

Marshall University
MTH 650 : Real Variables

Semester and Year	Fall 2017
Course Title	Real Variables
Course Number	MTH 650
Section Number	101
CRN	3211
Days and Time	Monday, Wednesday, Friday : 10:00 – 10:50am
Location	Waec 3119
Credit Hours	3
Prerequisites	MTH 528

Professor	Dr. Anna Mummert
Office	Smith Hall 719
Phone	304 696 3041
E-mail	mummerta@marshall.edu
Office Hours	Monday and Wednesday 2:00 - 4:00pm; other hours by appointment

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 Absences, Computing Services Acceptable Use, Inclement Weather, Dead Week, Students with Disabilities, Academic Dismissal, Academic Forgiveness, Academic Probation and Suspension, Affirmative Action, and Sexual Harassment.

Course Description

MTH 650 - Real Variables. A study of measure and integration and related topics. 3 hours.

Course Learning Outcomes

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 provide examples for and prove results of the theory of measures, measurable functions, and integration	In class activities, Homework	Exams, Portfolio
Students will develop oral and written communication skills, including revision	In class activities, Homework	Exams, Portfolio

Required Text

Capinski and Kopp. 2004. *Measure, Integral and Probability*. Second edition. Springer.

Homework

Homework will be assigned regularly.

You can work with other students on homework, though each person must submit their own solutions. Every class day will begin with time to discuss problems you are having with the homework questions.

Portfolio

You will submit a course portfolio at the end of the semester, consisting of selected problems that you complete. A first draft will be due during the semester.

- Draft due – Friday, October 13
- Final portfolio due – Friday, December 1

Exams

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

1. Friday, September 29
2. Friday, November 17

Final Exam

You will take an oral final exam during our final exam period

- Monday, December 11, 10:15am - 12:15pm

Late Assignments

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. Students must provide evidence to justify a University Excused Absence on the first day you return to class.

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

Grading Policy

Homework: 20%

In-class Exams: 20% each

Portfolio: 20%

Final Exam: 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 is mandatory. 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 provide evidence to justify a University Excused Absence on the first day you return to class.

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. A graphing calculator (e.g. TI-84) is not required. 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.

Course topics

In this class we will do a quick but careful study of the main ideas in measure theory. We will touch on all chapters of the text.

Lebesgue measure – measurable sets, measurable functions; Relation of measure to probability theory; Integration and integrable functions; L^2 spaces and completeness; Product measures; Relation between measures (Radon-Nikodym theorem); Modes of convergence

University Schedule

The complete university schedule can be found at

www.marshall.edu/calendar/academic/fall2017.asp