Probability and Statistics I

SS 2857A, Sections 001 & 003

Fall 2017 - Course Outline

Instructor Information for Section 001

Instructor: Hristo Sendov

Office: WSC 205

E-mail: hssendov@stats.uwo.ca

Phone 519-661-2111 ext 86985

Office Hours: Mondays 10:30-11:20am and Wednesdays 4:30-5:20pm

Lecture Hours: Mon, Wed, Fri 12:30pm-1:30pm in SEB-1200

Tutorial Hours: Wed 5:30-6:30pm in TC 141

Tutorial TA: Cory Walton

Tutorial TA office hours: Tuesdays 4:30-5:30pm in MC 275

Tutorial TA e-mail: cwalto4@uwo.ca

Course Information

Course Description

Probability axioms, conditional probability, Bayes' theorem. Random variables motivated by real data

and examples. Parametric univariate models as data reduction and description strategies. Multivariate

distributions, expectation and variance. Likelihood function will be defined and exploited as a means

of estimating parameters in certain simple situations.

Prerequisites

A minimum mark of 60% in both Calculus 1000A/B or Calculus 1100A/B and Calculus 1501A/B, or in

both Calculus 1000A/B or Calculus 1100A/B plus a minimum mark of 85% in Calculus 1301A/B. A

minimum mark of 60% in 0.5 course from Calculus 1000A/B, 1100A/B or 1500A/B plus 0.5 course from

Calculus 1301A/B (minimum mark 85%) or Calculus 1501A/B (minimum mark 60%).

Antirequisites

The former Statistical Sciences 2657A. The former Statistical Sciences 2657A

Pre, Co-requisites Warning

Unless you have either the requisites for this course or written special permission from your Dean to enroll

in it, you may be removed from this course and it will be deleted from your record. You can be deregistered

at any time even after writing the final exam. This decision may not be appealed. You will receive no

adjustment to your fees in the event that you are dropped from a course for failing to have the necessary

prerequisites

Textbook

I will follow closely the course notes, see the link above.

The course notes are close to the following textbook, that you can find in the bookstore:

Sheldon Ross, A First Course in Probability, Prentice Hall, 9th edition, (2012)

Other useful but not required textbooks are

Richard Durrett, The Essentials of Probability, Duxbury Press (1994)

Hugh Gordon, Discrete Probability, Spinger Undergraduate Text in Mathematics, volume 82, (1997)

The course notes, the textbooks, and the assignments will give you plenty of problems to practice on.

Course Objectives

Probability axioms, combinatorics and counting techniques, conditional probability, Bayes' theorem.
Random variables, density and cumulative distribution function. Expected value and variance. Important distributions. Jointly distributed random variables. Independent random variables. Covariance and correlation. The central limit theorem. Conditional distributions and expectation. Multivariate distributions, expectation and variance.

Assessment

Assignments and/or Quizzes

There will be five assignments tested via quizzes in the tutorial hours in weeks 3, 6, 8, 10 and 12.

There will be a sixth assignment giving you problems for additional preparation for the final exam.

The Assignments will be posted just below here, a week before the quiz.
(The date for each assignment will turn into a link.)

Assignments will be posted on: Quizzes will be on:

Wednesday September 20   Wednesday September 27
Wednesday October 4   Wednesday October 18
Wednesday October 25   Wednesday November 1
Wednesday November 8   Wednesday November 15

Wednesday November 22   Wednesday November 29
Wednesday December 6   There is no quiz for this assignment

Midterms or Test

There will be a midterm test in week 6 on October 25-th.

Section 001: 4:30-6:30pm in TC 141.

Section 003: 4:30-6:30pm in SSC 2036

Final Exam

The Final Exam is on December 15, 2017 9:00-11:00am. Make sure you go to your correct room:

Section 001:

EC 2130 ABOU--BHAS;

EC 2155 BONV--MCGR;

EC2168A/B MCKE--ZHU.

Section 003:

EC2168A/B ARDE-ZHU.

The final exam will be during the regular exam period in December; it will cover all course material.

Evaluation

Marks will be based on 20% for quizzes, 30% for the midterm test, and 50% for final exam. The best four out
of the five quizzes will be counted.

Computing and/or Calculator Requirement

A non-programmable calculator may be used on the quizzes, tests and exams.

Department Policy on Missed Course Requirements

If you are unable to meet a course requirement due to illness or other serious circumstances, you must
provide valid medical or other supporting documentation to your Dean's office as soon as possible, and
contact your instructor immediately. If accommodation is approved by your Dean's office, your instructor
will be notified, then it is your responsibility to make alternative arrangements with your instructor. In
the event of a missed final exam, a "Recommendation of Special Examination" form must be obtained
from the Dean's Office immediately. For further information please see:
http://www.stats.uwo.ca/accommodation_medical.pdf.
A student requiring academic accommodation due to illness, should use the Student Medical Certificate
when visiting an off-campus medical facility. The form can be found at:
http://www.stats.uwo.ca/medicalform.pdf.
Or, request a Record's Release Form (located in the Dean's Office) for visits to Student Health Services.

Missed Midterm or Quiz: The policy of the department of Statistical and Actuarial Sciences is that there
will be no make-up exams or quizzes for a missed midterm or a quiz. For those that do legitimately miss a
midterm or a quiz and provide the required supporting documentation, the standard practice will

be that
the weight of the midterm or the quiz will be reassigned to the final exam. If your reason is not deemed
valid, then you will receive a mark of 0.

Student Health and Wellness: As part of a successful student experience at Western, we encourage students
to make their health and wellness a priority. Western provides several on campus health-related services to
help you achieve optimum health and engage in healthy living while pursuing your degree. For example, to
support physical activity, all students, as part of their registration, receive membership in Western's Campus
Recreation Centre. Numerous cultural events are offered throughout the year. Please check out the Faculty of
Music web page http://www.music.uwo.ca/, and our own McIntosh Gallery http://www.mcintoshgallery.ca.
Information regarding health- and wellness-related services available to students may be found at
http://www.health.uwo.ca/. Students seeking help regarding mental health concerns are advised to speak to
someone they feel comfortable confiding in, such as their faculty supervisor, their program director (graduate
chair), or other relevant administrators in their unit. Campus mental health resources may be found at
http://www.health.uwo.ca/mental_health/resources.html. To help you learn more about mental health,
Western has developed an interactive mental health learning module, found here:
http://www.health.uwo.ca/mental_health/module.html. This module is 30 minutes in length and provides
participants with a basic understanding of mental health issues and of available campus and community
resources. Topics include stress, anxiety, depression, suicide and eating disorders. After successful completion
of the module, participants receive a certificate confirming their participation.

Email Communication

E-mail can be an efficient and effective way to communicate with your Professor, but it should be used
very rarely, only to provide us with information or to ask a question that requires a very brief response.
I do not wish to see emails that ask "What did I miss in class today?". For more lengthy

discussions, you
should raise questions after class or during office hours, or make a separate appointment if necessary.
Please remember that I will only read e-mails from your UWO student account. The subject line should
contain "SS2857". E-mails from other accounts (e.g. hotmail, yahoo, etc.) will not be read. Please conduct
yourselves professionally if you choose to e-mail your Professor.

Attendance

Classroom attendance is viewed as an important part of the learning process. Students are advised that
excessive absenteeism may result in the student being disbarred from the final exam (see Western
Academic Calendar).

Classroom Environment

The Department has adopted a "Mutual Expectations" policy governing the classroom environment and
all work submitted by students. The full text of the policy can be found at:
http://www.stats.uwo.ca/mutual_expectations.pdf.
In summary, the policy was developed under the premise that all interactions between students and faculty
should be governed by the principles of courtesy, respect and honesty.

Statement on Academic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically,

the definition of what constitutes a Scholastic Offence, at the following Web site:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf."

[The course notes](#)

[Formula Sheets for the final exam](#)

[Announcements](#) (3)

Instructor Information for Section 003

Instructor: Wenjun Jiang

Office: WSC 214

E-mail: wjiang66@uwo.ca

Office Hours: Tuesdays 1:30-2:30pm and Fridays 3:30-4:30pm

Lecture Hours: Mon, Wed, Thurs 4:30-5:30pm in MC 105B

Tutorial Hours: Wed 5:30-6:30pm in SSC 2028

Tutorial TA: Devan Becker

Tutorial TA office hours: Thursdays 3:00-4:00 in WSC 250

Tutorial TA e-mail: dbecker7@uwo.ca

More Help

Another TA: Marian Draghic

Office hours: Thursdays 1:30-2:30pm in WSC 230

STAT Help Centre: 10:30am-15:30pm, Monday -- Friday, in MC 15B