



## Introduction to Statistics Summer 2020

### [Statistical Science 1024A Section 650](#)

#### Course Outline

##### Instructor Information

**Instructor**     [Sohail Khan](#)  
**Email**             OWL Messages only

##### Course Information

**Course Description:** Statistical inference, experimental design, sampling design, confidence intervals and hypothesis tests for means and proportions, regression and correlation.

**Prerequisites:** Grade 12U Mathematics or Mathematics 0110A/B or 1229A/B, Grade 12U Mathematics or Mathematics 0110A/B or 1229A/B, or the former Mathematics 017A/B.

**Antirequisites:** All other courses or half courses in Introductory Statistics, except Statistical Sciences 1023A/B and 2037A/B. You cannot take a listed anti-requisite course concurrently with Statistical Sciences 1024A/B. If you do, you will lose credit for that course. Refer to <http://fisher.stats.uwo.ca/modules/undergraduate/index.php?id=11> for information on which courses offered on campus are considered as Introductory Statistics.

**Pre, Co-requisites:** 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.

##### Book Information

**Text Book:** *The Basic Practice of Statistics* (8th ed.), David S. Moore, William I. Notz and Michael A. Fligner. Due to COVID-19 issues, best way is to get an e-Book. Here is a link to the UWO bookstore <https://bookstore.uwo.ca/product/cebcodid25871>. A loose-leaf customized version of the book may also be obtained from the publisher. Used versions of the textbook can also be used as long as they are the same edition. Note: The Stats portal is an optional tool that can be used as an extra resource.



### Course Objectives

Students taking this course will acquire a basic understanding of: (1) techniques used in exploring, organizing and describing data; (2) producing data through surveys and experiments; (3) random behavior/probability rules; and (4) statistical inference: including confidence interval construction and tests of hypotheses.

### Instructor Office Hours

Online through OWL Forums/Messages. TA help hours will be added to OWL later.

### Assignments

There are no marked assignments. However, there are suggested exercises from the textbook. Refer to the schedule of topics, a summary of online activities and deadlines posted separately on OWL. Suggested textbook exercises will be also posted on OWL.

### Final Exam

The final exam will be a three-hour cumulative multiple-choice examination covering all material in the course. It will be scheduled in **August** by the Registrar's office. Please do not book travel plans during the exam period (August 4-7).

### Evaluation

Your final mark will be determined using the following marking scheme:

Assessment	Weight
<i>Course Structure Quiz</i>	1%
<i>4 Online Quizzes</i>	35% (8.75% each)
<i>4 Discussion Activities</i>	24% (6% each)
<i>11 Self-Tests (one dropped)</i>	5% (0.5% each)
<i>Final Exam</i>	35%
<b>TOTAL</b>	100%

**Course Structure Quiz:** This short multiple-choice quiz will be administered through the Tests & Quizzes tool in our OWL course website. It will cover details from this course outline and features of our OWL course website, and will be available from the first day of classes (**Monday, May 4**) until **4:30 pm, Friday, May 15**. This is a graded quiz (e.g., if you answer 4 out of 5 questions correctly, you will earn 0.8% of the possible 1% for the quiz). No credit will be given for quizzes that are not *submitted* by the due date. *No accommodation* will be made after the deadline for any reason (e.g., technical problems); attempt the quiz early during the availability period so that any problems that arise can be dealt with before the deadline. If you encounter a technical difficulty, report the problem **immediately** through OWL messages (send to "Instructor Role" or Sohail Khan) and submit a problem report to Information Technology Services (ITS) through <http://itshelp.uwo.ca>.



**Online Quizzes:** There will be **four** online multiple choice quizzes scheduled for

**Online Quiz #1** – available 9am Thursday, May 28 to 4:30pm Friday, May 29.

**Online Quiz #2** – available 9am Thursday, June 18 to 4:30pm Friday, June 19.

**Online Quiz #3** – available 9am Thursday, July 9 to 4:30pm Friday, July 10.

**Online Quiz #4** – available 9am Thursday, July 23 to 4:30pm Friday, July 24.

These quizzes will be administered through the Tests & Quizzes tool in our OWL course website. Each quiz will consist of 10 multiple choice questions and will be **cumulative** in nature. You will have **one** hour to complete and submit your answers once you start each quiz (and 1 attempt) so be sure to set aside at least one hour to write each quiz during its availability period. Quiz grades and feedback will not be released until the availability period has ended. ***These are open book/notes quizzes, but they are to be completed independently. No working with anyone else (in or outside) this course is permitted. Such behaviour is considered a scholastic offence and will be reported as such.*** To avoid technical issues, have one OWL window open when writing the quiz (that means that having content open in one window and the quiz in another is not a good idea). Attempt the quiz early during the availability period so that any problems that arise can be dealt with before the deadline. If you encounter a technical difficulty, report the problem **immediately** through OWL messages (send to “Instructor Role” or Sohail Khan) **AND** submit a problem report to Information Technology Services (ITS) through <http://itshelp.uwo.ca> . If you cannot log into OWL for some reason, email your instructor outside of OWL at [skhan@stats.uwo.ca](mailto:skhan@stats.uwo.ca) to notify. ITS can also be reached in a variety of ways (see <http://www.uwo.ca/its/helpdesk/index.html> for more details) to report your problem and to seek assistance.

**Discussion Activities:** There will be **four** online discussion activities scheduled for:

**Discussion Activity #1** – open 9am Monday, May 11 to 4:30pm Friday, May 22. (Discussion #1 "Quiz" due 4:30pm, Monday, May 25).

**Discussion Activity #2** – open 9am Monday, June 1 to 4:30pm Friday, June 12. (Discussion #2 "Quiz" due 4:30pm, Monday, June 15).

**Discussion Activity #3** – open 9am Monday, June 22 to 4:30pm Friday, July 3. (Discussion #3 "Quiz" due 4:30pm, Monday, July 6).

**Discussion Activity #4** – open 9am Monday, July 6 to 4:30pm Friday, July 17. (Discussion #4 "Quiz" due 4:30pm, Monday, July 20).

Your instructor and/or course TA will visit the discussion forums and may even join in at times to contribute or clarify issues being discussed. A short question-answer “quiz” will be available for you in OWL so you can reflect on your groups’ discussion and summarize your contributions to the Discussion Activity after the activity closes. You will have unlimited attempts and may revise/modify your responses during the availability period. **NOTE: Your Discussion Activity grades will be based on your responses to the quiz questions that summarize your contributions to your group’s discussion.** The Discussion Quizzes are what will be graded. That means that if you do not complete a Discussion Quiz for any reason, your grade will be recorded as 0% for the Activity, even if you posted on your group’s forum during the Discussion Activity. Keep in mind, too, that your response to the quiz questions must be consistent with your contributions to your group’s forum made during the Discussion Activity period. Your Instructor and/or course TA will be conducting checks to compare these quiz responses with your contributions to your group forum. More information along with a grading rubric will be posted on OWL before the first discussion activity.



**Self-tests:** There will be **eleven** self-tests. These short quizzes will be administered through the Tests & Quizzes tool of our OWL course website. Each module will have a self-test consisting of 5-10 questions. You may complete these as many times as you wish. These self-tests provide an opportunity for you to apply what you learned in the module and to obtain feedback on the areas that require review. You will receive credit for a self-test if you complete and submit **all** questions in a self-test **before 4:30pm the Monday following the completion date of the module (only self-test 1 will be due on Tuesday due to Victoria Day holiday)**. Your answers do not have to be correct, but you do need to submit an answer for every question to get the credit. Note that one self-test is automatically dropped so you can miss one for any reason without penalty.

Students should expect the quizzes and the Final Exam to include questions derived from content from the online course material, assigned textbook readings, and any supplementary material posted by your instructor to the course website. More details on coverage, format and evaluation will be posted on OWL prior to each assessment.

**Note: There will be no make-ups for missed assessments (quizzes, discussion activities and self-tests).**

### **Course Website Information**

This course will be delivered through our Learning Management System -OWL (Sakai). Our course website (direct link - <https://owl.uwo.ca/portal/site/2345876a-a512-4a77-8a25-9ffd20366552>) is our method of communication with students and for the delivery of course material. It is your responsibility to ensure that you can access these materials on your computer, use the relevant OWL tools, and to make sure you check the website frequently for announcements and updates. If you encounter any technical difficulties, contact the Information Technology Services (ITS) Help Desk as soon as possible to correct the issue. Information on their hours and how they can be reached can be found at: <https://wts.uwo.ca/helpdesk/index.html>.

### **Computing and/or Calculator Requirement**

Students are allowed to use non-programmable calculators for the assessments.

### **Intellectual Property Statement**

Course material (i.e. course content, interactive videos, quiz & practice questions, and other supplementary material posted on OWL) is the intellectual property of your instructor and course developers and is made available to you for your personal use in this course. Sharing, posting, selling or using this material outside *your personal use in this course* is considered an infringement of intellectual property rights.

### **Course Schedule - Topics and Activities**

A table summarizing different activities and timelines is added separately on OWL.



### **Policy on Missed Course Requirements**

If you are unable to meet a course requirement due to illness or other serious circumstances, you must seek approval for the absence as soon as possible. During the COVID-19 pandemic, medical notes are not required. Medical absence can be reported through the Student Illness Reporting Tool at [https://www.registrar.uwo.ca/academics/academic\\_considerations/index.html](https://www.registrar.uwo.ca/academics/academic_considerations/index.html).

If this portal is not available (i.e., if the COVID-19 pandemic has lifted before the end of the course), or if you have missed (or will be missing coursework) for a non-medical reason beyond your control, approval can be granted either through a Self-reported Absence (if the portal is available) or via the Dean's Office/Academic Counselling unit of your Home Faculty. Non-medical reasons must be accompanied by supporting documentation. If you are a Science student, contact information for the Academic Counselling Office for the Faculty of Science is available at <https://www.uwo.ca/sci/counselling/>.

In all cases, you must contact your instructor as soon as possible, and no later than 24 hours after the period covered, to notify your absence. The policy of the department of Statistical and Actuarial Sciences is that there will be no make-up for a missed quiz/discussion/self-test. For those that do legitimately miss an evaluation and provide the required supporting documentation, the standard practice will be that the weight of the missed work will be reassigned to the final exam. If your reason is not deemed valid, then you will receive a mark of 0.

For further information, please consult the University's policy on academic consideration for student absences:

[https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/accommodation\\_illness.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf) <[https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/Academic\\_Consideration\\_for\\_absences.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Consideration_for_absences.pdf)>.

If you miss the Final Exam, please contact your faculty's Academic Counselling Office as soon as you are able to do so. They will assess your eligibility to write the Special Exam (the name given by the university to a makeup Final Exam).

### **Student Health and Wellness**

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. Students who are in emotional/mental distress should refer to Mental Health@Western ([http://www.health.uwo.ca/mental\\_health](http://www.health.uwo.ca/mental_health)) for a complete list of options about how to obtain help.

### **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](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic%20Accommodation_disabilities.pdf)



### **Support Services**

Learning-skills counsellors at the Student Development Centre (SDC) (<http://www.sdc.uwo.ca>) 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. Additional student-run support services are offered by the USC, <http://westernusc.ca>. The website for Registrarial Services is <http://www.registrar.uwo.ca>.

### **Other Academic Policies**

The centrally administered e-mail account provided to students will be considered the individual's official 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.

The policy on Accommodation for Religious Holidays can be found here:

[http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/accommodation\\_religious.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf)

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](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf).

### **Email Communication**

You are welcome to communicate with your instructor by email though OWL messages (accessible through the Messages tool on the left hand side of the Sakai page), but email communication should only be used to provide him with information or to ask a question that requires a brief response. Emails should be sent to your instructor's UWO account **only** if it is urgent and you are not able to log into OWL.

Questions about the course material or the general administration of the course should be posted to the appropriate OWL Forums. You can expect an answer to a question posted to Forums or an email sent through OWL messages within 48 hours during the work week.

***Note that content-related questions posted to the OWL Forums or messages while the online quizzes are open will not be addressed until the quiz is closed.***

### **Attendance**

Regular engagement with the online course materials is an important part of the learning process. Students are advised that excessive absenteeism from our OWL site 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:

<https://www.uwo.ca/stats/undergraduate/mutual-expectations.html>. Although these were developed with a lecture-based course in mind, the spirit of the expectations apply to this course as well. 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. Students are encouraged to ask questions on the appropriate Forums. Do not use course-related OWL Forums for social conversation unrelated to the course. Keep postings to the OWL Forums positive and productive - the OWL Forums are an important component of our learning environment. Inappropriate or disrespectful postings will not be tolerated.