

**Marshall University**  
**Math 640: Complex Variables I**

<b>Course Title/Number</b>	MTH 640 CRN: 4169
<b>Semester/Year</b>	Spring 2017
<b>Days/Time</b>	MWF 3-3:50 PM
<b>Location</b>	SH 513
<b>Instructor</b>	Dr. Elizabeth Niese
<b>Office</b>	Smith Hall 721
<b>Phone</b>	(304)696-3609
<b>Email</b>	niese@marshall.edu
<b>Office Hours</b>	<b>Mondays &amp; Wednesdays 9:00 AM - 9:50 AM, 2:00-2:50 PM, Tuesdays &amp; Thursdays 11:00 AM- 12:00 PM</b> If you can't make my scheduled office hours, please make an appointment for another time. To make an appointment, please email 24 hours in advance when possible.
<b>University Policies</b>	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to <a href="http://www.marshall.edu/academic-affairs">http://www.marshall.edu/academic-affairs</a> and clicking on "Marshall University Policies." Or, you can access the policies directly by going to <a href="http://www.marshall.edu/academic-affairs/?page_id=802">http://www.marshall.edu/academic-affairs/?page_id=802</a> 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/ Sexual Harassment

**Course Webpage**

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

**Required Text:** *Complex Analysis* by Theodore W. Gamelin, Undergraduate Texts in Mathematics, Springer  
ISBN: 0387950699.

**Technology**

Cell phones may not be used in class for texting or other social media.

<b>Student Learning Outcomes</b> 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 activities, Homework	Exams, Paper
Students will identify and use analytic functions appropriately	In class activities, Homework	Exams
Students will compute derivatives and integrals of analytic functions	In class activities, Homework	Exams
Students will prove basic results in complex analysis	In class activities, Homework	Exams
Students will compute Taylor and Laurent series of appropriate functions	In class activities, Homework	Exams
Students will identify and use residues, poles, and zeros.	In class activities, Homework	Exams

### **Course Requirements:**

**Reading & In-class discussion:** You will be assigned readings to prepare for most class meetings. These readings will form the basis for our class discussions and activities.

**Homework:** Weekly problem sets will be assigned for the purpose of practicing course content. Each problem will be graded on a 5 point scale:

5 Points: All mathematical arguments are correct. No more than 2 typographical/minor grammatical errors.

4 Points: All mathematical arguments are correct. Grammatical & typographical errors do not impede understanding.

3 Points: Most mathematical arguments are correct.

2 Points: Significant mathematical errors are present, but the arguments show some understanding.

1 Point: Incorrect techniques are used and little understanding of the problem is evident.

Any proof receiving a score between 1 and 3 may be redone (to earn up to a 4) within one week. Both the original and corrected proof must be submitted.

To complete problem sets you may consult your notes, your textbook, other textbooks, scholarly papers, classmates, and your professor. Please note any sources (including classmates) that you have used outside of your assigned textbook, notes, and office hours. The work you turn in should represent your own understanding. Copying from other sources (including classmates) is strictly prohibited and constitutes academic dishonesty.

**Comparison Paper:** Throughout the semester you will write a paper comparing main ideas in real and complex analysis. Further details will be given in class and posted on MUOnline.

**Midterm Exams:** There will be two midterm exams. Date for the exams are tentatively February 17 and April 7.

**Final Exam:** Your final course assessment will be a written final exam. The exam will take place on Monday May 1 from 3-5 pm.

**Grading Policy:**

Your final course grade will be calculated as follows:

<b>Paper:</b>	10%	> 90%	<b>A</b>
<b>Midterm 1:</b>	20%	80% – 89%	<b>B</b>
<b>Midterm 2:</b>	20%	70% – 79%	<b>C</b>
<b>Homework:</b>	30%	60% – 69%	<b>D</b>
<b>Final Exam:</b>	20%	< 60%	<b>F</b>

**Attendance Policy:**

Attendance at all scheduled class times is expected. Make-up tests will only be given in the event of an excused absence. If you know in advance that you will be absent, please make arrangements to take the test early if possible. If you are ill and cannot make it to class, it is courteous to send me an email notifying me. You are responsible for all material missed and should try to get a copy of a classmate's notes.

**Tentative Schedule:**

- Week 1: Chapter 1
- Week 2: Chapter 1,2
- Week 3: Chapter 2
- Week 4: Chapter 3
- Week 5: Chapter 4
- Week 6: Midterm 1, Chapter 4
- Week 7: Chapter 4
- Week 8: Chapter 5
- Week 9: Chapter 5
- Week 10: Chapter 6
- Week 11: Chapter 6
- Week 12: Midterm, Chapter 7
- Week 13: Chapter 8,9
- Week 14: Chapter 11
- Week 15: TBA