Course Syllabus
Math 103: Introduction to Abstract Mathematics
Koç University, Fall 2023

Instructor: Ali Mostafazadeh (Office: Sci.154; Office Hours: Tuesdays & Thursdays 17:30-18:30)

Textbooks:

1. A. Mostafazadeh, A First Course in Abstract Mathematics, Koç University Press, 2011.
2. G. Chartrand, A. D. Polimeni, P. Zhang, Mathematical Proofs: A Transition to Advanced Mathematics, Addison Wesley, 2017

Website: TBA

Topics to be covered: Methodology of mathematics and natural sciences, mathematical logic, theorem types and proof methods, basic set theory, relations, functions, equivalence relations, ordering relations, finite, countable, and uncountable sets, cardinality

Objective: This course aims at providing the student with a basic introduction to structure and methods of mathematical thinking which is essential for the study of different branches of mathematics.

Evaluation method: Students' progress will be evaluated according to their performance in preparing progress reports (10%), homework assignments (10%), three midterm exams (15% each), and a final exam (35%). If a student fails the course and takes the remedial exam, his/her grade in this exam will be substituted for his/her grade in the final exam and his/her letter grade will be determined accordingly.

Exam Schedule: The time and place of the exams will be determined by the Registrar and announced through KUSIS.

Eligibility to take the Final Exam: Students will be permitted to take the final exam, only if (s)he does not miss all three of the midterm exams and the average of her/his grades in the midterm exams is not below 30 out of 100. Students who are not eligible to take the final exam will not be allowed to take the remedial exam either.

Make-ups: If a student misses a midterm exam and has a valid excuse, his (her) grade in the final exam will be substituted for the grade in the missed exam. If (s)he also misses the final exam, (s)he will be given zero in the exam(s) that (s)he has missed regardless of whether (s)he has a valid excuse or not. If a student misses the final exam and has a valid excuse, (s)he will be given a make-up exam.

Attendance & bonus: Students who miss 8 or more lectures will fail the course regardless of whether they have a valid excuse or not. They will not be admitted to take the final and remedial exams. If a student misses n lectures and $n<8$, 8-n bonus points will be added to his/her final exam grade.

Policy for progress reports and homework assignments: The format and deadline for progress reports will be posted in Blackboard. Students are required to prepare detailed lecture notes during or after each class and include a summary of these notes in their progress reports. The progress reports and homework papers should be uploaded to Blackboard before their due time. Late progress reports and homework submissions will not be accepted. To reduce the workload of the course's teaching assistant not all the progress reports and homework problems will be graded.

Auditing Students: In order to get an AU, a student must attend at least 20 lectures.

Suggested Method of Study: The students are advised to study the subjects covered in class immediately after the lectures. Reading the lecture notes and the textbooks is necessary for grasping the subject, but it is by no means sufficient. Students must try to reproduce the definitions and proofs of the theorems on their own. They are expected to spend an average of four hours per week on studying the material covered in class in addition to the time needed for doing the homework assignments. Each student is urged to make a list of definitions and a list of the statements of the theorems proven in class. A measure of whether a student has learned the subject is to check whether (s)he can reproduce the first list from his (her) memory and prove all the theorems in the second list without referring to the lecture notes or the textbooks.