Syllabus for Math 516, Real Analysis II
Spring Semester, 2017

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Class Homepage: http://www.public.iastate.edu/~esweber/Math516/ This page will contain a copy of this syllabus, a detailed calendar of the semester’s material, and links to other relevant information.

Course Description: MATH 516: Real Analysis II (3-0) Cr. 3 S. Prereq: MATH 515. Metric spaces, topological spaces, compactness, abstract theory of measure and integral, differentiation of measures, Banach spaces.


Course Objectives: Students will have working knowledge of the following topics:
1. theory of abstract measures and integration;
2. measures from premeasures, Caratheodory extension theorem;
3. product measures, Fubini-Tonelli theorems;
4. decomposition and differentiation of measures;
5. Baire category.

Grading: Grade percentages breaks down as follows:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percentage</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm</td>
<td>20%</td>
<td>Mar. 3</td>
</tr>
<tr>
<td>Final</td>
<td>40%</td>
<td>May 1</td>
</tr>
<tr>
<td>Homework</td>
<td>40%</td>
<td>Daily</td>
</tr>
</tbody>
</table>

The following overall percentages will assure you of the associated letter grade: 90%: A; 80%: B; 70%: C; 60%: D. There may be a curve at the end of the semester.

Exams: There will be one midterm exam and a comprehensive final. Exams may be in class, take home, or consist of both. I expect that on any take home exam, no collaboration with classmates will occur.

Homework: One problem will be assigned during (most) every lecture. The problem is due at the beginning of the following lecture. Each individual assignment is worth two points; one point will be awarded for turning the assignment in on time, and a second point for correctly solving the problem. I expect you to turn in a first attempt on time; however, the emphasis here is on correctness of your work. Thus, you will be able to make revisions and turn in the problem a second time to earn a second point, if correct. Every submission must contain your name and the date the problem was originally assigned. The homework schedule will continue through dead-week.
**Academic Dishonesty:** Academic dishonesty is very serious. Any case of cheating, plagiarism, etc, will be handled as described in the Student Disciplinary Regulations.

**Disability Policy:** Please address any special needs or special accommodations with me at the beginning of the semester or as soon as you become aware of your needs. Those seeking accommodations based on disabilities should obtain a Student Academic Accommodation Request (SAAR) form from the Disability Resources (DR) office (515-294-6624). DR is located on the main floor of the Student Services Building, Room 1076.

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