

Vocational School of Social Sciences / Foreign Trade

2024 - 2025 Academic Year

BASIC MATHEMATICS

Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
BASIC MATHEMATICS	DŞT1127670	Fall Semester	3+0	3	4
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	Turkish				
Course Level	Short Cycle (Associate's Degree)				
Course Type	Required				
Course Coordinator	Assist.Prof. Hüseyin KOCAMAN				
Name of Lecturer(s)	Assoc.Prof. Fatma Serab ONURSAL, Assist.Prof. Masoud SHEIKHI				
Assistant(s)					
Aim	Educate the calculations of mathematics acquired for the program and make students have basic level of mathematics course that they need to know..				
Course Content	This course contains; Sets, number sets,Operations with Numbers,Equations, types of equations,Exponential and rooted numbers,Factorization,Ratio and proportion,Polynomials,Counting, permutation, combination,Simple linear functions,Graphs of inequalities in the cartesian plane,Nonlinear functions,Simple polynomial functions,Function types,Graphic drawings of functions.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
1. Will acquire basic knowledge about sets and number sets.			12, 9	A	
1.1. Knows the properties of sets, the intersection, union and difference of two sets.					
1.2. Knows the properties of sets of natural numbers, integers, rational and irrational numbers and real numbers. Knows the concept of interval. Solves problems related to closed interval, open interval, semi-open intervals. Solves problems related to absolute value and absolute value.					
2. Will perform operations and certain calculations related to numbers.			12, 9	A	
2.1. Pays attention to the priorities of operations. Performs addition, subtraction, multiplication and division.					
3. Will comprehend equations and types of equations.			12, 9	A	
3.1. Solves first and second order polynomial equations (linear-nonlinear).					
3.2. Solves exponential and logarithmic equations (non-linear).					
4. Will comprehend the properties of exponential and rooted multiplicities.			12, 9	A	
4.1. Knows the properties of exponential and rooted multiplicities, knows their relations and solves problems related to the subject.					
5. Will learn factorization and its methods.			12, 9	A	
5.1. Performs factorization and simplification operations.					
6. Will exemplify the concepts of ratio and proportion and interpret inverse proportion and direct proportion in calculations.			12, 9	A	
6.1. Knows the concepts of ratio and proportion.					
6.2. Knows the concepts of direct proportion, inverse proportion and makes applications.					
7. Will construct and solve equations of mathematical problems.			12, 9	A	
7.1. Transfers and solves daily life problems into equations and systems of equations.					
8. Will learn counting, combinations and permutations.			12, 9	A	
8.1. Establishes the logic of counting, being in a certain order and produces solutions to these problems with the concepts of combination and permutation.					
9. Will recognize simple linear functions.			12, 9	A	
9.1. Knows line and line equation.					
9.2. Comprehends slope, parallel and perpendicular lines, their relations and relations with each other.					
10. Will learn to represent solutions of inequalities in the cartesian plane.			12, 9	A	
10.1. Learns the solution of inequalities by using equations.					
10.2. Learns to represent inequalities in one variable on the real axis and sets of inequalities on the Cartesian plane.					
11. Will learn non-linear functions.			12, 9	A	
11.1. Learns other non-linear functions other than polynomial functions: Trigonometric functions, logarithmic functions, exponential functions.					
12. Will learn polynomial functions.			12, 9	A	
12.1. Learns linear or non-linear polynomial functions.					
13. Will comprehend other types of functions.			12, 9	A	
14. Will learn how to draw graphs in functions.			12, 9	A	
Teaching Methods	12: Problem Solving Method, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Sets, number sets	Reading			
2	Operations with Numbers	Reading			
3	Equations, types of equations	Reading			
4	Exponential and rooted numbers	Reading			
5	Factorization	Reading			
6	Ratio and proportion	Reading			
7	Polynomials	Reading			
8	Counting, permutation, combination	Reading			
9	Simple linear functions	Reading			

Vocational School of Social Sciences / Foreign Trade
2024 - 2025 Academic Year
BASIC MATHEMATICS
Syllabus

Lecture Schedule		
Sequence	Topics	Preliminary Preparation
10	Graphs of inequalities in the cartesian plane	Reading
11	Nonlinear functions	Reading
12	Simple polynomial functions	Reading
13	Function types	Reading
14	Graphic drawings of functions	Reading
Evaluation Methods		Weight(%)
Midterm Exam		40
General Exam		60

Resources
Quick Business Math, Steve Slavin, Matematik Yrd.Doç.Dr. Ali Erdoğan, Nobel Press.Temel Matematik, Prof.Dr. Mahmut Kartal, Doç.Dr. Yalçın Karagöz, Yrd.Doç.Dr. Zafer Kartal, Nobel Press.