

## Statistics

### MOS 2242A Section 551 (Fall 2021)

**Instructor:** Aria Teimourzadeh, PhD

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**Course schedule:** Tuesday 2:30 PM to 3:30 PM and Thursday 3:30 PM to 5:30 PM

**Office Hours:** By appointment (Zoom)

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#### **COURSE DESCRIPTION:**

The ability to extract useful information from data is one of the most important and marketable skills a student of business can acquire. The purpose of this course is to introduce quantitative decision-making skills, with an emphasis on analysis techniques used in management. Topics include: descriptive statistics, probability, hypothesis testing, analysis of variance, correlation and regression analysis, time series forecasting, and survey techniques.

**Course Prerequisite(s):** 1.0 course or equivalent from Calculus 1000A/B, Calculus 1301A/B, Calculus 1501A/B; Mathematics 1225A/B, Mathematics 1228A/B, Mathematics 1229A/B, and enrolment in a MOS Honours Specialization or Major module. **Course Anti-requisite(s):** Biology 2244A/B, Economics 2122A/B, Economics 2222A/B, Geography 2210A/B, Health Sciences 3801A/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 2858A/B, Statistical Sciences 2037A/B if taken prior to Fall 2010, former Psychology 2885 (Brescia), former Statistical Sciences 2122A/B, former Social Work 2205.

#### **COURSE LEARNING OBJECTIVES**

As a result of this course, students will be able to:

- Calculate descriptive statistics as used in business decisions.
- Use statistical procedures that are applicable to business decisions.
- Use statistical analysis methods and interpret statistical outputs.

## DESCRIPTION OF CLASS METHODS

The course materials including PPT slides and exercise files will be uploaded in advance. The students are expected to follow the instructions posted on the course website to submit their weekly assignments/quizzes before each deadline.

© Instructor generated course materials (e.g., videos, slides, notes, summaries, exam questions, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that infringements of copyright can be subject to follow up by the University under the Code of Student Conduct and Disciplinary Procedures.

## TEXTBOOKS AND OTHER REQUIRED RESOURCES

Required textbook      Basic Statistics for Business and Economics- 6th Canadian Edition  
1259268934 · 9781259268939  
By Douglas A. Lind, Samuel A. Wathen, William G. Marchal, Carol Ann Waite

McGraw Hill                      <https://connect.mheducation.com/class/a-teimourzadeh-mos-2242a-fall-2021>  
Connect  
**(Mandatory)**

Course Notes and      To be found on the course website at <https://owl.uwo.ca>.  
data files

Course Software              Note that MS Office 365, which includes **Microsoft Excel** is available for free. If you are interested in installing it on your personal computer, visit: <https://wts.uwo.ca/sitelicense/microsoft/homeuse.html>

## METHOD OF EVALUATION/ASSESSMENT

McGraw Hill Quizzes (Connect)	20%
Midterm exam	31%
Weekly Excel Exercises	14%
Final Exam	35%

NOTE: The content and/or evaluation scheme in this course is subject to change.

## SPECIAL INSTRUCTIONS, IF ANY

Students must pay attention to e-mails and announcements in OWL related to the special assignment/reading/Excel exercises.

## COURSE POLICIES

### ➤ Assignments & tests

- Always make sure you have a backup of your assignments and of your test.
- Late submissions **will not be accepted** and **no mark will be given** after the deadlines.
- If you are not satisfied with the grading of an assignment or test, you may request a review **within 1 week of grade posting**.
  - Indicate in writing where and why you feel the marks are unjustified and give it back to the instructor for re-grading.
  - Note that the entire assignment will be re-graded and your grade can go up or down (or stay the same).

If you are to miss a test, you must report this as soon as possible to your instructor. It will be up to the instructor to decide an appropriate course of action.

### TENTATIVE SCHEDULE OF CLASSES.

- This schedule and some topics may change – updates are posted to OWL.

Week	Date	Topic
1	Sept 9 and Sept 14	Introduction, Describing Data, Frequency tables, Graphic Presentation
2	Sept 16 and Sept 21	Describing Data: numerical Measures, Probability
3	Sept 23 and Sept 28	A Survey of Probability concepts
4	Sept 30 and October 5	Discrete Probability distributions
5	October 7 and October 12	Continuous Probability Distributions
6	October 14 and October 19	Sampling, Estimation and Confidence intervals
7	October 21 and October 26	Confidence intervals (continued), Midterm Review Midterm exam : <b>Thursday, October 28 from 3:30 PM to 5:30 PM</b>
Fall Reading Week : November 1, 2021 to November 7, 2021		
8	Nov 9 and Nov 11	One, Two sample hypothesis
9	Nov 16 and Nov 18	Analysis of Variance (ANOVA)
10	Nov 23 and Nov 25	Linear Regression/Correlation
11	Nov 30 and December 2	Multiple Regression/Correlation
12	December 7	Final Exam Review

## Scholastic Offences, Plagiarism and Collusion

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 website:

[http://www.uwo.ca/univsec/handbook/appeals/scholastic\\_discipline\\_undergrad.pdf](http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_undergrad.pdf).

Plagiarism is the submission of work that is in whole or in part someone else's work (including, but not limited to, text, calculations and exhibits), which you claim as your own. Students must write their assignments, essays, reports, exams, etc. in their own words. Whenever students take an idea or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by using proper references such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar).

All required case exams and reports may be subject to submission for similarity review to the commercial plagiarism detection software under licence to the University for the detection of plagiarism. All papers submitted will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement currently in effect between The University of Western Ontario and Turnitin.com ([www.turnitin.com](http://www.turnitin.com)).

### UNIVERSITY RESOURCES

The website for the Office of the Registrar is <http://www.registrar.uwo.ca>. Students may also wish to contact Student Development Services at <http://www.sdc.uwo.ca>.



## Appendix to Course Outlines: Academic Policies & Regulations 2021 - 2022

### Prerequisite and Antirequisite Information

Students are responsible for ensuring that they have successfully completed all course prerequisites and that they have not completed any course antirequisites. 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. 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.

### Pandemic Contingency

In the event of a COVID-19 resurgence during the course that necessitates the course delivery moving away from face-to-face interaction, all remaining course content will be delivered entirely online, typically using a combination of synchronous instruction (i.e., at the times indicated in the timetable) and asynchronous material (e.g., posted on OWL for students to view at their convenience). Any remaining assessments will

also be conducted online at the discretion of the course instructor. In the unlikely event that changes to the grading scheme are necessary, these changes will be clearly communicated as soon as possible.

### **Student Code of Conduct**

Membership in the community of Huron University College and Western University implies acceptance by every student of the principle of respect for the rights, responsibilities, dignity and well-being of others and a readiness to support an environment conducive to the intellectual and personal growth of all who study, work and live within it. Upon registration, students assume the responsibilities that such registration entails. While in the physical or online classroom, students are expected to behave in a manner that supports the learning environment of others. Please review the Student Code of Conduct at:

<https://huronatwestern.ca/sites/default/files/Res%20Life/Student%20Code%20of%20Conduct%20-%20Revised%20September%202019.pdf>.

### **Attendance Regulations for Examinations**

A student is entitled to be examined in courses in which registration is maintained, subject to the following limitations:

- 1) A student may be debarred from writing the final examination for failure to maintain satisfactory academic standing throughout the year.
- 2) Any student who, in the opinion of the instructor, is absent too frequently from class or laboratory periods in any course will be reported to the Dean of the Faculty offering the course (after due warning has been given). On the recommendation of the Department concerned, and with the permission of the Dean of that Faculty, the student will be debarred from taking the regular examination in the course. The Dean of the Faculty offering the course will communicate that decision to the Dean of the Faculty of registration.

Review the policy on Attendance Regulations for Examinations here:

[https://www.uwo.ca/univsec/pdf/academic\\_policies/exam/attendance.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/exam/attendance.pdf).

### **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 website:

[https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/scholastic\\_discipline\\_undergrad.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf). The

appeals process is also outlined in this policy as well as more generally at the following website:

[https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/appealsundergrad.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/appealsundergrad.pdf).

### **Turnitin.com**

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com

(<http://www.turnitin.com>).

### **Statement on Use of Electronic Devices**

It is not appropriate to use electronic devices (such as, but not limited to, laptops, cell phones) in the classroom for non-classroom activities. Such activity is disruptive and distracting to other students and to the instructor, and can inhibit learning. Students are expected to respect the classroom environment and to refrain from inappropriate use of technology and other electronic devices in class.

### **Statement on Use of Personal Response Systems (“Clickers”)**

Personal Response Systems (“clickers”) may be used in some classes. If clickers are to be used in a class, it is the responsibility of the student to ensure that the device is activated and functional. Students must see their instructor if they have any concerns about whether the clicker is malfunctioning. Students must use only their own clicker. If clicker records are used to compute a portion of the course grade:

- the use of somebody else’s clicker in class constitutes a scholastic offence
- the possession of a clicker belonging to another student will be interpreted as an attempt to commit a scholastic offence.

### **Academic Consideration for Missed Work**

Students who are seeking academic consideration for missed work during the semester may submit a self-reported absence form online provided that the absence is **48 hours or less** and the other conditions specified in the Senate policy at

[https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/accommodation\\_illness.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf) are met.

Students whose absences are expected to last **longer than 48 hours**, or where the other conditions detailed in the policy are not met (e.g., work is worth more than 30% of the final grade, the student has already used 2 self-reported absences, the absence is during the final exam period), may receive academic consideration by submitting a Student Medical Certificate (for illness) or other appropriate documentation (for compassionate grounds). The Student Medical Certificate is available online at

[https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/medicalform.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf).

All students pursuing academic consideration, regardless of type, must contact their instructors no less than 24 hours following the end of the period of absence to clarify how they will be expected to fulfill the academic responsibilities missed during their absence. **Students are reminded that they should consider carefully the implications of postponing tests or midterm exams or delaying submission of work, and are encouraged to make appropriate decisions based on their specific circumstances.**

Students who have conditions for which academic accommodation is appropriate, such as disabilities or ongoing or chronic health conditions, should work with Accessible Education Services to determine appropriate forms of accommodation. Further details concerning policies and procedures may be found at: <http://academicsupport.uwo.ca/>.

### **Policy on Academic Consideration for a Medical/ Non-Medical Absence**

#### **(a) Consideration on Medical Grounds for assignments worth *less than 10%* of final grade: Consult Instructor Directly and Contact Academic Advising**

When seeking consideration on **medical grounds** for assignments worth *less than 10%* of the final course grade, and if the student has exceeded the maximum number of permissible Self-Reported absences, the student should contact the instructor directly. The student need only share broad outlines of the medical situation. The instructor **may** require the student to submit documentation to the academic advisors, in which case she or he will advise the student and inform the academic advisors to expect documentation. If documentation is requested, the student will need to complete and submit the [Student Medical Certificate](#). The instructor may **not** collect medical documentation. The advisors will contact the instructor when the medical documentation is received, and will outline the severity and duration of the medical challenge as expressed on the Student Medical Certificate and in any other supporting documentation. The student will be informed that the instructor has been notified of the presence of medical documentation, and will be instructed to work as quickly as possible with the instructor on an agreement for accommodation.

#### **(b) Consideration on Non-Medical Grounds: Consult Huron Support Services/Academic Advising, or email [huronsss@uwo.ca](mailto:huronsss@uwo.ca).**

Students seeking academic consideration for a **non-medical** absence (e.g. varsity sports, religious, compassionate, or bereavement) will be required to provide appropriate documentation where the conditions for a Self-Reported Absence have not been met, including where the student has exceeded the maximum number of permissible Self-Reported. All consideration requests must include a completed [Consideration Request Form](#). Late penalties may apply at the discretion of the instructor.

Please review the full policy on Academic Consideration for medical and non-medical absence at: [https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/accommodation\\_illness.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf). Consult [Huron Academic Advising](#) at [huronsss@uwo.ca](mailto:huronsss@uwo.ca) for any further questions or information.

### **Support Services**

For advice on course selections, degree requirements, and for assistance with requests for medical accommodation, students should email an Academic Advisor in Huron's Student Support Services at [huronsss@uwo.ca](mailto:huronsss@uwo.ca). An outline of the range of services offered is found on the Huron website at: <https://huronatwestern.ca/student-life/student-services/>.

Department Chairs, Program Directors and Coordinators are also able to answer questions about individual programs. Contact information can be found on the Huron website at: <https://huronatwestern.ca/contact/faculty-staff-directory/>.

If you think that you are too far behind to catch up or that your workload is not manageable, you should consult your Academic Advisor. If you are considering reducing your workload by dropping one or more courses, this must be done by the appropriate deadlines. Please refer to the Advising website, <https://huronatwestern.ca/student-life/student-services/academic-advising/> or review the list of official Sessional Dates on the Academic Calendar, available here: <http://www.westerncalendar.uwo.ca/SessionalDates.cfm>.

You should consult with the course instructor and the Academic Advisor who can help you consider alternatives to dropping one or more courses. Note that dropping a course may affect OSAP and/or Scholarship/Bursary eligibility.

Huron Student Support Services: <https://huronatwestern.ca/student-life/student-services/>

Office of the Registrar: <https://registrar.uwo.ca/>

Student Quick Reference Guide: <https://huronatwestern.ca/student-life/student-services/#1>

Academic Support & Engagement: <http://academicsupport.uwo.ca/>

Huron University College Student Council: <https://huronatwestern.ca/student-life/beyond-classroom/hucsc/>

Western USC: <http://westernusc.ca/your-services/#studentservices>

### **Mental Health & Wellness Support at Huron and Western**

University students may encounter setbacks from time to time that can impact academic performance. Huron offers a variety of services that are here to support your success and wellbeing. Please visit <https://huronatwestern.ca/student-life-campus/student-services/wellness-safety> for more information or contact staff directly:

Wellness Services: [huronwellness@huron.uwo.ca](mailto:huronwellness@huron.uwo.ca)

Community Safety Office: [safety@huron.uwo.ca](mailto:safety@huron.uwo.ca)

Chaplaincy: [gthorne@huron.uwo.ca](mailto:gthorne@huron.uwo.ca)

Additional supports for Health and Wellness may be found and accessed at Western through, <https://www.uwo.ca/health/>.