Math 556 Advanced Calculus II, Syllabus

Spring 2016

Instructor  Dr. Gerard Buskes, Hume Hall 105, 915-7425, e-mail: mmbuskes@olemiss.edu

Time and location

MWF 12:00-12:50, Hume 201

Coursework Materials

Textbook: Introduction to real analysis, Methods of Real Analysis by R. Goldberg, Chapters 4, 5, 6, and 9.

Goals of the class

Much of the course is connecting the skills that you have learned in an introduction to mathematics course like Math 305 towards a solid foundation under your calculus knowledge. This process started with Math 555, but in addition to the real numbers, we will expand the scope by using metric spaces. This will facilitate to underpin what you have learned in multivariable calculus. There still will be a lot of attention to ”theorem proving”, the structure of the real numbers, and the fundamental theorems that you saw in calculus. Important for this class is not only that you understand all the material but also that you become independent in writing mathematics and calculus proofs. The three main goals of the class: understand the inner workings of calculus, be able to write proofs in calculus, and start to become an independent thinker.

Grading:

The components towards your grade are as follows

- Homework and participation  20%
- 2 midterm exams 20% and 25%
- Final Exam 35%

(Note: Missed Exams or Homework receive a zero score. More than two absences will lower your grade).

Grades for the class will be assigned as follows:

- 90-100 A
- 80-89 B
- 70-79 C
- 60-69 D
- <60 F

First Test: Mar 3
Second Test: April 14

Tentative Schedule:

- One week for Review of Math 555
- Three weeks for Chapter 5
- Three weeks for Chapter 6
- Four Weeks for Chapter 9