Professor: Maciej Szczesny
Office: MCS 273
Email: szczesny@math.bu.edu
Office Hours: MTWTh 12-1
Lecture: MCS B21, MTWTh 9-11


Homework: Homework will be assigned every day. You will be asked to hand in a subset of the problems at the end of the week. Late homework will not be accepted. However, your lowest homework grade will be dropped.

Quizzes: There will be a quiz every other day. The problems will closely follow those in the homework. No make-up quizzes will be given. However, your lowest Quiz grade will be dropped.

Exams: There will be two in-class exams and a final exam at the end. The dates are as follows:

Exam I Tuesday, July 19
Exam II Tuesday, August 2
Final Exam: Thursday, August 11

Note: No calculators, books, notes, or cellphones are allowed during exams/quizzes.

No make up exams will be given, with the exception of serious illness, in which case you will be required to provide a note from a physician.

Grading Policy:

Homework: 10 %
Quizzes: 20 %
In-class Exam I: 20 %
In-class Exam II: 20 %
Final: 30 %

The minimum final grades based on the above breakdown are guaranteed to be as follows: A 90-100 %, B 80-89, C 70-79, D 60-69.
Academic Honest: You are encouraged to discuss homework problems with other students. However, your write-ups should ALWAYS be your own. If you are caught plagiarizing, you will be referred to the University Academic Standards Committee for disciplinary action.

Standards of Civilized Behavior: Lecture is a time devoted to learning. Activities which interfere with this process will not be tolerated. For this reason, laptops are not allowed in class. Please turn off your cell-phone before coming to class.

Material to be covered: Chapters 1-7 of the textbook, namely:

1. Complex numbers - exponential form, roots, geometric properties
3. Elementary functions - \( \sin(z) \), \( \cos(z) \), \( \exp(z) \), \( \log(z) \), \( z^\alpha \) etc. as analytic functions, branch cuts.
4. Integrals - contour integrals, estimates on size, Cauchy-Goursat Theorem, Cauchy integral formula, topology of regions, Liouville’s theorem fundamental theorem of algebra, maximum modulus principle
5. Series - Taylor and Laurent series, convergence properties, differentiation and integration of series, multiplication and division of series,
6. Residues and poles - types of singular points, Cauchy Residue Theorem, meromorphic functions, behavior near a singular point.
7. Applications of residues - improper integrals, Jordan’s lemma, integration along branch cuts, argument principle, Rouche’s theorem.