

Mathematics 135
Complex Analysis
Fall 2015



Instructor: Asuman G. Aksoy
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Class Times: MWF 10:00- 10:50 AM
Location: Roberts North Hall, 105, CMC
Office Hours: MW 1:30 – 3:30 PM, and by appointment
Textbook: *Introduction to Complex Analysis* (2nd edition) by H.A. Priestly,
Oxford University Press

Pre-requisites: Math 60 (Linear Algebra). However, a proof-based course above 100 could be useful.

Course Description:

Topics include but not limited to: Algebraic properties of complex numbers. Topological properties of the complex plane. Differentiation and holomorphic functions. Complex series, power series. Local and global Cauchy's theorem. Mobius transformation. Cauchy's integral theorem. Classification of singularities, Calculus of residues, contour integration. Conformal Mapping. If time: The Laplace and the Fourier transforms.

Course Policies:

Homework, two midterms, and a final exam will add up to the final grade.

Final Grade:

20% Homework
10% Quizzes
20% Midterm #1
20% Midterm #2
30% Final

Homework:

The homework will be assigned and graded every week . Homework is a very important tool to learn the material and is also 20% of your total grade.

Midterm Dates and Exam Policy:

Midterm #1: **Monday, October 5**

Thursday, October 22 is the last day to withdraw from the class.

Midterm #2: **Monday, November 16**

Midterms will only be given on the above scheduled dates.

If you miss a midterm exam with an approved excuse, you may take a make-up exam.

Final Exam Date and Exam Policy:

Tuesday, December 15, at 9:00 AM

The final exam will be comprehensive.

The final exam will only be given on the above scheduled date.

The final exam will not be rescheduled for any reason, unless an incomplete has been granted.

Homework Grader:

Sixian Jin, CGU (jsxjsx12345@hotmail.com)

Tutoring:

Hong Suh, PO (hs002012@MyMail.pomona.edu)

Tutoring services will be held in the Math Commons Room (MCR) on Sundays through Thursdays from 8:00-10:00pm.

References:

1. Churchill, R., Brown, J., *Complex Variables and Applications*, 3rd ed. McGraw-Hill: New York, 1976.
2. Ahlfors, L., *Complex Analysis*, 2nd ed., McGraw-Hill: New York, 1966.
3. Lang, Serge, *Complex Analysis*, 3rd ed, Springer Verlag, 1993.
4. Caratheodory, C., *Theory of Functions*, Chelsea: New York, 1954.
5. Rudin, W., *Real and Complex Analysis*, 2nd ed., McGraw-Hill: New York, 1974.
6. Paliouras, J.D. Meadows, D.S., *Complex Variables for Scientists and Engineers*, 2nd ed., Macmillan: New York, 1990.