

Spring 2023

## MATH 126, Basic Mathematics II

**Frequency:** Spring Semester    **METU Credit:** 4(3-2)

**Catalog description:** Analytic Geometry in  $R^2$ ,  $R^3$ . Functions of one and several variables: Limit, continuity and differentiation. Chain rule, implicit differentiation. Differential calculus, optimization, Lagrange multipliers. The definite integral. The indefinite integral. Logarithmic and exponential functions. Techniques of integration: Integration by substitution, integration by parts, integration by partial fractions.

**Course instructor:** Özcan Yazıcı

**Contact:** [wwwma126@metu.edu.tr](mailto:wwwma126@metu.edu.tr)

**Suggested textbook:** M. Dabbagh, A. Doğanaksoy, Calculus for Students of Social Sciences. (can be found at Math Depart., Room Z23, and will be available online in parts)

**Suggested reference book:** Any calculus book for freshman students

**Course Webpage:** <http://ma126.math.metu.edu.tr/>

**NOTE:** All students enrolled in this course are supposed to follow this website and also [ODTUClass Math 126 webpage](#) regularly, since they are responsible for catching up **announcements** listed.

### **Grading Policy:**

MidTerm1:	30 Points	<b>March 24, 2024 at 13.30</b>
MidTerm2:	30 Points	<b>May 11, 2024 at 13.30</b>
Final Exam:	40 Points	<b>(TBA)</b>
Quiz:	5 Points	(bonus)

Week	Dates	(Tentative) Syllabus (Math 126) Spring 2023
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1

February  
19-23Ch 1: Analytic Geometry  
Coordinate Systems

2

February  
26-March  
01

Curves

3

March 04-  
08Surfaces  
Vectors

4

March 11-  
15Planes  
Straight Lines

5

March 18-  
22Ch 2: Functions, Limits, Continuity  
Functions of Several Variables  
Limits of Single Valued Functions  
☺Midterm 1 (March 24, 2024 at 13.30)

6

March 25-  
29

Continuity of Single Valued Functions

7

April 01-05

Limits and Continuity of Functions of Several Variables  
Ch 3: Differentiation  
The Derivative, Partial Derivatives

8

April 08-12

NO CLASSES  
April 10 – 12 Religious holiday (Holiday eve Tuesday)

9

April 15-19

Tangent Line Approximation and Differentials  
Related Rates

10

April 22-26

Ch 4: Applications of Differentiation  
Extrema  
The Mean Value Theorem  
Concavity  
April 23 National Sovereignty and Children's Day, Tuesday

11

April 29-  
May 03Infinite Limits and Limits at Infinity  
Indeterminate Forms and L'Hopital's Rule  
May 1 – Labor and Solidarity Day, Wednesday

12

May 06-10

Optimization Problems  
Extrema of Functions of Several Variables  
☺Midterm 2 (May 11, 2024 at 13.30)

13

May 13-17

Ch 5: Integration  
Definite Integral  
May 19 - National Holiday (Commemoration of Atatürk & Youth and Sports Festival, Thursday)

14

May 20-24

Anti-derivatives and Indefinite Integral  
Logarithmic and Exponential Functions

15

May 27-31

Methods of Integration

☺Final Exam (TBA)

## **MATH 126 Course Policy (2023-2)**

This document/announcement contains all the necessary information that you need to know about the structure of the *MATH 126: Basic Mathematics II* course. More information will be announced on the official website of the course and the ODTUCLASS page. All students enrolled in this course are supposed to follow these websites regularly.

*MATH 126 Coordination reserves the right to make necessary changes in this policy depending on the situations which are out of our control. So it is your responsibility to follow the announcements in the webpage of the course regularly.*

### **Lectures and Recitations**

Lectures and Recitations are delivered as announced in **Schedule of Lectures** on the official website of the course. Keep in mind that this course is **5 (=3+2) hours per week**.

The first 3 hours are for **lectures** and the last 2 hours are for **recitations**.

#### **Lectures**

Monday 08:40 - 10:30 G111

Wednesday 08:40 - 09:30 G111

#### **Recitations**

Section 11: Thursday 08:40 - 10:30 G102

Section 12: Thursday 08:40 - 10:30 U3

Section 13: Thursday 08:40 - 10:30 G104

Section 14: Thursday 08:40 - 10:30 U1

### **Class Attendance**

You are **expected** to attend all lectures and recitations. However no attendance will be taken. Also there will be frequent pop quizzes in recitation hours.

### **Make up for Exams and Assignments**

You can have at most one make-up exam. In order to be able to take the make-up exam, you must present a reasonable excuse (such as a medical report or an academic leave).

**After the final exam**, there will be a form on ODTUClass and via that form, you will apply the make-up exam instead of one missed exam and will send your reasonable excuse to [wwwma126@metu.edu.tr](mailto:wwwma126@metu.edu.tr).

### **Eligibility to take the Final Exam and NA Grade**

If your two midterm scores (each one out of 100 points) add up to less than 20 points (out of 200 points in total), then you cannot take the Final Exam and will receive an NA grade from the course. If you did not attend the Final Exam and if you do not have the right to take make-up exam for Final, you will receive an NA grade.

### **Who gets NA grade?**

(A) Before the final exam, students will be categorized in the following way:

1)  $M1 + M2 \geq 20$

2)  $M1 + M2 < 20$ ,

for which M1 is the Midterm 1 score out of 100, and M2 is the Midterm 2 score out of 100.

- Students in group 1 will be able to take the final exam.
- Students in group 2 will **NOT** be able to take the final exam. They will get an automatic NA grade.

**Examples:**

a) Student A attends to Midterm 1 and his score is 20. He/she does not take Midterm 2 being on leave for academic/medical reasons. Since  $M1+M2 = 20 \geq 20$ , He/she is eligible for the final exam. If he/she submits relevant documents, it is also possible to take make-up exam which is given after the final. *No problem at all.*

b) Student B does not attend to Midterm 1 because of their illness. He/she attends to Midterm 2 and get 18 points. Since  $M1+M2 = 18 < 20$ , he/she won't be able to take final exam and get NA grade. **It should be in mind that in this example, taking make-up for Midterm is not possible even if he/she has an appropriate official document (academic/medical report etc.).**

(B) According to the university's rules and regulations governing undergraduate studies (Article 24),

*"...The grade NA is designated due to one of the conditions below. The grade NA is processed as FF in the calculation of the Grade Point Average.*

*1) Not fulfilling the attendance requirements for the theoretical and practical course hours as indicated in the course schedule.*

*2) Not qualifying to take the final exam due to failure in fulfilling the provisions regarding course practices.*

*3) Having taken none of the mid-term and final examinations.*

*..."*

**Note that each instructor/the coordination of the course reserves the right to determine whether the attendance requirements indicated in the above policy (B-1) applies to the students of their section or not.**

**Information for Students with Disabilities**

Students who experience difficulties due to their disabilities and wish to obtain academic adjustments and/or auxiliary aids must contact ODTU Disability Support Office and/or course instructor and the advisor of students with disabilities at academic departments (for the list: <http://engelsiz.metu.edu.tr/en/advisor-students-disabilities>) as soon as possible. For detailed information, please visit the website of Disability Support Office: <https://engelsiz.metu.edu.tr/en/>

**Academic Honesty**

The METU Honour Code is as follows: "Every member of METU community adopts the following honour code as one of the core principles of academic life and strives to develop an academic environment where continuous adherence to this code is promoted. The members of the METU community are reliable, responsible and honourable people who embrace only the success and recognition they deserve, and act with integrity in their use, evaluation and presentation of facts, data and documents."