

# STAT 7360: Markov Chain Techniques, Winter 2018 (T10)

## Tentative Course Outline

**Instructor:** Brad Johnson  
**Office:** 375 Machray Hall  
**E-mail:** brad.johnson@umanitoba.ca (**Note:** I will only respond to e-mail from UMNNet ID's)

**Class-time:** TTh 1:00 p.m. – 2:15 p.m. (419 Machray Hall ??)  
**Office hours:** Open door policy (or by appointment)  
**Website:** umanitoba.ca/d2l

**General Description:** Topics relating to finite Markov chain analysis will be discussed, including basic results for Markov chains, ergodicity, absorbing chains, fundamental matrices, stochastic complements, generalized group inverses, random walk centrality and more. The emphasis will be on practical applications and implementation in R. More advanced reading will be available to those interested in the gory details.

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

**Textbook:** There is no assigned textbook for this course. We will be working from class notes and selected papers.

**Evaluation:** Evaluation will be through a series of assignments (approximately 3), each of equal weight.

**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*).