

**MATH 136: Complex Variables and Integral Transforms**  
**Fall 2004**  
**Professor Lesley Ward**

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**Office hours:** Monday 1:15–2:30pm, Tuesday 3–5pm, and by appointment.

**Topics:** Complex numbers, analytic functions, elementary functions, complex integration and Cauchy's theorem, Taylor and Laurent series, residue theory, conformal mapping, and the Fourier and Laplace transforms.

**Required text:** E.B. Saff and A.D. Snider: *Fundamentals of Complex Analysis for Mathematics, Science, and Engineering*, 3rd edition. (Different from the 2nd edition we used until 2002.) We will study all eight chapters.

I highly recommend the book *Complex Variables* by Murray Spiegel (Schaum's Outline Series), which has many worked examples and practice problems with solutions. Also try the books by Churchill and Brown and by Serge Lang. *Complex Analysis* by L.V. Ahlfors is an excellent, more theoretical book. Library classification area: QA331.

**Course meets:** Monday–Wednesday, 2:45–4pm, Beckman B134.

**Tutor and grader:** Carl Yerger, Case 207, x74741, Carl.Yerger@hmc.edu. Tutoring hours: to be determined.

**Web page:** Homework assignments and other useful information are on the course page:

[www.math.hmc.edu/math136/](http://www.math.hmc.edu/math136/)

**Grading:**

Homework: due in class, on Wednesdays, except HW 1 due Friday 3 Sept.

First midterm: two-hour takehome test, handed out **Wednesday 29 September**.

Second midterm: two-hour takehome test, handed out **Wednesday 3 November**.

Final exam: three-hour takehome exam, handed out in class, due by 5pm on **Monday 13 December**.

The homework, the two midterms, and the final exam are worth 25% each. You may prepare one page (both sides ok) of notes to use during the tests, and you may also use Saff and Snider's book during the tests. Apart from these exceptions, the tests are closed-book.

No late homework will be accepted. The lowest homework score of each student will be dropped. Please *staple* your HW, and write your name, the assignment number, and the due date on it. Please follow the Mathematics Department homework guidelines at

[www.math.hmc.edu/teaching/homework/](http://www.math.hmc.edu/teaching/homework/)

**Honor Code:** All *tests* are strictly individual; no cooperation is allowed. Though cooperation on *homework assignments* is encouraged, students are expected to write up their own solutions individually. That is, no copying. Comprehension is the goal, so even with cooperation, you should understand solutions well enough to write them up yourself. It is appropriate to acknowledge the assistance of others. The HMC Honor Code applies in all matters of conduct concerning this course.

August 30, 2004