

**MATH 3364**  
**Introduction to Complex Analysis**  
**Fall 2010**

- Class:** T&Th 11:30am-1:00pm, AH 108
- Instructor:** Bernhard Bodmann, bgb@math.uh.edu
- Office:** PGH 604; W 10-11:30am, Th 9:30-11am
- TA:** Taoufik Meklachi, tmclachi@math.uh.edu
- Objectives:** This course covers functions of a complex variable, complex differentiability and contour integration. Applications include the evaluation of series, convergence of Taylor series, real integrals, some Fourier analysis and solutions of the two-dimensional heat equation.
- Contents:**
- | <i>Topic</i>                        | <i>Approximate Time</i> |
|-------------------------------------|-------------------------|
| Algebra with complex numbers        | 1 week                  |
| Complex functions and analyticity   | 2 weeks                 |
| Contour integrals                   | 2 weeks                 |
| Liouville's theorem and max modulus | 1 week                  |
| Taylor series                       | 1 week                  |
| Residues                            | 2 weeks                 |
| Multi-valued functions              | 1 week                  |
| Fourier analysis                    | 2 weeks                 |
| Conformal mappings                  | 1 week                  |
- Prerequisites:** MATH 3331.
- Text:** E. B. Saff and A. D. Snider, "Fundamentals of Complex Analysis", 3rd edition, Prentice Hall, 2003.
- Exams:** Midterms: October 5 and November 16, 2010; in-class exams. Final exam date and location to be announced by the registrar.
- Assignments:** You will be asked to hand in approximately eight assignments, which will be due on Thursdays in the lecture. Solutions will be posted online.
- Final Grade:** Final exam contributes 30%, midterms 20% each, assignments 30%. All grades are summed and divided by the total number of points you can collect in the course. A percentage of 46% or more is D- , 54% or more is D, 62% or more is C, 70% is B-, 77% is B, 85% or more is A- , of 90% or more is A.