

# MATH 125

## Basic Mathematics I

### Textbook:

M. Dabbagh, A. Doğanaksoy, Basic Mathematics. (can be found at Mathematics Department, Room Z23)

### Grading:

Midterm1:	25% (Nov.17 2018 Saturday at 13:30)
Midterm2:	25% (Dec.22 2018 Saturday at 13:30)
Final Exam:	40% (Jan.10 2019 Thursday at 13:30)
Recitation:	10%

### Course Syllabus:

#### 1. Logic

#### 2. Sets

Basic Definitions, subsets, power set, set operations.

#### 3. Functions and Relations

Functions: Basic definitions, properties, composition, inverse.

Relations: Binary relations, equivalence relations, partition.

Special Functions: Polynomial functions, logarithms, exponential functions, elementary trigonometric functions and their inverses, basic properties and graphs, trigonometric identities.

#### 4. Matrices

Basic definitions, Square matrices, Operations on matrices, inverse of a matrix, Determinant of a Matrix, Matrix polynomials, Row Echelon Form of a Matrix

#### 5. System of Linear Equations

Linear Equation Systems and Their Solutions, Cramer's Method, Gauss elimination method.

#### 6. Mathematical Induction

#### 7. Recurrence Relations