MATH 372 – Complex Analysis – Fall 2010

Your Prof: James D. Harper, Ph.D. **Office:** 107C Bouillon
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Office Hours
Tuesday to Friday Noon to 1:00
And by appointment.

Text *Complex Variables & Applications,* 7th edition, by Churchill & Brown

Syllabus Selections from chapters 1 through 8.

Equipment A ruler. Bring it to class everyday.

Grading System

Homework 10%
Homework will be assigned in two categories: "Turn In" and "Self – Study". Turn in homework will be collected once each week, usually on Wednesdays. Your work will be read and commented on. Late homework is discouraged, but will be accepted on rare occasions.

Exams 60%
There will be two in-class exams for your pleasure and enjoyment.
Dates will be announced.

Final Exam 30%
The Final is a comprehensive exam and it will be about 60% longer than our in-class exams.
Wednesday, December 8, 8:00 to 10:00 am.

Grading Scale
A: 90% B: 80% C: 70% D: 60%
Note: A minus grade is "-3%" and a plus grade is "+3%".
E.g., 77% is a B- and 83% is a B+.

Important Dates
Veteran's Day Thursday, November 11
Thanksgiving recess Wednesday, November 24 to Friday, November 26

Course Objectives and Learner Outcomes

Students will be expected to do the following.

- Perform complex number arithmetic in rectangular and polar forms.
- Differentiate the elementary functions
- Compute line integrals
- Compute real integrals using residues and Cauchy's Theorem.
- Compute the Taylor series for a holomorphic function and the radius of convergence of a power series.
- Determine where a region is mapped to under a linear fractional transformation. Conversely, students will be able to define a linear fractional transformation that maps one region to another region.
- Prove a given function is holomorphic using the Cauchy-Riemann equations.

Corresponding with Dr. Harper

It is easier for me to respond to e-mail than to a voice-mail message, especially if you have a technical question or, even, if you just want to set-up an appointment. Generally speaking, the latest I check my e-mail is about 2:00 in the afternoon. (I do *not* have home e-mail service.) Therefore, messages sent after two o'clock will not be read until the next day.