Math 305 Complex Calculus

Instructor: Turgay Bayraktar

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Textbook: Complex Variables and Applications by J. Brown and R. Churchill; McGraw-Hill Inc. ISBN: 0071140654.

Supplementary Readings:

- Complex Analysis by J. Bak and D. J. Newman; Springer. ISBN: 978-1-4419-7288-0

Lectures: Wed 14.40-15.30 FASS G052 & Thurs 13.40-15.30 in FENS G029
Zoom link: `https://sabanciuniv.zoom.us/j/96742629498`

Content: This course covers the field of complex numbers, functions of one complex variable; analytic functions, the Cauchy-Riemann equations, harmonic functions, integration in the complex plane, Cauchy integral formula, power series, Laurent series and isolated singularities, theory of residues and applications, conformal mappings.

Course Policies: Attendance is expected and strongly encouraged. You are responsible for lecture notes, any course material handed out in class. No cell phones, pagers nor laptops are allowed during the lectures. I strongly encourage active participation in the classroom. This way I can clarify the difficulties that you have about the course material.

Grading Policy: There will be bi-weekly assigned HWs (30%) one Midterm exam (30%) and a final exam (40%). In addition, attendance and participation is worth (5%) bonus. The schedule of these exams will be announced on the course website.

Exercise Sheets: There will be bi-weekly posted exercise sets based on the week's lectures and will be posted on the SU-course website sometime on Thursday. That assignment will be due in two week on Wednesday at the beginning of the lecture. You are encouraged to do your homework in groups. You are required, however, to write up your homework on your own. Homework is an essential educational part of this course. Your work will be graded mostly on your ability to work problems on exams. You cannot work problems on midterm exams if you have not practiced the techniques within the homework problems. If you misuse homework by not doing it yourself, or not checking that you can solve a problem on your own after having been shown how to do it, then your exam scores and corresponding grade will reflect this.

Make up policy: In order to take a make up exam for a midterm or final exam, you need to provide documentation (eg. a doctor's report) and contact me in advance to make arrangements.

If you miss a midterm and the final exam both or all three exams you will be assigned NA letter grade regardless if you have documentation or not.

Academic Honesty: The strength of the university depends on academic and personal integrity. In this course, you must be honest and truthful. Cheating hurts our community by undermining academic integrity, creating mistrust, and fostering unfair competition. The university will punish cheaters with failure on an assignment, failure in a course, permanent transcript notation, suspension, and/or expulsion.

Violations can include cheating on exams, plagiarism, reuse of assignments without permission, improper use of the Internet and electronic devices unauthorized collaboration, alteration of graded assignments, forgery and falsification, lying, facilitating academic dishonesty, and unfair competition. Ignorance of these rules is not an excuse.

In this course, as in many math courses, working in groups to study particular problems and discuss theory is strongly encouraged. Your ability to talk mathematics is of particular importance to your general understanding of mathematics.

You should collaborate with other students in this course on the general construction of homework assignment problems. However, you must write up the solutions to these homework problems individually and separately. If there is any question as to what this statement means, please see the professor or the recitation instructor.

For more information, see the guide on the SU website (`http://mysu.sabanciuniv.edu/yonerge/Akademik_durustluk/E-Investigation.html`).