

The University of Western Ontario
Department of Statistical and Actuarial Sciences
STATISTICAL SCIENCE 2858 – Summer 2021
Probability and Statistics II

Instructor: Joseph Raaymakers, M.Sc.
Contact: jraaymak@uwo.ca or via forums in OWL
Office Hours: Online via Zoom (by appointment)
Lectures: Online via Zoom on Tuesday to Friday, 9:00 AM-11:00 AM

Prerequisite(s)

A minimum mark of 60% in Statistical Sciences 2857A/B (or the former Statistical Sciences 2657A/B).

Anti-requisite(s)

All other courses in Introductory Statistics (except Statistical Sciences 1023A/B and Statistical Sciences 1024A/B): Biology 2244A/B, Economics 2122A/B, Economics 2222A/B, Geography 2210A/B, Health Sciences 3801A/B, MOS 2242A/B, Psychology 2810, Psychology 2820E, Psychology 2830A/B, Psychology 2850A/B, Psychology 2851A/B, Social Work 2207A/B, Sociology 2205A/B, Statistical Sciences 2035, Statistical Sciences 2141A/B, Statistical Sciences 2143A/B, Statistical Sciences 2244A/B, Statistical Sciences 2037A/B if taken prior to Fall 2010, former Psychology 2885 (Brescia), former Statistical Sciences 2122A/B, former Social Work 2205.

Students are advised that they are responsible to ensure that they possess the necessary prerequisites (or have written special permission) and that de-registration may occur at any time if they lack the prerequisite or have taken an anti-requisite course.

Text Book

Modern Mathematical Statistics with Applications, 2nd ed., by JL Devore and KN Berk.

You may access a free electronic copy of this book in PDF or EPUB format through Western Libraries by following this link

<https://login.proxy1.lib.uwo.ca/login?url=https://link.springer.com%2fbook%2f10.1007%252F978-1-4614-0391-3>

to Springer Link. From there you can also purchase a softcover copy of the book for 25 USD (approximately 34 CAD).

Course Description

An introduction to the theory of statistics with strong links to data as well as its probabilistic underpinnings. Topics covered include estimation and hypothesis testing, sampling distributions,

Course Objectives

The field of probability provides a language with which we can talk and reason about uncertainty

Quizzes

There will be 4 short online multiple-choice quizzes that will be given on the following dates:

- Quiz 1: **Friday, July 16, 2021** (Topics TBA)
- Quiz 2: **Friday, July 23, 2021** (Topics TBA)
- Quiz 3: **Friday, August 6, 2021** (Topics TBA)
- Quiz 2: **Friday, August 13, 2021** (Topics TBA)

The quizzes are open-

Academic Policy

The website for Registrarial Services is <http://www.registrar.uwo.ca>.

In accordance with policy, <http://www.uwo.ca/its/identity/activatenonstudent.html>, the centrally administered e-mail account provided to students will be considered university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner.

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at this website: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf

Computer-marked, multiple-choice tests and exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Support Services

Learning-skills counsellors at the Student Development Centre are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling: <http://sdc.uwo.ca/>.

Students who are in emotional/mental distress should refer to Mental Health@Western for a complete list of options about how to obtain help: <https://www.uwo.ca/health/>

Additional student-run support services are offered by the USC: <https://westernusc.ca/your-services/>.

Accessibility

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 ext. 82147 if you have questions regarding accommodation.

The policy on Accommodation for Students with Disabilities can be found here: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic%20Accommodation_disabilities.pdf

The policy on Accommodation for Religious Holidays can be found here: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf

Weekly Course Calendar

Lectures – 2021	Section	
Jul 5-9	Point estimation, Confidence intervals for a single sample (sections 7.1 - 7.4, 8.1 - 8.3)	
Jul 12-16	Confidence intervals and hypothesis tests for a single sample (sections 8.3 - 8.5, 9.1 - 9.4)	
Jul 16	Quiz 1	
Jul 19-23	Hypothesis tests	