

MATH 370 Section F12N01

Introductory Complex Variables

Sep - Dec 2012



Time & Location: Tue & Thu 1:00-2:30 in Bldg 360 Rm 323

Instructor: Glen Pugh
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Office Hours: Mon & Tue 2:30-4:00, Fri 1:30-3:00, or by appointment

webpage: <http://web.viu.ca/pughg/Fall2012/math370F12N01>
This page will be updated regularly with announcements, handouts, homework assignments and solutions.

Prerequisite: C+ or better in Math 200, plus 6 or more additional credits of math courses numbered 223 or above (excluding Math 254).

Text: *Fundamentals of Complex Analysis with Applications to Engineering and Science*, third edition, by E.B. Saff and A.D. Snider

Course Outline: This is a first course in complex variables, an extension of calculus to the field of complex numbers (numbers of the form $a+ib$ where a and b are real and i is such that $i^2=-1$). This extension leads to many surprising and deep results in calculus, differential equations and number theory. Topics include

1. Complex Numbers: basic properties and algebra
2. Analytic Functions, derivatives
3. Elementary Functions
4. Complex Integration
5. Series Representations of Analytic Functions
6. Residue Theory

Homework: Six to eight problem sets will be assigned throughout the term. Problem sets will consist of exercises from the text as well as a few from other sources. The homework assignments are worth 30% of your final grade.

Tests: We will have two 75 minute class tests given on the following **Thursdays: Oct 4** and **Nov 8**. Each test is worth 15% of your final grade.

Final Exam: There will be a comprehensive final exam in December worth 40% of your grade. The exam period is Dec 6-17 2010. Travel plans should not be made until the final exam schedule is released, which is one month before exams begin. **In no event will the final exam be rescheduled to accommodate travel plans.**

Grading Summary:

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|------------------|-----|
| Homework: | 30% |
| Class Tests (2): | 30% |
| Final Exam: | 40% |

Grading Scale:

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|------------|-----------|-----------|----------|
| 90-100% A+ | 76-79% B+ | 64-67% C+ | 50-54% D |
| 85-89% A | 72-75% B | 60-63% C | 0-49% F |
| 80-84% A- | 68-71% B- | 55-59% C- | |