STA447/STA2006 - Stochastic Processes
University of Toronto Winter 2014

Lectures: Thursday 6-9pm at SS1087
Instructor: Gun Ho Jang
e-mail: gunho@utstat.toronto.edu Put 'STA447' or 'STA2006' in subjects
Web page: http://www.utstat.toronto.edu/ghjang/teaching/sta447.php
Office: SS6025
Office Hours: Thursday 4-5pm or by appointments.

Course Description
This course will introduce some fundamental stochastic processes used in various
disciplines including statistics, mathematics and engineering. Topics covered:
discrete time Markov chain, Poisson and renewal processes, Martingale, Brownian
motion and diffusion processes, related limit theorems.

Prerequisite
Probability theory equivalent to STA347; Analysis equivalent to MAT257; Multi-
variate calculus similar to MAT235/MAT237.

Textbook

References
P. Bremaud (2008). Markov Chains: Gibbs Fields, Monte Carlo Simulation, and
Queues. Springer.
Press, 4th ed.

Evaluation

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<th>proportion</th>
<th>date, time and location</th>
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<tbody>
<tr>
<td>Assignments</td>
<td>20%</td>
<td>6 sets</td>
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<td>Mid-term test</td>
<td>35%</td>
<td>Thu February 13 between 6-9pm. Location TBA</td>
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<td>Final exam</td>
<td>45%</td>
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Sta457H1 S 2014 Course Information

This course is an introduction to Time Series with applications to sciences and economics. This course is designed for senior undergraduate students and graduate students of statistics and other related disciplines.

Instructor Zhou Zhou, Office: SS6026B.
Phone: (416) 978-4032.
Email: zhou@utstat.toronto.edu (The best way to reach me is via email).
Office Hours: Fridays 1:00pm to 3:00pm at SS6026B.

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Eric Chan Email: ericct.chan@mail.utoronto.ca.
TA office hours: TBA.

Lectures Tuesdays 6pm to 9pm; from January 7th to April 2nd, except for the second week (Jan. 14th) and the reading week (Feb. 18th). Held in MP103.


Computing There will be some computing exercises, in the R or ITSM language. R can be downloaded and installed for free at www.r-project.org. You can also find an introduction to R at the latter website. CD of ITSM2000 is included in the textbook. There is a tutorial of ITSM at Appendix D of the textbook.
Evaluation  Final exam: 55% (Scheduled by the Faculty) Cumulative.
    Mid-term test: 35% (Feb. 25th 6-8pm in class)
    There will be no make-up midterms. If you have to miss the midterm, weights will
    be shifted to the final exam with valid evidences for absence.
    HWs: 5% Three times. The lowest HW score will be dropped.
    Data Analysis Report: 5%.

Syllabus  Weeks 1 and 3: Chapter 1.
    Weeks 3 and 4: Chapter 2.
    Weeks 5 and 6: Chapter 3.
    Week 7: Midterm. Includes first three chapters.
    Week 8: Chapter 4.
    Weeks 9 and 10: Chapter 5.
    Weeks 10 and 11: Chapter 6.
    Week 12: Chapter 10.3.

I will also cover some other topics regarding computer applications, and introduce
you to the R language. Information on these topics will be provided by hardcopy
handouts or on the web.