Marshall University
MTH 461 / 641: Complex Variables 2

Semester and Year	Spring 2015
Course Title	Complex Variables 2
Course Number	MTH 461 / 641
Section Number	201
CRN	4174 / 4192
Days and Time	Monday, Wednesday, Friday 2:00 - 2:50pm
Location	Smith Hall 518
Credit Hours	3
Prerequisites	MTH 460 / 640
Professor	Dr. Anna Mummert
Office	Smith Hall 721
Phone	304 696 3041
E-mail	mummerta@marshall.edu
Office Hours	Tuesday and Thursday 1:30 - 3:30pm
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to http://www.marshall.edu/academic-affairs/policies/ Academic Dishonesty, Excused Absence Policy for Undergraduates, Computing Services Acceptable Use, Inclement Weather, Dead Week, Students with Disabilities, Academic Forgiveness, Academic Probation and Suspension, Academic Rights and Responsibilities of Students, Affirmative Action, and Sexual Harassment.

Course Description

Continuation of MTH 460.

Inquiry-based Course

This course requires students to participate actively in class discussions, presentations, and group activities. This will not be a lecture-based course. Students are expected to be actively involved in the process of mathematical inquiry, including investigating, questioning, conjecturing, reasoning, and making mathematical arguments. Students will be required to present clear, concise, well-organized solutions to problems both orally and in written assignments.

Required Texts

Spindler. 2009. A First Course in Undergraduate Complex Analysis. *Journal of Inquiry-Based Learning in Mathematics*. No 15.

Student Learning Outcomes for this course	How students will practice each outcome in this course	How student achievement of each outcome will be assessed in this course
Students will describe the main ideas of the algebra and geometry of the field of complex numbers.	In class presentations, Homework	Exams, Proof portfolio
Students will identify and use analytic functions appropriately.	In class presentations, Homework	Exams, Proof portfolio
Students will compute derivatives and integrals of analytic functions.	In class presentations, Homework	Exams, Proof portfolio
Students will describe the main ideas of Calculus over the field of complex numbers: derivative and integral.	In class presentations, Homework	Exams, Proof portfolio
Students will describe how the main ideas of Calculus over the field of complex numbers are different or similar to Calculus over the field of real numbers.	In class presentations, Homework	Exams, Proof portfolio
Students will compute Taylor and Laurent series of appropriate functions.	In class presentations, Homework	Exams, Proof portfolio
Students will identify and use residues, poles, and zeros, such as required in Cauchy's Residue Theorem.	In class presentations, Homework	Exams, Proof portfolio
Students will learn, write, and present orally the theory of complex variables.	In class presentations, Homework	Exams, Proof portfolio

Presentations

The main structure of the course will be presentations by students following the textbook. Presentations will be graded. A grade rubric for the presentations will be distributed and discussed. Students will know at least the class prior to when they present which examples, problems, or proofs they are responsible for.

Homework

Homework will be assigned nearly every day. Homework problems will be the proofs of theorems from the textbook and will be due in advance of the proof presentation in class.

Proof Portfolio

This course will have a final project instead of a final exam. You will submit a course portfolio at the end of the semester. A rough draft will be due during the semester.

1. Rough draft: Friday, March 13

2. Final draft: Monday, May 4, 12:45pm

Exams

Two in-class exams will be given during the semester.

1. Friday, March 6

2. Friday, April 24

Late Assignment

Late assignments will only be accepted with an Excused Absence – university-sponsored activity, student illness, immediate family emergency, short-term military obligation, jury duty or court appearance, religious holiday. Please read the university policy on how to secure an Excused Absence. Most excused absences are obtained from the Dean of Student Affairs.

Late assignment must be turned in within 1 week after you return to class.

Grading Policy

Any student caught cheating will receive a 0 on the assignment and Academic Affairs will be notified.

Homework: 20%
Presentations: 20%
Exam 1: 20%
Exam 2: 20%
Proof Portfolio: 20%

Percentage ranges for final grades are as follows:

A = 90-100%   B = 80-89%   C = 70-79%   D = 60-69%   F = 0-59%

Attendance Policy

Attendance will be taken every day. Students who arrive late will be considered absent and will not be given extra time on exams.

If you are absent with an Excused Absence, then please secure an Excused Absence immediately.

If you are absent for any reason, then it is your responsibility to make up any missed material.

Calculators and Other Technology

You may use a calculator on all work and assignments in this class. You may not use your phone, iPad, laptop, etc. as a calculator on any quiz or exam.

No other technology may be used in class without permission.

Course Webpage

All important course information will be posted on our class MUOnline page.

University Schedule

The complete university schedule can be found at

www.marshall.edu/calendar/academic/spring2015.asp