Measure and Integration, Math 776, Spring 2020

Lecturer: Dr. E. Sander, Exploratory Hall, Rm 4408, *esander@gmu.edu*

Lectures: Tuesdays and Thursdays 5:55 pm - 7:10 pm, Exploratory Hall 4106

Office hours: Tuesdays and Thursdays 4:45-5:45.

Textbook: *Measure Theory* by Donald Cohn, Second Edition, Birkhäuser, 2013.

Other references:

- *Real Analysis*, Halsey Royden
- *Probability Theory* and *Measure and Integration Theory*, Heinz Bauer
- *Probability and Measure*, Patrick Billingsley
- *Measure and Integral*, Wheeden and Sygmund
- *Real and Complex Analysis* and *Functional Analysis*, Walter Rudin

Prerequisite: A grade of B or better in MATH 675 (Linear Analysis) or equivalent.

Course description: This course covers measures, integration, and the theory of L^p spaces. The (tentative) schedule below gives a more detailed list of topics.

Grading: Your grade will be based on homework assignments (32%), a midterm (32%), a final exam (32%), and attendance/participation (4%).

Test Dates

- Midterm: Thursday March 5
- Final Exam: Thurs. 5/7 4:30 pm - 7:15 pm (per official university schedule).

Homework: Homework will be posted on blackboard. Since written assignments are a vital part of this course, here are some standard guidelines for turning in homework (which would apply equally well to any subject).

1. Turn your homework in on time.
2. Staple your homework together. No loose pages, paper clips or binder clips.
3. Write the answer to each problem on a separate sheet of fresh paper. Turn in your problems in order.
4. Review your answers for clarity and correctness before handing them in. This includes writing in *clear complete sentences using correct spelling and grammar*. Do not hand in your scratch work. Rewrite your answers neatly.
5. Please do not adopt the attitude that says, "I don't really understand how to do this problem, so I will take a shot and see if I get any points." I am always willing to give hints if you are having trouble with any particular assignment.

Honor Code

- You may discuss homework problems with others. However, the writeup must be entirely your own. This means that prior to handing it in *you do not show anyone your written assignment, nor do you look at anyone else's writeup*.
- You may use sources other than the textbook to help you with your assignment, but then you must cite these sources.
- No collaboration of any kind is permitted on exams.
- Any violations will be brought ot the Honor Committee and result in a grade of F for all individuals involved. See The GMU Honor Code.

General Remarks: Please be considerate of other students in the class.

- Turn your cell phones off before entering the classroom.
- Please get to class on time. If you must arrive late or leave early sit near the door to minimize the distraction.

- When needed, accommodations can be made through the Office of Disability Services. See me if this is relevant.
- In order to help ensure the privacy of communications with students, faculty and students need to use their Mason email accounts when corresponding with each other.

Course Schedule

This schedule is very highly tentative. It will be updated here and announced on Blackboard.

Week	Dates of Week	Lecture Sections Covered	Due Dates
1	1/20-1/26	1.1-3	
2	1/27-2/2	1.4-6	
3	2/3-2/9	2.1-3	H1 Due 2/4
4	2/10-2/16	2.4-6	
5	2/17-2/23	3.1-3	H2 Due 2/18
6	2/24-3/1	3.4-5, 4.1	H3 Due 2/27
7	3/2-3/8	Midterm on Thursday March 5: Covering all material up to the end of Week 6.	
8	3/9-3/15	**Spring Break**	
9	3/16-3/22	4.2-4	H4 Due 3/19
10	3/23-3/29	4.4, 5.1,2	
11	3/30-4/5	6.1-3	H5 Due 4/2
12	4/6-4/12	7.1-3	
13	4/13-4/19	7.4-6	H6 Due 4/16
14	4/20-4/26	Applications	
15	4/27-5/3	Review	H7 Due 4/30
Fin	5/7	**Final Exam Thurs. 5/7 4:30 am - 7:15 pm**	
