2024-2025 Fall
MATH 118 - Calculus II

METU Credit & ECTS Credit: (4-2)5 & 7.5

Catalogue Description: Indefinite Integral. Techniques of integration. Arc length. Volumes and surface areas of solids of revolution. Improper integrals. Sequences and infinite series. Power series. Taylor series. Vectors and analytic geometry in 3-space. Functions of several variables: Limits, continuity, partial derivatives, chain rule, directional derivatives, tangent plane and linear approximations. Extreme values. Lagrange multipliers. Double integrals.

Teaching Staff : E. Yasemin Talu (Section 1)
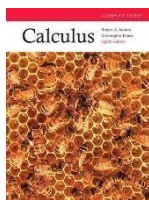Nazmi Oyar (Sections 11 and 12)

Course Grading and Exam Dates:

Exam I (November 16, 2024)	33%
Exam II (December 21, 2024)	33%
Final Exam (TBA)	34%
Online Quizzez(?)	0%

For more details about exams and grading, see the announcements on the Course Home page.

When ODTÜClass is available you have to check ODTÜClass and your METU Mail for everything.

Suggested textbook:

Robert A. Adams, Christopher Essex
CALCULUS
A Complete Course Calculus. Eight (or any newer) Edition.
ISBN 978 0-321-78107-9
QA303.A33 2013

Reference Books: Any book on Calculus

Current Semester Course Home Page: http://ma118.math.metu.edu.tr/

Week	Dates	Math 118 (2024-1) The Tentative Weekly Schedule
1	**September 30-October 4**	**Ch. 6: Techniques of Integration** 6.1 Integration by Parts 6.2 Integrals of Rational Functions
2	**October 07-11**	6.3 Inverse Substitutions 6.5 Improper Integrals
3	**October 14-18**	**Ch. 7: Applications of Integration** 5.7 Areas of Plane Regions 7.1 Volumes by Slicing—Solids of Revolution 7.2 More Volumes by Slicing
4	**October 21-25**	7.3 Arc Length and Surface Area **Ch. 9: Sequences, Series, and Power Series** 9.1 Sequences and Convergence
5	**Oct. 28-Nov. 01**	9.2 Infinite Series 9.3 Convergence Tests for Positive Series October 29 Republic Holiday (Tuesday)
6	**November 04-08**	9.4 Absolute and Conditional Convergence 9.5 Power Series
7	**November 11-15**	9.6 Taylor and Maclaurin Series 9.7 Applications of Taylor and Maclaurin Series **Exam 1 (November 16, 2024)**
8	**November 18-22**	**Ch. 10: Vectors and Coordinate Geometry in 3-Space** 10.1 Analytic Geometry in Three Dimensions 10.2 Vectors
9	**November 25-29**	10.3 The Cross Product in 3-Space 10.4 Planes and Lines 10.5 Quadric Surfaces
10	**December 02-06**	**Ch. 12: Partial Differentiation** 12.1 Functions of Several Variables 12.2 Limits and Continuity
11	**December 09-13**	12.3 Partial Derivatives 12.5 The Chain Rule 12.6 Linear Approximations
12	**December 16-20**	12.7 Gradients and Directional Derivatives **Ch. 13: Applications of Partial Derivatives** 13.1 Extreme Values **Exam 2 (December 21, 2024)**
13	**December 23-27**	13.2 Extreme Values of Functions Defined on RestrictedDomains 13.3 Lagrange Multipliers
14	**Dec. 30-Jan. 03**	**Ch. 14: Multiple Integration** 14.1 Double Integrals 14.2 Iteration of Double Integrals in Cartesian Coordinates

This document contains all the necessary information you need to know about the structure of the course *MATH 118: Calculus II*. All students enrolled in this course are expected to check Math 118 page on ODTÜClass regularly.

MATH 118 Coordination reserves the right to make necessary changes in this policy depending on the circumstances which are out of our control. So it is your responsibility to follow the announcements regularly.

<u>**Lectures and Recitations**</u>
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 **6 (=4+2) hours per week**.
The first 2+2=4 hours are for **lectures** and the last 2 hours are for **recitations**. See "the schedule of lectures"- tab on the MATH118 web page when available.

<u>**Grading :**</u> Although a curve based on the distribution of total grades will be consulted letter grades will be mainly determined by a system similar to Catalog and this will be done AFTER Exam 3.

<u>**Office Hours of Yasemin Talu :**</u>

If you have any questions you should make an appointment via email first so that I'll be in the office (**Office No : M-223**). Days and times for appointments are
Wednesday : 15:40-16:30
Thursday : 11:00-12:00.

<u>**Office Hours of Nazmi Oyar :**</u>

Tuesday : 13:40-15:30 (Office hours will be held at **Helproom** which is at the first floor of Mathematics Department)

<u>**Important notes for the Course and the Exams :**</u>

1. No questions will be answered on the day of an exam.

2. There is no make-up exam unless there is a very good reason. Do not assume that just because you have got a health report from the Student Health Centre, Family Physician, etc
for a very flimsy reason (headache, nausea, stomach pain,etc.) you will be eligible to take a make-up exam. In other words you will not be given a make-up exam unless you have a very SERIOUS HEALTH PROBLEM or a very LEGITIMATE REASON which you must inform me BEFORE the exam & you must present an official document to support your claim. If I have to give a make-up exam there will be only one such exam and you will be responsible from all the topics covered during the term.

3. Please check your e-mail and Math 118 page on ODTÜClass regularly.

4. Please check the dates and times of all your exams **ASAP**. If you have two exams at the same time it is YOUR RESPONSIBILITY to speak to your instructor(s) without any delay so that he/she can make the necessary changes.

5. No attendance will be taken. However you are strongly advised to attend both the lectures and the recitations.

6. If you miss 2 exams you will be assigned the letter grade NA.

7. If the result of your Exam 1+the result of your Exam 2 is less than or equal to 11 out of 66 or if you miss one of the first 2 exams and the result of the exam you did not miss is less than or equal to 11 out of 66 you will not be admitted to Exam 3 (Final Exam) and your letter grade will be NA.

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."