

Math 103 Syllabus

Koç University, Fall 2018

Title of the Course: Introduction to Abstract Mathematics

Instructor: Ali Mostafazadeh (Office: Sci.158; Office Hours: TBA)

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: http://home.ku.edu.tr/~amostafazadeh/math103/math103_f2018/math103.htm

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

Evaluation method: Students' progress will be evaluated according to their performance in the homeworks (H), quizzes (Q), a midterm exam (MT) and the final exam (F). The final grade (G) will be computed according to the following formula.

$$G = 0.15 \times (\text{smallest of H and Q}) + 0.25 \times Q + 0.25 \times \text{MT} + 0.35 \times \text{F}.$$

Quiz and Exam Schedule: The time and place of the exams will be determined by the Registrar and announced through KUSIS. Quizzes will be given in Problem Sessions and will be mini exams of up to 45 minutes at length.

Eligibility to take the Final Exam: Students will be permitted to take the final exam, only if the average of their midterm exam and quiz grades 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 quiz or a midterm exam and has a valid excuse, his (her) grade in the final exam will be substituted for the grade in the missed quiz or exam. If (s)he also misses the final exam, (s)he will be given zero in the quiz(es) and 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. Students who attend 20+n lectures will be rewarded by n bonus points added to their final exam grades.

Policy for Homework Assignments: Homework papers will be collected in class. The assistants will not accept late homework papers nor will they return them directly to the students. Late homework papers will be accepted within a week, but they will be subject to 50% grade deduction.

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.