



ÇANKAYA UNIVERSITY

Faculty of Economics and Administrative Sciences

Course Definition Form

Part I. Basic Course Information

Department Name	MANAGEMENT	Dept. Numeric Code	<input type="text"/>
Course Code	<input type="text" value="M"/> <input type="text" value="A"/> <input type="text" value="N"/> <input type="text" value="4"/> <input type="text" value="1"/> <input type="text" value="9"/>	Number of Weekly Lecture Hours	<input type="text" value="3"/>
		Number of Weekly Lab/Tutorial Hours	<input type="text" value="-"/>
		Number of Credit Hours	<input type="text" value="3"/>
Course Web Site	http:// man419.cankaya.edu.tr		ECTS Credit
			<input type="text" value="0"/> <input type="text" value="5"/>

Course Name and Other Course Information	
<i>This information will appear in the printed catalogs and on the web online catalog.</i>	
English Name	Applications in Management Science
Turkish Name	Yönetim Bilmi Uygulamaları
Mode of Delivery	Face to Face
Language of Instruction	English

Course Description	
<i>Provide a brief overview of what is covered during the semester. This information will appear in the printed catalogs and on the web online catalog. Maximum 60 words.</i>	
This course is intended to provide students with a knowledge that enable them to use various operations research tools in decision making in businesses. Topics included in the course are: modeling and solving linear programming problems in a spreadsheet, modeling and solving network and transportation problems in a spreadsheet, decision analysis, decision trees, using "treeplan" to solve decision tree problems with spreadsheet, multi-criteria decision analysis modeling, AHP (Analytical Hierarchy Process).	

Prerequisites (if any) <i>Give course codes and check all that are applicable.</i>	1 st	2 nd	3 rd	4 th
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	<input type="checkbox"/> Consent of the Instructor	<input type="checkbox"/> Senior Standing	<input type="checkbox"/> Give others, if any.	Prior knowledge in MAN 205 is strangely recommended.
Co-requisites (if any)	1 st	2 nd	3 rd	4 th
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Course Type <i>Check all that are applicable</i>	<input type="checkbox"/> Must course for dept. <input type="checkbox"/> Must course for other dept.(s) <input checked="" type="checkbox"/> Elective course for dept. <input checked="" type="checkbox"/> Elective course for other dept.(s)			

Part II. Detailed Course Information**Course Objectives***Maximum 100 words.*

This course is intended to provide students with a knowledge that can make them appreciate the use of various research operations tools in decision making in organizations. At the end of the Course students to describe, gather and analyze business data, and to use statistical and management science tools to make effective business decisions in operations, finance, marketing, management, and new product development.

Learning Outcomes*Explain the learning outcomes of the course. Maximum 10 items.*

Upon the successful completion of the course students will:

1. Describe complexities in the real world that necessitates the use of quantitative models for improved decision-making.
2. Develop linear programming models; Solve two variable linear programming models by the graphical solution procedure; Solve linear programming models with the help of computer software; Interpret computer solution of a linear programming problem; Use computer output to support managerial decision making;
3. Develop linear programming models for important application areas in production, marketing, and finance;
4. Recognize real life scenarios that can be modeled as network problems; Formulate network models such as transportation models;
5. Develop Multi criteria decision analysis models for decision making.

Textbook(s)*List the textbook(s), if any, and other related main course material.*

Author(s)	Title	Publisher	Publication Year	ISBN
Balakrishnan, Render, Stair.	Managerial Decision Modeling with Spreadsheets Third Edition.	Pearson	2013	978-0-13-296944-4

Reference Books*List, if any, other reference books to be used as supplementary material.*

Author(s)	Title	Publisher	Publication Year	ISBN
Ragsdale	Spreadsheets Modeling & Decision Analysis Fourth Edition	Thomson	2004	0-324-20305-5

Teaching Policy*Explain how you will organize the course (lectures, laboratories, tutorials, studio work, seminars, etc.)*

One hour of lecturing, two hours of laboratory. Different problem sheets are posted in the web page of the course. Students are expected to solve the examples.

Laboratory/Studio Work*Give the number of laboratory/studio hours required per week, if any, to do supervised laboratory/studio work and list the names of the laboratories/studios in which these sessions will be conducted.*

Two hours of laboratory. Different problem sheets are posted in the web page of the course. Students are expected to solve the examples by using appropriate softwares.

Computer Usage*Briefly describe the computer usage and the hardware/software requirements for the course.*

Optimization Software (Exp: Lindo, OPL,Lingo) , Spread sheets, Expert Choice , SPSS.

Course Outline <i>List the weekly topics to be covered.</i>	
Week	Topic(s)
1	Managerial Decision Modeling 1.
2	Using spreadsheets in Decision Modeling.
3	Possible Problems in Developing Decision Models.
4	Developing a Linear Programming Methods.
5	Linear Programming Modeling Applications with Computer Analyses in Excel.
6	Linear Programming Modeling Applications with Computer Analyses in Excel.
7	Midterm exam
8	Transportation, assignment, and network modeling applications with Computer analysis in Excel.
9	Decision Analysis
10	Using Tree Plan to solve Decision Tree problems with Excel.
11	Decision Trees for Multi stage Decision Making Problem
12	Multi Criteria Decision Analysis Models
13	AHP (Analytical Hierarchy Model)
14	AHP (Analytical Hierarchy Model) applications with Computer Analysis in Excel.

Grading Policy <i>List the assessment tools and their percentages that may give an idea about their relative importance to the end-of-semester grade.</i>								
Assessment Tool	Quantity	Percentage	Assessment Tool	Quantity	Percentage	Assessment Tool	Quantity	Percentage
Midterm exam	1	20 %						
Final exam	1	50 %						
Term Project	1	30%						

ECTS Workload <i>List all the activities considered under the ECTS.</i>			
Activity	Quantity	Duration (hours)	Total Workload (hours)
Attending Lectures (<i>weekly basis</i>)	13	3	39
Attending Labs/Recitations (<i>weekly basis</i>)	-	-	-
Compilation and finalization of course/lecture notes (<i>weekly basis</i>)	13	1	13
Collection and selection of relevant material (<i>once</i>)	1	2	2
Self study of relevant material (<i>weekly basis</i>)	13	3	39
Take-home assignments	-	-	-
Preparation for quizzes	-	-	-
Preparation for mid-term exams (<i>including the duration of the exams</i>)	1	10	10
Preparation of term paper/case-study report (<i>including oral presentation</i>)	-	-	-
Preparation of term project/field study report (<i>including oral presentation</i>)	1	12	12
Preparation for final exam (<i>including the duration of the exam</i>)	1	10	10
TOTAL WORKLOAD / 25			125/25
ECTS Credit			5

Program Qualifications vs. Learning Outcomes Consider the program qualifications given below as determined in terms of learning outcomes and acquisition of capabilities for all the courses in the curriculum. Look at the learning outcomes of this course given above. Relate these two using the Likert Scale by marking with X in one of the five choices at the right.						
No	Program Qualifications	Contribution				
		0	1	2	3	4
1	Acquire detailed knowledge concerning the economic and legal environment in which the business entities operate.				X	
2	Have profound theoretical background knowledge in basic business functions comprising organization and management, accounting, finance, marketing, and production and operations management.				X	
3	Obtain basic and intermediate level knowledge in quantitative techniques and methods that are predominantly used in business and management.					X
4	Have more specific knowledge in one of the business functions (including the mastery of quantitative approaches) that he/she has chosen to specialize.					X
5	Be able to apply the professional knowledge necessary to establish and/or run a business, or a department within a business entity.				X	
6	Be able to collect, edit, analyze, and interpret the representative data by applying both qualitative and quantitative methods in order to identify and clearly define the business problems and to develop insight and solutions.					X
7	Be able to adequately communicate upon analyses, findings, inferences, and recommendations with his/her superiors, team members, colleagues, and subordinates both in written and oral form.				X	
8	Be thereby qualified to conduct research in business administration and management.			X		
9	Be appropriately trained to fulfill his/her responsibilities in team work both as a leader and an expert.		X			
10	Acquire the necessary skills to communicate effectively with the stakeholders of an organization so that he/she can become capable of analyzing the needs of the stakeholders and based on these analyses developing the objectives of the organization.				X	
11	Gain self-evaluation skills to identify exactly his/her self-learning and self-improvement needs, being at the same time equipped with the capacity to follow advanced courses and degree studies.				X	
12	Gain the ability to evaluate the organization that he/she is affiliated with and the ability to assess the knowledge that he/she has acquired in a critical perspective.				X	
13	Be able to use English, which is the medium of instruction in the department, at least in European Language Portfolio B1 General Level.					X
14	Be able to use information technologies applicable to business administration and management at European Computer Usage License Basic Level.					X
15	Be directed towards the behavioral patterns and responsibilities of a business administrator in terms of quality awareness, occupational safety and health, in-service training, environmental issues, social responsibilities, and social, organizational and business ethics.		X			
16	Be inclined to encourage innovation and continuous improvement within the organization in which he/she takes responsibilities.		X			

Scale for contribution to a qualification: 0-none, 1-little, 2-moderate, 3-considerable, 4-highest