

Measure Theory
Math 543 – Lecture Q1
January – April 2011

Time and Place: W 2:00 – 4:50 in CAB 457.

Instructor: Alexander Litvak

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Homepage: <http://www.math.ualberta.ca/~alexandr/>

Office Hours: By appointment

Recommended books (no textbook needed):

1. P. R. Halmos, *Measure Theory*, Springer Verlag, 1974,
2. D. L. Cohn, *Measure Theory*, Birkhäuser, 1985.
3. G. B. Folland, *Real Analysis. Modern techniques and their applications*, NY Wiley, 1999.
4. R.M. Dudley, *Real Analysis and Probability*, Wadsworth & Brooks/Cole, 1989.

Prerequisite: Math 418 or equivalent.

Topics to be covered: Abstract measures. Integration. L_p spaces. Radon-Nikodym theorem. Hahn and Lebesgue decomposition theorems. Product measures. Fubini's theorem.

Grading Policy:

Your course grade will be based upon your marks in examinations and assignments weighted as follows:

50%	Final (TBA)
30%	Midterm (TBA)
20%	Assignments

Assignments: Homework problems will be assigned biweekly. They will be posted on my webpage. **Please note**, late assignments will not be accepted. **The solutions** will also be posted at my homepage. I **strongly recommend** that you do all the drill problems (exercises) that will be given each lecture.

Dates: First Class: Jan. 11; Reading week: Feb. 21–25; Last class: Apr. 13.

University regulations: Policy about course outlines can be found in Section 23.4(2) of the University Calendar. The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (online at www.ualberta.ca/secretariat/appeals.htm) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.