

MAT 544, Stony Brook University, Fall 2014

This version is subject to change. Check for updates throughout semester

Times and places:

Lectures: TuTh 1:00-2:20 Physics 129, Prof. C. Bishop

Text: *Real Analysis*, Gerald Folland, 2nd edition, Wiley.

Class Webpage: <http://www.math.sunysb.edu/~bishop/classes/math544.F14>

Tentative Schedule: The table lists the sections we will cover in each lecture. Revisions may be made during the semester. Homework is due the week before the chapter exam.

WEEK	STARTING	TUESDAY	THURSDAY
1	Aug 25	FIRST CLASS	0.1-0.6
2	Sept 1	NO CLASS	1.1, 1.2
3	Sept 8	1.3	1.4
4	Sept 15	1.5	2.1
5	Sept 22	2.2	2.3
6	Sept 29	2.4	2.5
7	Oct 6		2.6
8	Oct 13	3.1	3.2
9	Oct 20	3.3	MIDTERM (Chapters 1 and 2)
10	Oct 27	3.4	3.5
12	Nov 3	3.5	4.6
13	Nov 10	4.7	5.1
14	Nov 17	5.2	5.3
15	Nov 24		NO CLASS
16	Dec 1	5.4	5.5

Important Dates:

August 26: first day of class

Sept 1, 2 : Labor Day, no class

Oct 24: last day to withdraw from a course with a W

Nov 26-30: Thanksgiving break, no class

Dec 6: last class

Dec 15: MAT 544 Final Exam, 5:30pm-8:00pm

Grades: Homework, a midterm and a final will each count for a third of the grade.

Homework: Problems will be assigned from most sections. Homework is due at lecture on Tuesdays; see dates below (these may be altered depending on our progress).

Section	Topic	Due	Homework problems
0	Prerequisites		handout
1.2	Sigma fields		3,4,5
1.3	Measures		8,9,10,12,13,14
1.4	Outer measures		17,18,19
1.5	Borel measures		29,30,31,33
2.1	Measurable functions		2,3,4,7,9
2.2	Integration, positive		13,14,15,16
2.3	Integration, complex		19,20,21,25
2.4	Modes of convergence		33,34,36,38,39,44
2.5	Product measures		46,47,48,50
2.6	n -dim Lebesgue measure		60,61
2.7	Polar coordinates		
3.1	Signed measures		2,3,6
3.2	Radon-Nikodym theorem		9,11,13,17
3.3	Complex measures		
3.4	Differentiation		22,23,25
3.5	Bounded variation		30,31,33,35,37,40,41
4.6	Arzelà-Ascoli		59,60,64,65
4.7	Stone-Weierstrass		66,68,69,70
5.1	Normed vector spaces		4,6,8,9,11,12
5.2	Linear functionals		18,19,22,25
5.3	Baire Category		27,30,32,36,38,39
5.4	Topological vector spaces		45,47,48,51
5.5	Hilbert spaces		55,56,58,63,66

Contact information and office hours:

Prof. Bishop: Math 4-112, TuTh 11:30-1am, bishop@math.sunysb.edu

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