

# STAT 7060: Advanced Probability Theory, Fall 2014 (A01)

## Tentative Course Outline

**Instructor:** Brad Johnson  
**Office:** 322 Machray Hall  
**E-mail:** brad.johnson@umanitoba.ca (**Note:** I will only respond to e-mail from UManNet ID's)

**Class-time:** Tu./Th. 11:30 a.m. – 12:45 p.m. (316 Machray Hall)  
**Office hours:** Open door policy (or by appointment)  
**Website:** umanitoba.ca/d2l

**General Description:** Selected topics from probability theory, including: probability as measure, events, random variables, independence, integration and expectation, convergence and conditional expectation.

**Prerequisite(s):** Consent of the instructor.

**Textbook:** RESNICK, S. I. 2005. *A Probability Path*. Birkhäuser Boston Inc., 5th printing. (Also on 2 hour reserve in the Science Library)

**Suggested Resources:** The \*'s ones are on 3 hour reserve in the Science Library. Note also that there are a number of probability theory books available through the Library's Springer E-book subscription.

\*ASH, R. B. 2000. *Probability and measure theory*. Harcourt/Academic Press, second edition. With contributions by Catherine Doléans-Dade.

\*BILLINGSLEY, P. 1995. *Probability and measure*. John Wiley & Sons Inc., third edition.

CHUNG, K. L. 2001. *A course in probability theory*. Academic Press Inc., third edition.

DURRETT, R. 2005. *Probability: theory and examples*. Duxbury Press, third edition.

\*JACOD, J. AND PROTTER, P. 2003. *Probability essentials*. Universitext. Springer-Verlag, second edition.

KLENKE, A. 2008. *Probability theory*. Universitext. Springer-Verlag London Ltd., London. A comprehensive course. (*Available as a Springer E-book through the Library*).

ROSENTHAL, J. S. 2006. *A first look at rigorous probability theory*. World Scientific Publishing Co. Pte. Ltd., second edition.

\*WILLIAMS, D. 1991. *Probability with martingales*. Cambridge Mathematical Textbooks. Cambridge University Press.

<b>Grading Scheme:</b>	Mid-term Test	30%	(Date/Time to be announced)
	Assignments	20%	(Approximately 4)
	Final Exam	50%	(Date/Time to be announced)
	Total	100%	

**Academic Dishonesty:** It is important that you understand what constitutes academic dishonesty and that you are familiar with the very serious consequences. Please be familiar with the information contained in the *General Academic Regulations* » *Academic Integrity* section of the Academic Calendar (see <http://umanitoba.ca/calendar>). The Faculty of Science home page at [www.umanitoba.ca/science](http://www.umanitoba.ca/science) also contains links regarding academic and disciplinary matters (under *Undergraduate Studies*).