



Western

DAN Department of Management
& Organizational Studies

**Faculty of
Social Science**

Winter 2025 Course Syllabus

MOS 2242B Section – 002

Statistics

In-Person

Instructor: Livia Veselka

Office: Social Science Centre, room 4086 (SSC 4086)

Office Hours: Fridays 9:30AM - 11:30AM (please reserve timeslot online)

Phone: 661-2111 x80091

1. Course Information:

1.1 Class Location and Time:

In-Person – Please see Brightspace Classroom Site for details..

1.2 Course Description:

The purpose of this course is to introduce students to 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, time series forecasting, and survey techniques.

Antirequisite(s): Biology 2244A/B, Economics 2122A/B, Economics 2222A/B, Geography 2210A/B, Health Sciences 3801A/B, Psychology 2811A/B, the former Psychology 2810, the former 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

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, Mathematics 1600A/B, and enrolment in BMOS.

Unless you have either the requisites for this course or written special permission from your Dean's Designate (DAN Management Advisors) 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.

1.3 Accessibility:

DAN Department of Management & Organizational Studies strives at all times to provide accessibility to all faculty, staff, students and visitors in a way that respects the dignity and independence of people with disabilities.

Contact Academic Support & Engagement at <http://academicsupport.uwo.ca/> for information about Western's Accessible Education.

More information about “Accessibility at Western” is available at: <http://accessibility.uwo.ca>

1.4 Land Acknowledgement:

We acknowledge that Western University is located on the traditional lands of the Anishinaabek, Haudenosaunee, Lūnaapéewak and Attawandaron peoples, on lands connected with the London Township and Sombra Treaties of 1796 and the Dish with One Spoon Covenant Wampum.

With this, we respect the longstanding relationships that Indigenous Nations have to this land, as they are the original caretakers. We acknowledge historical and ongoing injustices that Indigenous Peoples (e.g. First Nations, Métis and Inuit) endure in Canada, and we accept responsibility as a public institution to contribute toward revealing and correcting miseducation as well as renewing respectful relationships with Indigenous communities through our teaching, research and community service.

<https://indigenous.uwo.ca/initiatives/docs/indigenous-land-acknowledgment.pdf>

1.5 Senate Regulations

Senate Regulations state, “unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you will 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.”

This regulation is in regard to the PREREQUISITE COURSES required.

2. Course Materials

2.1 Textbook (Required):

The following textbook is **required** for the course:

Black, K., Bayley, T., & Castillo, I. (2023). *Business statistics for contemporary decision-making* (4th Canadian edition). Toronto, ON: Wiley. [ISBN: 9781119983224]

The textbook cited is available through The Book Store at Western. The cost of the textbook is \$167.45. Lower-cost rent options are also available.

The electronic version of the textbook is bundled with access to the WileyPLUS online portal that provides you with additional online content, which you may find helpful as you navigate the various units of the course. Access to WileyPLUS is optional in this course.

2.2 Calculator

You will be required to use a calculator for this course. Please obtain a calculator with which you will feel comfortable working. Any brand of calculator is acceptable.

If you are not comfortable using calculators, I encourage you to purchase a Sharp-brand calculator. I provide some help sheets that cover calculator use in this course, and these help sheets pertain to Sharp-brand calculators only.

If you opt for a non-Sharp calculator, please know that it is your responsibility to know how to use it.

Students are responsible for checking the course Brightspace Classroom Site (<https://westernu.brightspace.com/>) regularly for news and updates. This is the primary method by which information will be disseminated to all students in the class.

If students need assistance with the Brightspace site, they can seek support on the [OWL Brightspace Help](#) page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

3. Course Objectives and Format

The DAN Department of Management and Organizational Studies as a whole draws upon an evidence-based management approach. Evidence-based management is the systematic process of gathering evidence from multiple sources, critically appraising the evidence, and using that evidence in making and evaluating management decisions to improve organizational performance.

3.1 Course Objectives:

Rooted in principles of the evidence-based management (EBM), this course will focus on enhancing students' ability to obtain and evaluate statistical evidence, which is critical for making a variety of business decisions and policies.

3.2 Course Format:

The course format will consist of in-person lectures. Student will be provided with **abbreviated** lecture slides in PDF and PowerPoint format prior to each lecture via the course Brightspace Classroom site. These abbreviated lecture slides will contain **some but not all of the information** discussed in the lecture. Students are expected to take their own notes during each lecture in order to fill in the gaps. Complete slide decks will not be made available.

Instructor slide decks will not be distributed nor will they be posted on the course site.

For each unit, chapter readings have also been assigned. Students are expected to keep up with the readings, and to take their own notes as they complete these readings.

Note that the material covered in lectures will not always be the same as the material covered in the textbook. These two sources should be viewed as complementary and not redundant. As such, students who want to do well in this course are strongly encouraged to attend lectures on a regular basis.

If students miss a lecture for any reason, it is their responsibility to obtain missed notes from a classmate.

There are no labs or tutorials in this course.

4. Learning Outcomes

Upon successful completion of this course, students will be able to:

- conduct a hypothesis test and determine the difference between a one-tailed test and two-tailed test for when the population standard deviation is known and when it is unknown
- list the statistics that appear in an ANOVA and a regression results table, and to understand how they are computed
- define when a time series represents a trend, a seasonal pattern, or a cyclical pattern, or is irregular
- compute the degrees of freedom and examine the significance of the chi-square test statistic

5. Evaluation

There are a total of three exams in this course:

Exam 1: Tuesday, February 4, 2025; 10:00 a.m. - 12:00 p.m. = 33%

Exam 2: Tuesday March 11, 2025; 10:00 a.m. - 12:00 p.m. = 33%

Exam 3: to be scheduled during the final exam period, April 7-30, 2025 = 34%

Exams are **multiple-choice** in format. Each exam, in total, will be scheduled for **2 hours**, will consist of **50-60 questions**, and will be a **closed-book examination**. All exams in the course are **not cumulative**. Therefore, students are required to write all three exams in this course.

Exams 1 and 2 will be completed during class time. Exam 3 will be scheduled during the final exam period. Exams will not be returned to students but may be reviewed in-class.

Students are responsible for material covered in the lectures as well as in the assigned chapters and chapter sections in the textbook. Each exam will have both conceptual and calculation questions.

The following types of questions could come up:

- definitions/descriptions of terminology, theoretical concepts, analysis methods/procedures, formulas, assumptions, distributions, degrees of freedom, etc.
- graphs and charts: definitions, descriptions, components, process/method of building a graph/chart, interpretation of what the graph/chart shows, etc.
- calculation based on formulas
- interpretation of numbers (e.g., calculation result)
- interpretation of computer output
- understanding of choice of formulas, methods, graphs/charts, etc. (e.g., when and why would you use one formula over another?)

Only non-programmable calculators will be allowed into the exams. If you are unsure, please ask your professor to check your calculator. Dictionaries are NOT allowed into the examinations.

Students are **REQUIRED TO COMPLETE ALL COMPONENTS** of this course. There are no exceptions to this. Extra assignments to improve grades *will NOT* be allowed.

Grades will not be adjusted on the basis of need. It is important to monitor your performance in the course. Remember: you are responsible for your grades in this course.

The DAN Department has a grade policy which states that for courses in the 2000-level range, the class average must fall between 65% and 72% for all sections of a course taught by the same instructor. In very exceptional circumstances only, class averages outside this range may be approved by the Undergraduate Chair or Chair. Class averages are not grounds for appeal.

6. General Information About Missed Coursework

Students must familiarize themselves with the *University Policy on Academic Consideration – Undergraduate Students in First Entry Programs* posted on the Academic Calendar:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration_Sep24.pdf,

This policy does not apply to requests for Academic Consideration submitted for **attempted or completed work**, whether online or in person.

The policy also does not apply to students experiencing longer-term impacts on their academic responsibilities. These students should consult [Accessible Education](#).

For procedures on how to submit Academic Consideration requests, please see the information posted on the Office of the Registrar's webpage:

https://registrar.uwo.ca/academics/academic_considerations/

All requests for Academic Consideration must be made within 48 hours after the assessment date or submission deadline.

All Academic Consideration requests must include supporting documentation; however, recognizing that formal documentation may not be available in some extenuating circumstances, the policy allows students to make one Academic Consideration request **without supporting documentation** in this course. However, **the following assessments are excluded from this, and therefore always require formal supporting documentation:**

- Exam 2 (Tuesday, February 4, 2025; 10:00 a.m. – 12:00 p.m.)
- Exam 3 (to be scheduled during the final exam period) and all examinations scheduled during official examination periods (defined by policy),

When a student mistakenly submits their one allowed Academic Consideration request **without supporting documentation** for the assessments listed above or those in the **Coursework with Assessment Flexibility** section below, the request cannot be recalled and reapplied. This privilege is forfeited.

6.1 Evaluation Scheme for Missed Assessments Makeup Exam Requests for Exam 1

The date and time of the make-up examination will be on **Friday, April 4 at 9:00 a.m.** (2-hour duration). The location of this exam will be announced closer to the exam date.

If a student is unable to attend the scheduled make-up, then the student is responsible for obtaining new accommodations with documentation from Academic Counselling, and seeking a new make-up date with the instructor within a reasonable time frame.

Makeup Exam Requests for Exam 2 and Exam 3

The date and time of the make-up examination will be set by the instructor, who will communicate the date to the student.

If a student is unable to attend the scheduled make-up, then the student is responsible for obtaining new accommodations with documentation from Academic Counselling, and seeking a new make-up date with the instructor within a reasonable time frame.

6.2 Essential Learning Requirements

Even when Academic Considerations are granted for missed coursework, the following are deemed essential to earn a passing grade:

- The completion of all three exams to ensure that students demonstrate sufficient mastery of the learning outcomes. Requests made by students to miss an exam and to re-weight remaining exams will be denied given that this approach would not allow for the comprehensive assessment of all course material.

6.3 Coursework with Assessment Flexibility

By policy, instructors may deny Academic Consideration requests for the following assessments with built-in flexibility:

Mandatory Research Component. The mandatory research component provides students with numerous research participation opportunities during each Research Period. Students are able to select those research participation opportunities that best suit their schedule and preferences. Cancellation and reschedule policies are also in place to provide flexibility during extenuating circumstances (see section 5.2 of the syllabus). Additionally, the alternative research assignment is offered as way for students to complete this component of the course in instances where they cannot or choose not to participate in research studies. Due to the considerable flexibility embedded in this component of the course, Academic Consideration requests are not applicable.

7. Lecture and Examination Schedule

Below is a brief summary of the lecture and examination schedule. A more detailed schedule is posted on our Brightspace course site ("Course Schedule" tab). Any changes to this lecture schedule will be communicated to you via our Brightspace course site.

Additionally, detailed reading lists (along with relevant omissions) are provided under each Unit tab on our Brightspace Classroom course site. Please review this information closely each week.

January 7:	Unit 1: Introduction to Statistics Chapter 1, Chapter 7 (7.1)
January 14:	Unit 2: Describing & Displaying Data Chapter 2, Chapter 3
January 21:	Unit 3: Random Variables & Probability Distributions (Discrete) Chapter 4, Chapter 5
January 28:	Unit 4: Random Variables & Probability Distributions (Continuous) Chapter 6, Chapter 7 (7.2)
February 4:	Exam 1 (10:00 a.m. – 12:00 p.m., location TBD; covers Units 1, 2, 3, 4)

February 4:	Unit 5: Single-Sample Hypothesis Testing (video format) Chapter 7 (7.3), Chapter 8, Chapter 9
February 11:	Unit 6: Two-Sample Hypothesis Testing Chapter 10
February 17-21:	Spring Reading Week (no classes this week)
February 25:	Unit 7: Analysis of Variance (Independent) Chapter 11
March 4:	Unit 8: Analysis of Variance (Dependent) Chapter 11 (11.4)
March 11:	Exam 2 (10:00 a.m. – 12:00 p.m., location TBD; covers Units 5, 6, 7, 8)
March 11:	Unit 9: Chi-Square Tests for Nominal Data (video format) Chapter 16
March 18:	Unit 10: Correlation & Simple Linear Regression Chapter 12
March 25:	Unit 11: Multiple Regression Chapter 13
April 1:	Unit 12: Time Series Forecasting Chapter 14, Chapter 15
April 7-30:	Exam 3 (to be scheduled during the final exam period; covers Units 7, 8, 9)

8. Student Responsibilities

Students should familiarize themselves with Western University Senate Regulations, please see: http://www.uwo.ca/univsec/academic_policies/index.html.

Material covered in lectures will not always be the same as material covered in the textbook. These two sources should be viewed as complimentary and not redundant. As such, students who want to do well in this course are **strongly encouraged** to attend lectures on a regular basis. Please note that the instructor will not be providing copies of lectures notes or overheads. Therefore, if you miss a lecture, you should try to obtain this material from another student.

8.1 Respect

Please act respectfully towards the classroom, the instructor and your fellow students. Acting respectfully means arriving on time, turning off phones, avoiding private discussions during lectures, refraining from viewing non-course material on your laptops, and cleaning up after yourself. Acting respectfully provides a better learning experience for everyone.

Private in-class discussions are distracting to students and the instructor. If other students are distracting your attention from the material, you should ask them to be quiet. If you feel uncomfortable doing this (or the problem persists), please see your instructor.

Late arrivals are also distracting. Please try to arrive on time for classes.

8.2 No Recording of Classes

Students are not permitted to record any portion of a class, audio or video, without the prior written permission of the instructor.

8.3 Copyright Notice

Lectures and course materials, including power point presentations, outlines, and similar materials, are protected by copyright. You may take notes and make copies of course materials for your own educational use. You may **not** record lectures, reproduce (or allow others to reproduce), post or distribute lecture notes, wiki material, and other course materials publicly and/or for commercial purposes without the written consent of your instructor.

9. Exam Policies

- Bring student identification to exams.
- Nothing is to be on/at one's desk during an exam except a pencil, an eraser, and the individual's student card
- Do not wear baseball caps to exams
- Do not bring or wear smart watches, music players, cell phones, beepers, or other electronic devices to exams

10. E-mail Policies

The following policies apply to all emails between students and the instructor. Please respect the fact that your Instructor receives hundreds of emails from students and must deal with those emails in a fair and organized manner. Unacceptable emails will receive a reply saying only "Please see Email Policies on the course outline".

10.1 UWO.CA Email Addresses Only

For privacy reasons, students must use their Western email accounts to contact their Instructor. The Instructor will not respond to emails from non-uwo.ca addresses (e.g. hotmail.com, gmail.com, etc.).

10.2 Subject Line Must Include Course and Section Number

The subject line of emails must contain the name or number of the course, and the section number in which the student is enrolled. The Instructor teaches different courses and sections and cannot properly respond to questions if they do not know which course or section you are enrolled in.

10.3 Acceptable Emails

- questions about the course content or materials
- asking to set up an appointment to ask questions or review an exam
- notification of illness or other special circumstances
- providing constructive comments or feedback about the course

10.4 Unacceptable Emails

- questions that may be answered on OWL or on this course outline
- asking when grades will be posted
- asking what grade a student received
- asking where or when an exam is scheduled or the material covered on an exam
- requests for grade increases, extra assignments, or reweighting of course components

11. Attendance

It is expected that students will attend all classes. The instructor does not provide access to lecture notes. Students are encouraged to obtain missed lecture notes from a fellow student.

11.1 Short Absences.

If you miss a class due to minor illness or other problems, check your course outlines for information regarding attendance requirements and make sure you are not missing a test or exam. Cover any readings and arrange to borrow the missed lectures notes from a classmate.

11.2 Extended Absences.

If you are absent more than approximately two weeks or if you get too far behind to catch up, you should consider reducing your workload by dropping one or more courses. The Academic Counsellors can help you to consider the alternatives. At your request, they can also keep your instructors informed about your difficulties.

12. Grade Fairness

Fairness requires that all students be treated equally and be evaluated using the criteria set out in this course outline. The evaluation criteria are based on actual achievement and not on how hard a student has tried.

Claims by students of an excellent academic history, good attendance record, need to obtain or maintain a scholarship, desire to be admitted to Ivey or graduate school, or other personal issues, cannot be used to justify a higher grade in the course or a reweighting of course components. There is no extra work or assignments available for extra credit or to “make up” for a course component that was missed or performed poorly.

You, the student, are responsible for the grades earned.

13. Posting of Grades

Midterm exam grades will be posted on OWL once the grades are available. Final exam grades and final course grades are not posted on OWL and are available once they have been posted by the Registrar under “Academic Summary” at the Student Centre website.

14. University Policy Regarding Illness, Absence and Accommodation

14.1 Illness

Students will need to provide a Student Medical Certificate if the absence is medical or provide appropriate documentation if there are compassionate grounds for the absence in question. Students are encouraged to contact their Faculty Academic Counselling office to obtain more information about the relevant documentation.

For privacy reasons, students should also note that individual instructors should not receive documentation directly from a student, whether in support of an application for consideration on medical grounds, or for other reasons. All documentation required for absences must be submitted to the Academic Counselling office of a student's Home Faculty.

For details on the Policy on Accommodation for Medical Illness, go to:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration.pdf

Students can download the Student Medical Certificate (SMC) here:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf

14.2 Accessible Education

Students with disabilities work with Accessible Education (formerly SSD) which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The accommodation policy can be found here:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf

Students needing access to Accessible Education should register here:

http://academicsupport.uwo.ca/accessible_education/index.html

14.3 Religious Accommodation

When conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request an accommodation for their absence in writing to the course instructor and/or the Academic Advising office of their Faculty of Registration. This notice should be made as early as possible but not later than two weeks prior to the writing or the examination (or one week prior to the writing of the test).

Please visit the Diversity Calendars posted on our university's EDID website for the recognized religious holidays:

<https://www.edi.uwo.ca>.

15. University Policy on Cheating and Academic Misconduct

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

Students are responsible for understanding the nature of and avoiding the occurrence of plagiarism and other academic offenses. Students are urged to read the section on Scholastic Offenses in the [Academic Calendar](#).

Note that such offenses include plagiarism, cheating on an examination, submitting false or fraudulent assignments or credentials, impersonating a candidate, or submitting for credit in any course without the knowledge and approval of the instructor to whom it is submitted, any academic work for which credit has previously been obtained or is being sought in another course in the University or elsewhere. If you are in doubt about whether what you are doing is inappropriate, consult your instructor. A claim that "you didn't know it was wrong" will not be accepted as an excuse.

The use of AI and translation tools in written work beyond a dictionary is not permitted unless permission is granted by the instructor for specific circumstances. Any work submitted must be the work of the student in its entirety unless otherwise disclosed. When used, any such AI or translation tool should be used ethically and responsibly, and students must cite or credit the tools used in line with the expectation to use AI as a tool to learn, not only to produce content.

A copy of guidelines about how to avoid cheating can be obtained from the Office of the Ombudsperson, Room 3135 WSSB, (519) 661-3573, ombuds@uwo.ca.

Cheating on exams will not be tolerated; students are referred to the university policy on scholastic offenses. Looking at the test of another student, allowing another student to view your exam, or obtaining information about a test in advance are all examples of cheating.

Students found cheating will receive a zero (0%) on that exam. A number of safeguards will be employed to discourage cheating. For example, examination supervisors (proctors) of the tests may ask students to move to another seat during the exam, cover their paper, avert their eyes from other students' papers, remove baseball caps, etc. This is not meant as a personal affront nor as an accusation of cheating, rather as vigilant attempts at proctoring.

The penalties for a student guilty of a scholastic offense include refusal of a passing grade in the assignment, refusal of a passing grade in the course, suspension from the University, and expulsion from the University.

16. Procedures For Appealing Academic Evaluations

1. In the first instance, all appeals of a grade must be made to the course instructor (informal consultation).
2. If the student is not satisfied with the decision of the course instructor, a written appeal must be sent to the Undergraduate Chair of the Department of Management and Organizational Studies.
3. If the response of the Undergraduate Chair is considered unsatisfactory to the student, they may then appeal to the Dean of the Faculty in which the course of program was taken.
4. Only after receiving a final decision from the Dean may a student appeal to the Senate Review Board Academic. A Guide to Appeals is available from the Office of the Ombudsperson.

17. Support Services

17.1 Support Services

The Registrar's office provides you with information on services, courses, student finances, resources, latest news, as well as Student Central's hours of operation at <http://www.registrar.uwo.ca>

Student Support Services (***including the services provided by the USC listed here***) can be reached at: <http://westernusc.ca/services/>

Academic Support & Engagement can be reached at: <http://academicsupport.uwo.ca>

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

17.2 Academic Concerns.

If you are in academic difficulty, it is strongly recommended that you see your academic counsellor.

18. Statement on Gender-Based and Sexual Violence

Western is committed to reducing incidents of gender-based and sexual violence (GBSV) and providing compassionate support to anyone who is going through or has gone through these traumatic events. If you are experiencing or have experienced GBSV (either recently or in the past), you will find information about support services for survivors, including emergency contacts at the following website: https://www.uwo.ca/health/student_support/survivor_support/gethelp.html

To connect with a case manager or set up an appointment, please contact support@uwo.ca.

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