## University of Manitoba Department of Statistics

# STAT 3800 A01, CRN 21618 Mathematical Statistics Winter Term 2016

**Instructor** Dr. Xikui Wang, Professor and Head

Office: 318 Machray Hall (Phone: 204 – 474 8172)

E-mail: xikui.wang@umanitoba.ca

Web: http://home.cc.umanitoba.ca/~wangx1

**Lecture Schedule** 

11:30 am – 12:20 pm, Mon./Wed./Fri., January 6 – April 8, 2016

**Lecture Room** 111 Armes

Tutorial Schedule Tutorial Room 2:30 pm – 3:45 pm, Mondays, January 11 – April 4, 2016

201 St. John's College

**Office Hours** Tue./Wed./Thur. 1:30 pm - 2:30 pm, or by appointment

**Course Web** Teaching materials, if any, are posted on the UM Learn website

**Description** Multivariate distributions and transformations, conditioning, transforms,

order statistics, multivariate normal distribution, sampling distributions,

convergence, introduction to statistical inference. Not to be held with the former STAT 3600 (005.360).

Prerequisite: STAT 3400 or the former STAT 3500 (005.350) (C).

Prerequisite or co-requisite of MATH 2720 (or 2721) or MATH 2730 (or

2731), whichever not yet taken.

**Textbook** An Intermediate Course in Probability, 2<sup>nd</sup> edition, Allan Gut, Springer,

2009 (Available for free on Springer online through the library)

**References** 1. A Course in Probability, N. A. Weiss, Pearson 2006 (STAT 3400 text)

2. L. M. Leemis (1986) Relationships among common univariate

distributions, The American Statistician 40, 143 – 146

3. L. M. Leemis and J. T. McQueston (2008) Univariate distribution

relationships, *The American Statistician* 62, 45 – 53

**UM Libraries** Go to http://umanitoba.ca/libraries/ and click "Sign In to My Account"

Add the above titles under "One Stop Search" and download

Grading Two Midterm Tests (25% for each test) 50%

Final Exam (3 hours, time/place TBA by the Registrar's office) 50%

**Practice** 1. "Practice, Practice" is the gold rule for learning statistics.

2. There are no assignments to be handed in for grading. However, lists of

practice problems (some taken from the textbook) will be provided.

During the tutorials, the TA will demonstrate solutions to some problems.

Each midterm test and the final exam will ask for at least two problems taken from these lists, in original or slightly modified form.

### **Tests and Exam**

- 1. The midterm tests and the final exam are closed book. No formula sheet will be provided.
- 2. The two midterm tests are scheduled for Monday, <u>February 8, 2016</u> and Monday, <u>March 14, 2016</u>, between 2:30 and 4:00 pm (i.e. during the tutorials). Both tests are scheduled to take place in <u>201 St. John's College</u>. *Make-up midterm tests will not be scheduled*.
- 3. Should you miss one test, you will be given a mark of zero unless you provide a legitimate excuse with acceptable documentation and notify me within 48 hours of the scheduled test (before or after), by phone or e-mail. The other test and the final exam would then respectively count for 25% and 75% of your final mark. Should you miss both tests with legitimate excuses and proper documents, your final exam will be 100%.
- 4. Students who miss midterm tests, with or without valid documentation, will be reported to the Dean's office as having incomplete term work. This could have repercussions on their ability to write a deferred exam for the course, should such a deferral be requested.

#### **Tutorials**

- 1. Attendance of tutorials is not mandatory but strongly recommended. However the two midterm tests take place during the tutorials.
- 2. During the tutorials, the TA will solve some selected problems and answer your questions. If needed, a tutorial may be replaced by a lecture.

# Academic dishonesty

It is important that you understand what constitutes academic dishonesty and that you are familiar with the very serious consequences. Links to resources that describe academic dishonesty can be found at:

http://www.umanitoba.ca/faculties/science/undergrad/resources/webdiscip

line documents. html

or through the Faculty of Science home page at http://www.umanitoba.ca/faculties/science

Typical penalties imposed within the Faculty of Science for academic dishonesty are also described.

## **Important Dates**

January 6, 2016: First lecture

January 11, 2016: First tutorial

January 13, 2016: Fee payment deadline

January 19, 2016: Late registration/Registration revision deadline

February 8, 2016: Midterm Test One

February 15 – 19, 2016: Midterm Break – no lectures and no tutorial

March 14, 2016: Midterm Test Two

March 18, 2016: Voluntary withdrawal deadline March 25, 2016: Good Friday holiday – no lecture

April 4, 2016: Last tutorial April 8, 2016: Last lecture

April 11 - 25, 2016: Final exam period

May 24 – June 13, 2016: Final grade appeal period