	x	x		**4**
6	Be able to take part in teamwork or lead a team using knowledge of project management processes.							
7	Know ethical and legal rules, and use professional field knowledge within the scope of ethical and legal rules.			x	x			**4**
8	Know the fundamental areas of business administration namely management and organization, production, finance, marketing, numerical methods, accounting, etc., and have the knowledge and skills to work in-depth in at least one of them.	x	x					**2**
9	Be able to solve the problems encountered in the field of internet programming by designing web applications.			x	x			**2**
10	Develop and manage logistics and supply chain management activities			x	x	x	x	**4**
11	Adapt his/her theoretical knowledge and the experience he/she will gain through practice at the departments of businesses such as information technologies, R&D, and management to real life.			x	x	x		**5**
12	Be able to develop strategies that will provide a competitive advantage with his/her advanced knowledge of management strategies and management							

	functions.							
13	Develop a business idea, commercialize the business idea, and design and manage his/her venture using entrepreneurial knowledge.							
14	By using English effectively, they can follow, read, write, speak and communicate universal information in the field of management information systems in a foreign language with professional competence.							
Total Effect								**36**

Policies and Procedures
Web page: https://www.ostimteknik.edu.tr/management-information-systems-english-1241/915
Exams: The exams aim at assessing various dimensions of learning: knowledge of concepts and theories and the ability to apply this knowledge to real-world phenomena, through analyzing the situation, distinguishing problems, and suggesting solutions. The written exams can be of two types, ie. open-ended questions, which can also be in the form of problems or multiple-choice questions.
Assignments: Quizzes and Homework (Assignments) might be applicable. Scientific Research Ethics Rules are very important while preparing assignments. The students should be careful about citing any material used from outside sources and reference them appropriately.
Missed exams: Any student missing an exam needs to bring an official medical report to be able to take a make-up exam.
Projects: A group project with teamwork is welcome.
Attendance: Attendance requirements are announced at the beginning of the term. Studentsare usually expected to attend at least 70% of the classes during each term.
Objections: If the student observes a material error in his/her grade, he/she has the right to place an objection to the Faculty or the Department. The claim is examined and the student is notified about its outcome.