

We may have to revise the course plan according to the reassessment to be made country-wide, regarding higher education, at the beginning of April. The content to be delivered is certain but the method of course delivery, the number and dates of exams, and some other details are subject to change.

**Calculus I (MATH 101)
Sabancı University, Spring 2022-2023**

Section A Lecturer: Nilay Duruk Mutlubas
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Office Hours: Tue 11:40-12:30 (on Zoom)

Section B Lecturer: Şirin Kaya
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Coordinator: Gamze Kuruk
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Office Hours: by appointment

Class Hours and Lecture Format: Lectures will be live-streamed via Zoom (Monday and Tuesday). The Zoom links will be posted on SUCourse+. In order to have access to them, you must be logged in to Zoom with your Sabancı account.

Lecture Hours: Section A: Mondays 11:40-13:30 (SBS 1099) and Tuesdays 09:40-11:30 (FENS G077).
Section B: Mondays 16:40-17:30 (FASS G062) and Tuesdays 14:40-16:30 (FASS G062).

Recitation Hours: Fridays 08:40-10:30, 10:40-12:30 and 13:40-15:30.

You are responsible for every announcement made in the online lectures or in SUCourse+. Not attending the lectures 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. You will find a tentative breakdown of material at the end of the syllabus.

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 be conducted online, via Zoom.

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

| | |
|--|------------|
| Midterm (29.04.2023 Saturday) | 10% |
| Final Exam (date TBD) | 60% |
| Lecture Attendance | 5% |
| Recitation Attendance | 5% |
| Recitation Quizzes | 20% |
| Online Homework (requires Pearson MyLab account) | 5% (bonus) |

There will be no other extra-credit opportunities.

IMPORTANT:

Every document that requires a student submission, **needs to be hand-written on paper, 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.

Midterm: The midterm exam will take place on Saturday, April 29th, 2023. It will be conducted online, via Zoom. Details of the midterm exam will be announced on SUCourse+.

Final Exam: The details of the final exam will be announced on SUCourse+ in due time. The date and time of the final exam is determined by Student Resources and the instructors cannot change it. Do not plan to leave İstanbul before the last day of grade submissions. We will not accommodate travel arrangements, or other personal business.

Lecture Attendance: Attendance during the lectures will be taken via Tophat polls.

Recitation Quizzes: During the recitation time, we will assign a quiz on Gradescope. You are required to write down your own solution on a piece of paper and upload a picture of it on Gradescope before the deadline. Emailed submissions will be disregarded. There will be absolutely no make-up for missed quizzes. The best 6 of your quiz scores will determine the quiz grade. More details will be announced on SUCourse+.

The quizzes will be online proctored and recorded. This means you must be on Zoom and your camera should be on during the quiz. In the case of non-compliance with this and other declared quiz procedures, your quiz will be void.

Recitation Attendance: Attendance during the recitations will be taken via Tophat polls. In order to be counted as present in the recitations, you must respond to the polls in due time.

You must attend the synchronous Zoom lectures and recitations with your SU email account.

Midterms and Final Make-up Policy: If you miss a midterm or the final and wish to make it up, you must contact Gamze Kuruk by mail, and explain your excuse **before the exam begins**. If it is a health problem you need to bring a doctor's report, which must be given or checked by SU Health Center within 3 days of the date of the report. Make-up for the midterms or the final will be at the end of the semester (after the finals period ends). Only students that had contacted the coordinator with a valid excuse will be informed about the exact time and place. The make-up exam will contain all topics.

NA Policy: If you miss both the midterm and the final exam without valid excuses, you may get NA.

Online Homework: Detailed instructions on how to register to Pearson MyLab will be given on SUCourse+. The online homework will be assigned on the weekend and will be due on Thursday at 23:45. To do the homework, after logging into their personal MyLab account, each student will receive a random set of questions. There will be no make-up for any online homeworks if you miss the deadline.

Online Office Hours: In order to have an interactive moment for the students to ask questions, a set of Online Office Hours have been announced. Students can join virtual meeting rooms, where they can talk and get help for Math 101.

Extra Help: Other than your instructor, your TA, and the course coordinator, you can get extra help from Academic Support. Announcements will be posted regularly on SUCourse+ to share their activities. Their web address is <http://adp.sabanciuniv.edu/en>.

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.

Global suggestions for the semester:

- *Always* come to lectures and recitations with a notebook and a pen.
- Feel free to ask us and your TA/LA questions in and out of class, especially during office hours.
- 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.
- Attend the classes and recitation hours regularly. Make sure you attend your own (registered) recitation section.
- Studying out of class for this course should become a routine. Key to success in mathematics is practice.
- GeoGebra and Desmos are useful softwares/websites to visualize many of the concepts we discuss.

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) |
|---------|-----------|------------------------------------|
| Week 1 | Feb 27-28 | 1.1 - 1.3 |
| Week 2 | Mar 6-7 | 1.4, 2.1, 2.2 |
| Week 3 | Mar 13-14 | 2.3 - 2.5 |
| Week 4 | Mar 20-21 | 2.6, 3.1, 3.2 |
| Week 5 | Mar 27-28 | 3.3 - 3.6 |
| Week 6 | Apr 3-4 | 3.7 - 3.10 |
| Week 7 | Apr 10-11 | 3.11, 4.1 |
| Week 8 | Apr 17-18 | 4.2 - 4.4 |
| Week 9 | Apr 24-25 | 4.5 - 4.7 |
| Week 10 | May 2 | 4.9, 5.1 - 5.3 |
| Week 11 | May 8-9 | 5.4, 5.5, 7.1 |
| Week 12 | May 15-16 | 7.2 - 7.4 |
| Week 13 | May 22-23 | 7.5, 7.8 |
| Week 14 | May 29-30 | Review |