

## Course Policies

Prof. Shahed Sharif

**Textbook.** Beck, Marchesi, Pixton, and Sabalka's *A First Course in Complex Analysis*, version 1.54. It is freely available from <https://matthbeck.github.io/complex.html>. Print editions can also be purchased.

**Schedule.** The goal is to cover the entire textbook, at the rate of roughly 3 sections per week.



**Course description.** Study of functions of a complex variable, including analytic functions, contour integrals, Cauchy's Theorem, poles and residues, Liouville's Theorem, Laurent Series, the Residue Theorem, analytic continuation, and conformal mappings.

**Course objectives.** By the end of this course, you will be able to apply function theory to functions of a complex variable. This includes computing derivatives and contour integrals, as well as applying techniques which relate geometry and calculus over  $\mathbb{C}$ .

**Göstav Mittag-Leffler** (1846–1927) was a Swedish mathematician known for his work in complex analysis, most notably perhaps for the *Mittag-Leffler Theorem*. The theorem uses an infinite partial fraction decomposition to show that one can construct a suitably nice complex function with prescribed poles (the complex version of vertical asymptotes). He was also an avowed feminist: he advocated for the mathematician Sofia Kovalevskaya to be appointed to a faculty position that no woman had ever held, and while serving on the Nobel Prize committee, fought to have Marie Curie recognized alongside her husband Pierre. (Marie Curie later won *another* Nobel Prize for work conducted after her husband died, making her the first person to win two Nobels.) Mittag-Leffler is sometimes attributed for the lack of a Nobel Prize in mathematics, due to jealousy on the part of Alfred Nobel; but this is probably false. His former estate is now the home of the *Mittag-Leffler Institute*, a research center in mathematics.

**Course requirements.** The grading scheme is as follows:

25%	for homework
30%	for midterm exam
45%	for final

**Homework** is announced every Friday and is due on Gradescope the following Friday. If you missed the announcement, check my webpage or email me.

You must show all work to receive full credit. This means proofs, which should be provided unless specifically stated otherwise. The only exception is directly applying an algorithm

covered in class; these require no justification. *You will be graded on your writing!* Correct and clear grammar is essential to a correct proof. Of course, your reasoning must also be completely clear for full credit. Rewriting homework before handing it in is highly advisable. You may type your problem sets, but if you do, please use L<sup>A</sup>T<sub>E</sub>X. Homework fulfills this course's writing requirement. Please obtain a scanner or scanning app (such as Adobe Scan, available for free with your CSUSM credentials), and use it to convert your non-programming homework assignments to pdf format. Then upload these to Gradescope. Please make sure to identify which problem is on which pages.

After homework is handed in, I will be happy to go over complete solutions in office hours. Feel free to also e-mail me questions.

The **midterm exam** is tentatively scheduled for October 18.

The **final** is scheduled for Wednesday, December 13, 6:15–8:15 PM. If it would help, the final exam replaces your midterm exam score.

**Late assignment policy.** Late homework is not accepted. There are no exceptions! Instead, the lowest two homework scores are dropped.

Make-up exams are not given; see the exam policy above.

**Office hours.** My office hours are Tuesday and Wednesday, 1–2:30 PM. You can also email me any questions that you have. Make sure you include as much relevant detail as possible, and be aware that I may not have the textbook with me when I read your email.

**Ethics.** You are encouraged to work with others on graded assignments, but the final product should be your own work. In particular, you may not read your classmates' finished assignments until your own is completed! The same goes for other sources—online, back of the book, or other sources. Avoid looking at these sources, or if you do, take no notes on them. Failure to follow these guidelines is considered plagiarism, and all involved parties will *at a minimum* earn a zero on the relevant assignment and have their actions reported to the Dean of Student Affairs.

**ADA policy.** Students with disabilities who require reasonable accommodations must be approved for services by providing appropriate and recent documentation to the Office of Disability Support Services (DSS) in Administrative Hall 4300 (ph: (760) 750-4905; TTY: (760) 750-4909). Students authorized by DSS to receive reasonable accommodations should meet with me during my office hours in order to ensure confidentiality.