Math 631 – Theory of Functions of a Real Variable – Fall 2011 – Syllabus

1 Professor and contact information

Professor: David Ross
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Office Hours: See website

The telephone is not a good way to reach me, best is always email.
I should be around most of the day MWF, and occasionally TTh.

Topics: Lebesgue measure and integral, convergence of integrals, functions of bounded variation, Lebesgue-Stieltjes integral and more general theory of measure and integration. (These topics are covered in the year sequence 631-632.)

Text: Real Analysis (2nd Edition) by Gerald B. Folland

Coverage: Chapters 0-7, then some selection of the remaining chapters. (This is for the whole year.) I will also cover some other topics which (a) are not in the text, (b) every analysis student should know, and (c) will make some of the topics go faster.

Other Books: I will freely use material from other textbooks, such as those by Rudin, Royden, Natanson, Bartle, and others.

Attendance: Mandatory, though I will not take roll. You are responsible for everything we do in class, even on days you do not attend.
2 Grades

Homework: The grade will be 60% from homework sets, 40% from exams. I will not ask you to turn in every problem I assign; on the other hand, for some of the problems I will want you to write solutions out very thoroughly, as if you were writing a textbook.

Participation: This will be an essential part of the class. The form this will take will be determined when I know how large the class is.

Exams: there will be a midterm and a final exam. I will give these mainly as checks on the homework and participation. They will be open book and open notes.

3 Policies

Make-up work Make-up exams will only be given in very unusual circumstances, with one week prior notification (or, in the event of an emergency, "very" strong documentation of that emergency).

Late Papers I reserve the option to not grade or otherwise count these.

Cheating The distinction between working together ("collaboration") and copying from one another ("cheating") is a subtle one. Cheating on the final examination will not be tolerated in this class. It is the student’s responsibility to ensure that (s)he does not copy from another student, or let another student copy from him or her. Because homework comprises a large fraction of the semester grade, collaboration there is discouraged as well. If two students genuinely work together on a problem, their written solution should be sufficiently different to make it clear that each understands the solution. One student should never give an answer to another, though hints as to a solution might be OK.