

## STAT 4200: Statistical Inference II (Winter 2014)

<b>Instructor</b>	Dr. Liqun Wang Office: 332 Machray Hall; Phone: 204-474-6270 Email: liqun.wang@umanitoba.ca									
<b>Lectures</b>	Monday/Wednesday: 1:00 pm - 2:15 pm, room 316 MH									
<b>Tutorial</b>	Friday: 1:00 pm - 2:15 pm, room 316 MH									
<b>Office hours</b>	Monday/Wednesday: 2:30 pm - 3:30 pm									
<b>Marking scheme</b>	The final grade will consist of two tests and one final exam. Their weights and tentative schedules are given below. The tests will be written during the class. <table><tr><td>Test #1</td><td>25%</td><td>February 5, 2014</td></tr><tr><td>Test #2</td><td>25%</td><td>March 10, 2014</td></tr><tr><td>Final Exam</td><td>50%</td><td>Scheduled by university.</td></tr></table>	Test #1	25%	February 5, 2014	Test #2	25%	March 10, 2014	Final Exam	50%	Scheduled by university.
Test #1	25%	February 5, 2014								
Test #2	25%	March 10, 2014								
Final Exam	50%	Scheduled by university.								
<b>Homework</b>	There will be no formal assignments. Supplementary problems will be given in the class but they are not to be handed in for credits.									
<b>Textbook</b>	G Casella, RL Berger: <i>Statistical Inference</i> . 2 <sup>nd</sup> ed. Brooks/Cole, 2002.									
<b>References</b>	RV Hogg, JW McKean, AT Craig: <i>Introduction to Mathematical Statistics</i> . 7 <sup>th</sup> ed. Pearson, 2013.  EL Lehmann, JP Romano: <i>Testing Statistical Hypotheses</i> . 3rd ed. Springer, 2005.									

### Topics:

1. Interval estimation, coverage probabilities
2. Pivotal quantity method, large sample intervals
3. Bayesian interval estimation
4. Hypotheses tests, Type I and type II errors, power function
5. Uniformly most powerful tests, Neyman-Pearson lemma
6. Likelihood ratio tests, large sample tests
7. Bayesian tests
8. Additional topics (as time permits)

**Academic Dishonesty:** I wish to draw your attention to the sections in *The University of Manitoba Undergraduate Calendar* dealing with academic integrity, including plagiarism, cheating and examination impersonation.

**Important note from the Faculty of Science:**

It is your responsibility to insure that you are entitled to be registered in this course. This means that you have:

- the appropriate prerequisites, as noted in the calendar description, or have permission from the instructor to waive these prerequisites;
- not previously taken, or are concurrently registered in, this course and another that has been identified as "not to be held with" in the course description. For example, BIOL 1000 cannot be held for credit with BIOL 1020.

The registration system may have allowed you to register in this course, but it is your responsibility to check. If you are not entitled to be in this course, you will be withdrawn, or the course may not be used in your degree program. There will be no fee adjustment. This is not appealable. Please be sure to read the course description for this and every course in which you are registered.