

# TOROS ÜNİVERSİTESİ

Faculty Of Economic, Administrative And Social Sciences  
Business Administration ( English )

## Course Information

| MATHEMATICS I |          |             |          |                 |             |
|---------------|----------|-------------|----------|-----------------|-------------|
| Code          | Semester | Theoretical | Practice | National Credit | ECTS Credit |
|               |          | Hour / Week |          |                 |             |
| MAT103        | Fall     | 3           | 0        | 3               | 5           |

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Prerequisites and co-requisites</b>      |                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Language of instruction</b>              | English                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Type</b>                                 | Required                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Level of Course</b>                      | Bachelor's                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Lecturer</b>                             | Assist.Prof.Dr. Ayhan DEMİRCİ                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Mode of Delivery</b>                     | Face to Face                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Suggested Subject</b>                    |                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Professional practise ( internship )</b> | None                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Objectives of the Course</b>             | To recognize and use basic mathematical concepts, to recognize numerical systems, to know numerical numbers in numerical system, to improve numerical sets and to be able to perform operations in these sets, to recognize and solve equations systems, to understand the concept of sets, to understand functions of cartesian products and functions, To acquire the ability to learn and apply their varieties and properties. |
| <b>Contents of the Course</b>               | Number systems, numbers in the decimal system, number sets and operations in these sets, equations and inequalities, absolute value concept and properties, identity and its solutions to problems, sets and solutions, sets, Cartesian products, relations and functions.                                                                                                                                                         |

## Learning Outcomes of Course

| # | Learning Outcomes                                                                                            |
|---|--------------------------------------------------------------------------------------------------------------|
| 1 | Recognition of number systems                                                                                |
| 2 | Number system used in everyday life and recognition of number sets in this system                            |
| 3 | To be able to perform operations on the set of natural numbers                                               |
| 4 | To be able to understand the exact numbers, rational numbers and to understand the properties of these ranks |
| 5 | To understand the systems of equations and to understand the methods of solution                             |
| 6 | Comprehend inequalities and make solutions                                                                   |
| 7 | Solve problems (number, age, speed, karve damage, work, ....)                                                |
| 8 | Understand the concepts of set, cartesian product and relation                                               |

## Course Syllabus

| # | Subjects                                               | Teaching Methods and Technics |
|---|--------------------------------------------------------|-------------------------------|
| 1 | Number systems, decimal number system and used figures | Face to face exposition       |
| 2 | Operations on integers and rational numbers            | Face to face exposition       |
| 3 | Transactions on real numbers                           | Face to face exposition       |
| 4 | Transactions on real numbers                           | Face to face exposition       |
| 5 | Equation systems, inequalities and solutions           | Face to face exposition       |
| 6 | Problems and solutions                                 | Face to face exposition       |

|    |                                       |                              |
|----|---------------------------------------|------------------------------|
| 7  | 1'st midterm                          | classics,written examination |
| 8  | Sets, Relation and Function Concept   | Face to face exposition      |
| 9  | Function properties and types         | Face to face exposition      |
| 10 | Trigonometric functions               | Face to face exposition      |
| 11 | Trigonometric functions               | Face to face exposition      |
| 12 | Logarithmic functions                 | Face to face exposition      |
| 13 | Logarithmic and exponential functions | Face to face exposition      |
| 14 | Inverse functions                     | Face to face exposition      |
| 15 |                                       |                              |
| 16 | Final Exam                            | classics,written examination |

## Course Syllabus

| # | Material / Resources | Information About Resources | Reference / Recommended Resources |
|---|----------------------|-----------------------------|-----------------------------------|
| 1 | matematik-1 kitabı   | Yusuf GÜL                   | Toros Üniversitesi yayınları      |
| 2 | Genel matematik      | Mustafa BALCI               | Sürat yayınları                   |

## Method of Assessment

| # | Weight | Work Type     | Work Title    |
|---|--------|---------------|---------------|
| 1 | 40%    | Mid-Term Exam | Mid-term Exam |
| 2 | 60%    | Final Exam    | Final Exam    |

## Relationship between Learning Outcomes of Course and Program Outcomes

| # | Learning Outcomes                                                                                            | Program Outcomes     | Method of Assessment |
|---|--------------------------------------------------------------------------------------------------------------|----------------------|----------------------|
| 1 | Recognition of number systems                                                                                | 2,3                  |                      |
| 2 | Number system used in everyday life and recognition of number sets in this system                            | 1,2,3                |                      |
| 3 | To be able to perform operations on the set of natural numbers                                               | 1,2,3                |                      |
| 4 | To be able to understand the exact numbers, rational numbers and to understand the properties of these ranks | 1,2,3,6              |                      |
| 5 | To understand the systems of equations and to understand the methods of solution                             | 1,2,3,5,6            |                      |
| 6 | Comprehend inequalities and make solutions                                                                   | 1,2,3,4,6            |                      |
| 7 | Solve problems (number, age, speed, karve damage, work, ....)                                                | 1,2,3,5,6,7,8,9      |                      |
| 8 | Understand the concepts of set, cartesian product and relation                                               | 1,2,3,4,5,6,7,8,9,10 |                      |

PS. The numbers, which are shown in the column Method of Assessment, presents the methods shown in the previous table, titled as Method of Assessment.

## Work Load Details

| # | Type of Work                                                  | Quantity | Time (Hour) | Work Load |
|---|---------------------------------------------------------------|----------|-------------|-----------|
| 1 | Course Duration                                               | 14       | 3           | 42        |
| 2 | Course Duration Except Class (Preliminary Study, Enhancement) | 14       | 3           | 42        |
| 3 | Presentation and Seminar Preparation                          | 0        | 0           | 0         |
| 4 | Web Research, Library and Archival Work                       | 0        | 0           | 0         |
| 5 | Document/Information Listing                                  | 0        | 0           | 0         |
| 6 | Workshop                                                      | 0        | 0           | 0         |
| 7 | Preparation for Midterm Exam                                  | 0        | 0           | 0         |

|    |                            |   |    |            |
|----|----------------------------|---|----|------------|
| 8  | Midterm Exam               | 0 | 0  | 0          |
| 9  | Quiz                       | 0 | 0  | 0          |
| 10 | Homework                   | 0 | 0  | 0          |
| 11 | Midterm Project            | 0 | 0  | 0          |
| 12 | Midterm Exercise           | 0 | 0  | 0          |
| 13 | Final Project              | 0 | 0  | 0          |
| 14 | Final Exercise             | 0 | 0  | 0          |
| 15 | Preparation for Final Exam | 1 | 15 | 15         |
| 16 | Final Exam                 | 1 | 1  | 1          |
|    |                            |   |    | <b>100</b> |