AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Business Mathematics						
Course Code	ISL113		Couse Level		First Cycle (Bachelor's Degree)		
ECTS Credit	4	Workload	103 *(Hours)*	Theory	3	Practice	0	Laboratory	0

Objectives of the Course	The purpose of the course is to develop quantitative competencies and analytical thinking skills of the business students. Businesses are constantly confronted with decision-making problems. Mathematical methods are used in evaluation of different alternatives. In order that these methods can be applied and assist decision making, fundamental mathematical knowledge and competencies should be acquired. In order to find solutions to the problems in the field of business, functions,graphs and derivatives will be emphasized. Following the overview of the functions consist of decision-making variables, applied examples in the field of business will be coveyed to the students.In short the course aims to enhance quantitative skills and abilities of the students and allow that this mastery be applied to decision making problems and various areas of business.
Course Content	The importance of the management science of mathematics and analytical thinking, The use of decision-making problems, the basic concepts of math, numbers, exponents and roots, factorization, equations and solutions of linear equations, functions, inverse functions, composite functions, graphs of quadratic functions, graphs of rational functions and partial functions, exponential and logarithmic functions , logarithms, limits and continuity, the use of derivative, rules, Sequential derivatives, the maximum and minimum points, descending and ascending intervals, Derivatives business practices, profit maximization, cost minimization, partial derivatives, optimization methods.
Work Placement	N/A
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Problem Solving
Name of Lecturer(s)	

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading

1	ERTUĞRUL İrfan, Temel Matematik Ekin Yayınları.

Week	Weekly Detailed Course Contents	
1	Theoretical	Science, mathematics and analytical thinking in terms of operational significance, the use of decision-making problems, the basic concepts of mathematics
	Preparation Work	DOWLING, Edward. T., İşletme Ve İstatistik İçin Matematiksel Yöntemler, Çev. Ö. F. Çolak, M. Yıldırımoğlu, Schaum's Outlines, Nobel Yayın Dağıtım. ERTUĞRUL İrfan, Temel Matematik Ekin Yayınları. TAHA Hamdy A., Yöneylem Araştırması, Literatür Yayınları.
2	Theoretical	Numbers, Exponents and roots, factorization
	Preparation Work	Numbers, Exponents and roots, factorization DOWLING, Edward. T., İşletme Ve İstatistik İçin Matematiksel Yöntemler, Çev. Ö. F. Çolak, M. Yıldırımoğlu, Schaum's Outlines, Nobel Yayın Dağıtım. ERTUĞRUL İrfan, Temel Matematik Ekin Yayınları. TAHA Hamdy A., Yöneylem Araştırması, Literatür Yayınları.
3	Theoretical	Equations and their solutions, linear equations
	Preparation Work	DOWLING, Edward. T., İşletme Ve İstatistik İçin Matematiksel Yöntemler, Çev. Ö. F. Çolak, M. Yıldırımoğlu, Schaum's Outlines, Nobel Yayın Dağıtım. ERTUĞRUL İrfan, Temel Matematik Ekin Yayınları. TAHA Hamdy A., Yöneylem Araştırması, Literatür Yayınları.
4	Theoretical	Functions, inverse function, composite function
	Preparation Work	DOWLING, Edward. T., İşletme Ve İstatistik İçin Matematiksel Yöntemler, Çev. Ö. F. Çolak, M. Yıldırımoğlu, Schaum's Outlines, Nobel Yayın Dağıtım. ERTUĞRUL İrfan, Temel Matematik Ekin Yayınları. TAHA Hamdy A., Yöneylem Araştırması, Literatür Yayınları.
5	Theoretical	Graphs of quadratic functions, rational functions and graphs of partial functions
	Preparation Work	DOWLING, Edward. T., İşletme Ve İstatistik İçin Matematiksel Yöntemler, Çev. Ö. F. Çolak, M. Yıldırımoğlu, Schaum's Outlines, Nobel Yayın Dağıtım. ERTUĞRUL İrfan, Temel Matematik Ekin Yayınları. TAHA Hamdy A., Yöneylem Araştırması, Literatür Yayınları.
6	Theoretical	Exponential and logarithmic functions, logarithm

6	Preparation Work	DOWLING, Edward. T., İşletme Ve İstatistik İçin Matematiksel Yöntemler, Çev. Ö. F. Çolak, M. Yıldırımoğlu, Schaum's Outlines, Nobel Yayın Dağıtım. ERTUĞRUL İrfan, Temel Matematik Ekin Yayınları. TAHA Hamdy A., Yöneylem Araştırması, Literatür Yayınları.
7	Theoretical	Limits and Continuity
	Preparation Work	DOWLING, Edward. T., İşletme Ve İstatistik İçin Matematiksel Yöntemler, Çev. Ö. F. Çolak, M. Yıldırımoğlu, Schaum's Outlines, Nobel Yayın Dağıtım. ERTUĞRUL İrfan, Temel Matematik Ekin Yayınları. TAHA Hamdy A., Yöneylem Araştırması, Literatür Yayınları.
8	Intermediate Exam	Midterm Exam
9	Theoretical	The use of derivative, derivation rules
	Preparation Work	DOWLING, Edward. T., İşletme Ve İstatistik İçin Matematiksel Yöntemler, Çev. Ö. F. Çolak, M. Yıldırımoğlu, Schaum's Outlines, Nobel Yayın Dağıtım. ERTUĞRUL İrfan, Temel Matematik Ekin Yayınları. TAHA Hamdy A., Yöneylem Araştırması, Literatür Yayınları.
10	Theoretical	Successive differentiation, maximum and minimum points, decreasing and increasing intervals
	Preparation Work	DOWLING, Edward. T., İşletme Ve İstatistik İçin Matematiksel Yöntemler, Çev. Ö. F. Çolak, M. Yıldırımoğlu, Schaum's Outlines, Nobel Yayın Dağıtım. ERTUĞRUL İrfan, Temel Matematik Ekin Yayınları. TAHA Hamdy A., Yöneylem Araştırması, Literatür Yayınları.
11	Theoretical	Business applications of the derivative
	Preparation Work	DOWLING, Edward. T., İşletme Ve İstatistik İçin Matematiksel Yöntemler, Çev. Ö. F. Çolak, M. Yıldırımoğlu, Schaum's Outlines, Nobel Yayın Dağıtım. ERTUĞRUL İrfan, Temel Matematik Ekin Yayınları. TAHA Hamdy A., Yöneylem Araştırması, Literatür Yayınları.
12	Theoretical	Profit maximization, cost minimization
	Preparation Work	DOWLING, Edward. T., İşletme Ve İstatistik İçin Matematiksel Yöntemler, Çev. Ö. F. Çolak, M. Yıldırımoğlu, Schaum's Outlines, Nobel Yayın Dağıtım. ERTUĞRUL İrfan, Temel Matematik Ekin Yayınları. TAHA Hamdy A., Yöneylem Araştırması, Literatür Yayınları.
13	Theoretical	Partial derivatives
	Preparation Work	DOWLING, Edward. T., İşletme Ve İstatistik İçin Matematiksel Yöntemler, Çev. Ö. F. Çolak, M. Yıldırımoğlu, Schaum's Outlines, Nobel Yayın Dağıtım. ERTUĞRUL İrfan, Temel Matematik Ekin Yayınları. TAHA Hamdy A., Yöneylem Araştırması, Literatür Yayınları.
14	Theoretical	Optimization methods
	Preparation Work	DOWLING, Edward. T., İşletme Ve İstatistik İçin Matematiksel Yöntemler, Çev. Ö. F. Çolak, M. Yıldırımoğlu, Schaum's Outlines, Nobel Yayın Dağıtım. ERTUĞRUL İrfan, Temel Matematik Ekin Yayınları. TAHA Hamdy A., Yöneylem Araştırması, Literatür Yayınları.
15	Theoretical	Discussion, problem solving for the final exam
	Preparation Work	DOWLING, Edward. T., İşletme Ve İstatistik İçin Matematiksel Yöntemler, Çev. Ö. F. Çolak, M. Yıldırımoğlu, Schaum's Outlines, Nobel Yayın Dağıtım. ERTUĞRUL İrfan, Temel Matematik Ekin Yayınları. TAHA Hamdy A., Yöneylem Araştırması, Literatür Yayınları.
16	Final Exam	Final Exams
17	Final Exam	Final Exams

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	3	56
Midterm Examination	1	20	1	21
Final Examination	1	25	1	26
			Total Workload (Hours)	103
			[Total Workload (Hours) / 25*] = **ECTS**	4

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	To be able to enable to support to the business decision-making problems
2	To be able to enhance the quantitative skills and knowldege
3	To be able to acquire and enhance the analytical thinking skills
4	To be able to enable to essential mathematical background that can be utilized in the areas such as research and evaluation.
5	To be able to identify and find solution the problems of a firm using numerical data and graphs .
6	To be able to Facilitate computation and research in areas such as accounting, finance, marketing.

Programme Outcomes *(International Trade and Finance)*

1	To become individuals having high intellectual capacity, improved social skills, positive thinking, the ability to adapt to different environments and institutions

2	To have technical equipment, flexible thinking and action ability and multiple language skills to be capable of working in international platforms
3	To be able to utilize the basic knowledge they obtained with an interdisciplinary approach to business, economics, etc. in creating expertise in the fields of International Trade and Finance in accordance with the requirements of the globalized business world
4	To develop suggested solutions and recommendations by informing the people and institutions predicting regional, national and international problems in the fields of international trade and finance with a proactive approach
5	To possess the ability of analytical thinking and the ability to synthesize with quantitative proficiency as required in the program
6	To have the characteristics to inquire and investigate the knowledge and skills acquired during the education process in relation to the requirements of existing market conditions
7	To identify and analyze the validity of theories related to the international trade and finance and their relationships regarding current conditions
8	To possess the knowledge of a second foreign language to the extent of their individual abilities, besides the competency in the English language to be able to communicate effectively
9	To have the qualifications of managing and being managed to solve existing and potential problems encountered in practice
10	To be able to organize activities that will contribute to the personal and professional development of the employees in the department where he/she holds an executive position

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5	L6
P1	4	2	3	3	4	1
P2	3	5	2	3	3	1
P3	3	3	2	3	3	2
P4	5	4	3	2	2	2
P5	3	4	2	1	1	5
P6	3	3	1	2	2	3
P7	2	5	2	2	2	2
P8	5	2	2	2	3	2
P9	2	2	4	3	4	3
P10	2	1	3	4	3	4