

## PMATH 451: MEASURE AND INTEGRATION

VERN I. PAULSEN

This is an advanced course in measure and integration. It will be assumed that students have taken PMath 450. We will cover general measure theory and integration.

Grades will be based on weekly homework assignments, a midterm exam and a final exam.

The course will be based on the instructors lecture notes.

Some potential supplementary texts:

**G. B. Folland, “Real Analysis: Modern Techniques and Their Applications”, Wiley-Interscience.**

This book has everything and if you are planning on being a graduate student in analysis, it belongs on your bookshelf. But it is a very difficult read—almost every theorem is stated in the most general case. Which is why it is good for the shelf but hard to learn from.

**H. L. Royden, “Real Analysis”, MacMillan.**

This is a much gentler book, good for learning from, but a bad reference. Almost every theorem is stated twice, once for Lebesgue measure and a second time for general measures. Contains a nice introduction to set theory.

**R.G. Bartle, “The Elements of Integration and Lebesgue Measure”, Wiley.**

This classic book is very readable. Good for getting an overview of the area and how things are related, but very limited in its scope.