Calculus I (MATH 101)
Sabancı University, Summer 2020-2021

This syllabus may be subject to update and change.

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Class Hours and Lecture Format: Lectures will be live-streamed lectures unless a technical difficulty occurs. You can find the Zoom link for the lectures on SUCourse+. In order to have access to them, you must be logged in to Zoom with your Sabancı account.

The online lectures will be made available afterwards, so that you can also watch them at a later time. They are going to be published on SUCourse+. You will find a tentative breakdown of material at the end of the syllabus.

Lecture Hours: Tuesdays 13:40-15:30 and 17:40-19:30
Thursdays 10:40-13:30

Recitation Hours: Wednesdays 08:40-11:30 and Fridays 16:40-18:30.

You are responsible for every announcement made in the online lecture or in SUCourse+. Not attending the online lecture or not following SUCourse+ regularly is not an excuse, in case you miss something.

Aim of the Course: We hope to gain an understanding of:

- Functions and graphs,
- Limits and the derivative, differentiation rules,
- Applications of derivatives such as graph sketching, optimization, relative rates,
- The area problem and the definite integral,
- Computing definite or indefinite integrals,
- Applications of single-variable integrals as time allows.

For the entire course, we will work on single-variable functions.

Learning Outcomes: On completion of this course the student should be able to:

1. Understand and use basic properties of elementary functions
2. Understand the idea of limit analytically/graphically, and evaluate limits
3. Understand the definition of derivative and its geometric meaning
4. Compute derivatives using standard differentiation techniques
5. Apply the notion of derivative graphing and optimization problems
6. Understand the definition of definite integral and its geometric meaning
7. Compute integrals using standard integration techniques
8. Understand the idea of integration over unbounded intervals and compute them.

Textbook: Calculus Early Transcendentals 2nd Edition (Global Edition), Briggs, Cochran & Gillett.

Recitations: Recitations will consist of three parts: TA solving problems, discussing the worksheet with the TA and the quiz.

- **Problem Solving**: The TA will solve a few questions from the textbook at the beginning of the recitations.
- **Worksheets**: The worksheet problems will be published on SUCourse+ at the beginning of the second recitation hours. You are supposed to work on the problems, discuss your solutions with your peers and the TA during the recitation and then upload your own solutions on SUCourse+. We will review your solutions and provide feedback individually.
- **Quizzes**: There will be short quizzes at the end of the Wednesday recitations.

Grading: Your grade exclusively depends on the following listed items. The details of each item are below.

Midterm (July 30, during the recitation)	30%
Final Exam (date TBA)	35%
Lecture Attendance	5%
Recitation Attendance	5%
Recitation Worksheets	10%
Recitation Quizzes	15%

There will be no other extra-credit opportunities.

IMPORTANT:

Every document that requires a student submission, needs to be in *pdf* format, hand-written and to have name, surname, student ID, and signature on the top left corner of the document, on each page submitted (note: if you write on the two sides of a piece of paper, write the information on both sides).
Any page missing any of these information will be completely ignored.

Exams: These are tests performed via SUCourse+ and proctored via Zoom or Google Meet. Questions can be presented in different ways, including the submission of hand-written answers. During their entire duration, your webcam and microphone should be on. In the case of non-compliance with this and other declared exam procedures, your exam will be void. Make sure to check that your webcam and microphone function properly before the exam. More details are announced on SUCourse+.

Exams Make-up Policy: If you miss an exam and wish to make it up, you must contact the instructor by mail, and explain your excuse as soon as possible. Only students that had contacted the instructor with a valid excuse will be contacted to arrange the terms of the exam. The make-up will contain all topics and it will be a recorded oral interview, scheduled during the final period.

Lecture Attendance: Attendance during the lectures will be taken via *Zoom* registration with SU email account. You can find the Zoom link for recitations on SUCourse+.

Recitation Attendance: Attendance will be taken during the recitation via *Zoom* registration with SU email account. Students must be online and active during the worksheet hour to be counted as present for that recitation day. You can find the Zoom link for recitations on SUCourse+.

You must attend the synchronous Zoom lectures, recitations, etc. and real-time online exams with your SU email account.

Recitation Worksheets: The worksheets will be published on SUCourse+ at the beginning of the second recitation hours. Solutions are to be submitted on SUCourse+ before the deadline. There will be no make-up for missed worksheets. We will drop the worst 25% scores. More details will be announced on SUCourse+.

Recitation Quizzes: There will be a short quiz on Wednesdays, at the end of the recitation. Questions can be presented in different ways, including the submission of hand-written answers. During the entire duration of each quiz, students are proctored and recorded. There will be no make-up for missed quizzes. The best 4 of your quiz scores (out of 6) will determine the quiz grade. More details will be announced on SUCourse+.

NA Policy: Students missing both the midterm and the final, without a valid excuse, may receive NA.

Academic Integrity: All university policies on academic integrity apply to our course, and they will be enforced. (more information on `http://www.sabanciuniv.edu/en/academic-integrity-statement`).

In particular, no form of cheating is welcome in the exams or quizzes, such as copying whole or part of each other's answers. Students are not allowed to give or receive outside help. The action against such violations could range from getting a zero on the particular quiz/exam to explaining the case in front of the Disciplinary Committee.

In quizzes or exams, if we suspect any breach of academic integrity, we may ask for an oral validation of the quiz/exam. In this case the student will be invited to an oral interview and will be given the opportunity to explain their solution. If the student cannot provide sufficient explanations, or does not show up to the interview, their quiz/exam grade will be replaced with zero (0).

Class Discipline: It is our responsibility to provide students with excellent teaching and learning environments. We are therefore asking you to respect both our responsibility to teach and the right of other students to learn. Any action that disturbs your classmates or disrupts the online activities is unacceptable. Repeated violations of the above common sense rules may cause a student to be counted as absent for a lecture or a recitation.

Suggestions:

- Feel free to ask us and your assistants questions via e-mail.
- *Always* attend the lectures and recitations with a notebook and a pen.
- Remember that you do not have to be a math genius to be successful in this course (although it wouldn't hurt!). Regular study habits are sufficient to get a decent grade.
- Studying out of class for this course should become a routine. Key to success in mathematics is practice.
- Scientific WorkPlace / NoteBook (SWP / SNB) is a math software package available at Information Technology website for download. You are welcome to use it for your self-study.

Below is a tentative breakdown of topics. The order in the tentative schedule might be altered. It is your responsibility to follow the lecture notes posted on SUCourse+.

Lecture	Date	Topic (Sections from the textbook)
Lecture 1	July 1	1.1, 1.2, 1.3
Lecture 2-3	July 6	1.4, 2.1, 2.2, 2.3
Lecture 4	July 8	2.4, 2.5, 2.6
Lecture 5-6	July 13	3.1, 3.2, 3.3, 3.4
Lecture 7-8	July 27	3.5, 3.7, 3.8
Lecture 9	July 29	3.9, 3.10, 3.11
Lecture 10-11	Aug 3	4.1, 4.2, 4.3
Lecture 12	Aug 5	4.4, 4.5, 4.6
Lecture 13-14	Aug 10	4.7, 4.9, 5.1, 5.2
Lecture 15	Aug 12	5.3, 5.4, 5.5
Lecture 16-17	Aug 17	7.1, 7.2, 7.3, 7.4
Lecture 18	Aug 19	7.5, 7.8