

## MT460: Complex Variables Fall 2015

**Instructor:** Dawei Chen, Maloney 549, [dawei.chen@bc.edu](mailto:dawei.chen@bc.edu)

**Class time and location:** MWF 3–3:50, Gasson 306.

**Office hours:** M 2-3, W 4-5 or by appointment. Walk-in is welcome.

**Textbook:** *Complex Variables* by Joseph Taylor.

**Prerequisites:** Single and multivariable calculus, including differentiation, integration, and infinite series. You should also have some acquaintance with linear algebra and abstract proof methods (proofs by contradiction and induction).

**Course description:** This course gives an introduction to the theory of functions of a complex variable, a fundamental and central area of mathematics. It is intended for mathematics majors and minors, and science majors. Topics include: complex numbers and their properties, analytic functions and the Cauchy-Riemann equations, the logarithm and other elementary functions of a complex variable, integration of complex functions, the Cauchy integral theorem and its consequences, power series representation of analytic functions, the residue theorem and applications to definite integrals. We will cover Chapters 1-3 and selected topics from Chapters 4-6 in the textbook.

**Homework:** Written homework will be assigned and graded weekly. Homework solutions must be submitted in **Tex**. You are encouraged to work together on the homework, but the solutions you hand in should be in your own words.

**Exam:** There will be two midterm exams and a final exam. They will be in-class exams. The final exam will be comprehensive. Tentative dates of the exams:

*Midterms:* Wednesdays, Oct 7 and Nov 18

*Final:* Friday, Dec 18 at 12:30pm.

**Grade:** Your final grade will be based on 20% homework, 20% each midterm, and 40% final.

**Academic integrity:** Many people find discussing problems with others to be the best, easiest, most efficient and most pleasant way to learn mathematics. You are permitted and encouraged to do this!

Nevertheless, you must write up all the homework solutions by yourself only. Copying solutions from someone or somewhere else is not only intellectually dishonest but it also undermines the educational process. If you are caught cheating on a problem set, you will receive **zero** for that set. BC's policy on academic integrity can be found at [www.bc.edu/integrity](http://www.bc.edu/integrity).

**Special need:** If you are a student with a documented disability seeking reasonable accommodations in this course, please contact Kathy Duggan, (617) 552-8093, [dugganka@bc.edu](mailto:dugganka@bc.edu), at the Connors Family Learning Center regarding learning disabilities and ADHD, or Paulette Durrett, (617) 552-3470, [paulette.durrett@bc.edu](mailto:paulette.durrett@bc.edu), in the Disability Services Office regarding all other types of disabilities, including temporary disabilities. Advance notice and appropriate documentation are required for accommodations.