MTH 404 Complex Variables
TTh 4:00pm - 5:15pm Franz 123

INSTRUCTOR INFORMATION
Name: Aaron Wootton Office: BC278
Telephone: 943-7377 Email: wootton@up.edu
Office Hours:
• General Office Hrs: MF 11:00 - 12:00
  F 3:00 - 4:00
• Office Hrs (MTH 404 Only): F 4:00 - 5:00
Course Webpage: http://faculty.up.edu/wootton/Complex/Complex.html

TEXT AND READINGS

RECOMMENDED SOFTWARE
A TeX Program (there are many!), Various Authors, Free, download it from:
http://www.miktex.org/ (windows only)
http://www.latex-project.org/ (most systems)

COMMENTS, CLASS GOALS AND EXPECTATIONS
This is a course in complex variables required for the B.A. and B.S. degrees in mathematics. It is a challenging course in the undergraduate curriculum because it generalizes the ideas of calculus over the real numbers to calculus over the complex numbers. Though most of the material we shall develop will be new, a critical component of the course is drawing from the ideas of single- and multi-variable calculus. That being said, the biggest obstacle many students face in this course is recollection of the relevant prior math knowledge - this includes, but is not limited to, linear algebra and calculus (single and multi-variable)! My suggestion to alleviate this difficulty is to have your old text books and notes handy.

In this course, students will
(1) Develop a thorough understanding of the field of complex numbers
(2) Understand the concept of differentiability of complex valued functions
(3) Understand and use power and Laurent series to describe complex functions
(4) Use the residue theorem and other techniques to evaluate line integrals of complex valued functions
(5) Understand conformal mappings of the extended complex plane and their applications
METHODS OF ASSESSMENT

Course performance objectives are assessed by traditional means: graded homework assignments and examinations. The development of analytical and logical reasoning skills are inherent in the nature of mathematics and assessed in conjunction with the course performance objectives.

Higher order reasoning skills are learned by doing; you must become an active participant in the learning process. I will facilitate your path to meeting the course objectives with:

(1) Lectures to introduce new concepts.
   My lecture style is very informal. In order to generate some class discussion I will often throw out non-rhetorical questions. And you are encouraged to interrupt me with questions.

(2) Homework assignments and formal write-ups.
   The real learning will come from working homework assignments - count on having something due every class period. You are encouraged to work in groups, but you are on your honor not to turn in work you don’t understand. Also, professional courtesy dictates that one acknowledges significant contributions of others. Homework will be assigned from the book and additional questions may also be assigned during class.

   As we move into the semester into more difficult material, some problems may be designated Revise and Resubmit. A correct solution and formal polished write-up will be required, preferably in “TeX” format. I will comment on correctness and style and then return papers to you for revisions. You will revise and resubmit until I am satisfied with the product. (see goals 2 and 3 above).

(3) Examinations
   There will be two midterm examinations and one final examination. The exact dates of the midterms will be determined by the pace of the course though will be announced in class at least one week prior to each. The final exam is scheduled for 4:00-6:00pm Tuesday April 28th.

(4) Quizzes
   In order to assist your learning of the material so you may confidently answer questions without having to refer to the book, in class quizzes will be given at the end of every chapter. The quizzes will ask questions regarding statements of Theorems, important definitions and may also ask for you to present examples of specific objects.

WHERE TO GET HELP

You are welcome to visit my office for help during regular office hours and any “drop by” hours (though I may not be in my office during all drop by hours). Outside of these hours, I am available by appointment, and sometimes when I am not too busy, I may be able to help if you just happen to be passing the office and my door is open.

In addition to office hours, I will try to run the Friday afternoon office hour, 4-5pm, in a seminar style. We shall meet in my office, and if enough people show up, move out to the white boards outside the math department. There we shall discuss problems from the homework and take turns presenting solutions on the boards.
The Friday seminar is not required, but is strongly recommended, especially if you are feeling uncomfortable with the most recent material.

UNIVERSITY OF PORTLAND’S CODE OF ACADEMIC INTEGRITY

Academic integrity is openness and honesty in all scholarly endeavors. The University of Portland is a scholarly community dedicated to the discovery, investigation, and dissemination of truth, and to the development of the whole person. Membership in this community is a privilege, requiring each person to practice academic integrity at its highest level, while expecting and promoting the same in others. Breaches of academic integrity will not be tolerated and will be addressed by the community with all due gravity (taken from the University of Portland’s Code of Academic Integrity).

The complete Code may be found in the 2005-06 University of Portland Student Handbook as well as the Guidelines for Implementation. It is each student’s responsibility to inform himself or herself of the Code and Guidelines.

ACCOMMODATION FOR DISABILITY

If you have a disability and require an accommodation to fully participate in this class, contact the Office for Students with Disabilities (OSWD), located in the University Health Center (503-943-7134), as soon as possible.

FINAL GRADES

The total number of points available on tests, quizzes and homework is 800 - Midterms are 100 pts each, Homework 200 pts, Quizzes 200 pts and Final Exam 200 pts. Grades will be no lower than those set forth in the following table

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<th>Points</th>
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