
MOS 2242B Statistics for Management and Organizational Studies

Course Outline: Section – 002 / Winter 2016

1. Course Information:

1.1 Class Location and Time:

University Community Centre, room 37 (UCC 37)
Fridays
9:30 AM – 12:30PM

1.2 Contact Information:

Instructor: Livia Veselka
Office: SSC 9336
Office Hours: by appointment
Phone: 661-2111 x84050
Email: lveselka@uwo.ca
Website: <http://owl.uwo.ca/portal/site/d347fc72-e581-46c5-a0f3-2a8df1cd9954>

DAN Management and 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. Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 519-661-2111 ext 82147 for any specific question regarding an accommodation. More information about “Accessibility at Western” is available at: <http://accessibility.uwo.ca>

1.3 Additional Assistance:

Data Analytics Help Service

- available free of charge to Western students
- Weldon Library, Collaborative Technology Room 17A in the Map and Data Centre
- drop-in statistics tutoring hours: Mon. 12:00PM-4:00PM; Tues. 12:00PM-3:30PM; Wed. 11:00AM-3:30PM; Thurs. 12:00PM-3:30PM
- for more info: <http://www.lib.uwo.ca/madgic/statisticalconsulting.html>

Tutor Referral Service

- offered by the Department of Statistical & Actuarial Sciences
- <http://www.stats.uwo.ca/modules/undergraduate/wrap.php?id=28>
- DAN department and the instructor do not maintain a list of tutors

2. Calendar Description

2.1 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.

3 lecture hours, 0.5 course

Antirequisite(s): Biology 2244A/B, Economics 2122A/B, 2222A/B, Geography 2210A/B, Health Sciences 3801A/B, Psychology 2810, 2820E, 2830A/B, 2850A/B, 2851A/B, the former 2885, Social Work 2207A/B, the former 2205, Sociology 2205A/B, Statistical Sciences 2035, 2141A/B, 2143A/B, 2242A/B, 2858A/B, the former 2212A/B (and Statistical Sciences 2037A/B if taken before Fall 2010).

Prerequisite(s): 1.0 course or equivalent from Calculus 1000A/B, 1301A/B, 1501A/B, Mathematics 1225A/B, 1228A/B, 1229A/B, 1600A/B; and enrolment in BMOS.

2.2 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.”

3. Textbook

Bowerman, Aitken Schermer, Johnson, O’Connell & Murphree (2014). Business Statistics in Practice (3rd Canadian ed.). New York, NY: McGraw-Hill. [ISBN 978-0-07-133960-5]

The textbook is **required** and it is strongly recommended that you purchase the 3rd Canadian edition given that its format differs from earlier editions. There is no need to bring the textbook to lectures, unless you would like to have it there as an additional reference. Instead, **please bring a copy of the lecture slides to each lecture**, either in hard-copy form or on your computer. The lecture slides will be made available to you through the course site on OWL at the beginning of each lecture week.

4. Course Objectives and Format

4.1 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.

4.2 Course format

The course format will consist of lectures. There are no labs or tutorials. Material covered in lectures will not always be the same as 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 catch up.

5. Learning Outcomes

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

6. Evaluation

There are three exams in this course:

- Exam 1 = 20%
- Exam 2 = 35%
- Exam 3 = 45%

6.1 Exam Information:

All exams are **multiple-choice** in format, and are **closed-book**. Each exam, in total, will be scheduled for **2 hours**. All exams are **not cumulative**. Therefore, students are required to write all three exams in this course.

Only non-programmable calculators will be allowed into the exams. If you are unsure, please ask your professor to check your calculator.

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?): pay attention to the type of data/scenario/assumptions

Students are responsible for material covered in the lectures as well as the assigned chapters/sections in the text. Exams 1 and 2 will be in class time. The third exam will be scheduled during the exam period. Exams will not be returned to students but may be reviewed in the instructor's office. **Note:** No past exam questions are available as review materials.

6.2 Scantron Sheets:

Student answers for multiple-choice questions will be submitted on a scantron sheet. The students must fill in only one oval per question on the scantron sheet. Blank ovals will receive zero marks. Two or more filled ovals will also receive zero marks. The scanner may not recognize lightly coloured or half-filled/half-erased ovals and treat them as blanks. The scanner reads the scantron sheet best when the students use quality HB pencils, do not doodle anywhere on their sheets, and use white erasers. It is the students' responsibility to fill in the ovals completely.

Multiple-choice questions will be processed via computer software and may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

6.3 What to Bring:

- student ID
- quality HB pencils and white erasers
- non-programmable, no-statistical-formula calculators
- no formula sheets; no study notes; no scrap paper; no textbook
- no dictionaries
- no cell phones, laptops, tablets, etc. on person or on desk during the exam

6.4 Exam Results:

Exam marks will be made available to students on OWL. Exam papers will not be returned to students but may be reviewed in the instructor's office during office hours.

The weight (i.e., % of course grade) of each exam will not be adjusted. Extra assignments to improve grades will not be available. **Grades will not be adjusted on the basis of need.**

6.5 Missed Exams:

Missed exams will receive **zero marks** unless a legitimate and documented excuse is presented by the student, and the student writes a make-up exam that is scheduled by the instructor. If you miss an exam, please follow the steps below:

Step 1: If you miss an exam for any reason, you must e-mail the instructor as soon as you are able to do so about the reason why you missed the exam.

Step 2: You must report to the Social Science Academic Counselling (SSAC) Office (SSC 2105) as soon as you can with proper documentation.

Step 3: After the instructor receives a notification from the SSAC Office, the instructor will then e-mail you to schedule a make-up exam.

6.6 Makeup Exams:

There are no predetermined make-up dates in this course, and make-up exams will not be arranged prior to the original exam date.

A make-up exam will be arranged when there is an **exam conflict**. The university policy states that an exam conflict consists of having **3 exams within 23 hours.**

If it is not feasible to schedule a make-up exam before the next exam, the make-up exam can be scheduled even after the next exam. For example, a make-up for Exam 1 should ideally be scheduled before the Exam 2 date; if that is not possible (e.g., prolonged illness), the make-up for Exam 1 can be written after the Exam 2 date or even after the Final Exam, as long as the student has SSAC Office approval.

Students are required to write all 3 exams in this course. The weight (i.e., % of course grade) of each exam will not be adjusted or shifted. A missed exam will receive zero marks unless the student writes a make-up exam.

7. Lecture and Examination Schedule

The following schedule is a guideline only and may be subject to change.

Lecture	Date	Chapters	Textbook Sections
1	Jan. 8	<i>Introduction to the course</i> Chapter 1: Introduction to Business Statistics	1.1, 1.2, 1.3, 1.4, 1.5, 1.6
2	Jan. 15	Chapter 2: Descriptive Statistics Chapter 3: Probability	2.1, 2.2, 2.3, 2.4, 2.5, 2.7, 2.8 3.1, 3.2
3	Jan. 22	Chapter 4: Discrete Random Variables Chapter 5: Continuous Random Variables	4.1, 4.2, 4.3 5.1, 5.2, 5.3
4	Jan. 29	Exam 1 (9:30AM – 11:30PM; 2 hours) Chapter 6: Sampling Distributions Chapter 7: Hypothesis Testing	50 questions; 20% of final grade 6.1 7.1, 7.2, 7.4
5	Feb. 5	Chapter 8: Comparing Population Means and Variances Using <i>t</i> Tests and <i>F</i> Ratios	8.1, 8.2, 8.3, 8.4
6	Feb. 12	Chapter 7/8: Effect Sizes Chapter 9: Confidence Intervals	7.7, 8.1 9.1, 9.2, 9.5
	Feb. 19	Reading Week (no lecture or readings)	
7	Feb. 26	Chapter 14: Chi-Square Tests	14.1, 14.2
8	March 4	Exam 2 (9:30AM – 11:30PM; 2 hours) Chapter 10: Experimental Design and Analysis of Variance	50 questions; 35% of final grade 10.1, 10.2, 10.4
9	March 11	Chapter 11: Correlation Coefficient and Simple Linear Regression Analysis	11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.8, 11.9, 11.10, 11.11
10	March 18	Chapter 12: Multiple Regression	12.1, 12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8
	March 25	Good Friday (no lecture or readings)	
11	April 1	Chapter 16: Time Series Forecasting	16.1, 16.2
		Exam 3 (scheduled by the Registrar's Office; 2 hours)	60 questions; 45% of final grade

8. University Policy Regarding Illness

8.1 Illness

The University recognizes that a student's ability to meet his/her academic responsibilities may, on occasion, be impaired by medical illness. Illness may be acute (short term), or it may be chronic (long term), or chronic with acute episodes. The University further recognizes that medical

situations are deeply personal and respects the need for privacy and confidentiality in these matters. However, in order to ensure fairness and consistency for all students, academic accommodation for work representing 10% or more of the student's overall grade in the course shall be granted only in those cases where there is documentation supplied (see below for process) indicating that the student was seriously affected by illness and could not reasonably be expected to meet his/her academic responsibilities.

Documentation shall be submitted, as soon as possible, to the appropriate Dean's office (the Office of the Dean of the student's Faculty of registration/home Faculty) together with a request for relief specifying the nature of the accommodation being requested. These documents will be retained in the student's file, and will be held in confidence in accordance with the University's Official Student Record Information Privacy Policy

http://www.uwo.ca/univsec/pdf/academic_policies/general/privacy.pdf

Once the petition and supporting documents have been received and assessed, appropriate academic accommodation shall be determined by the Dean's Office in consultation with the student's instructor(s). Academic accommodation may include extension of deadlines, waiver of attendance requirements for classes/labs/tutorials, arranging Special Exams or Incompletes, re-weighting course requirements, or granting late withdrawals without academic penalty.

Academic accommodation shall be granted only where the documentation indicates that the onset, duration and severity of the illness are such that the student could not reasonably be expected to complete his/her academic responsibilities. (Note: it will not be sufficient to provide documentation indicating simply that the student was seen for a medical reason or was ill.)

A form to be completed by off-campus physicians is available at:

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

Whenever possible, students who require academic accommodation should provide notification and documentation in advance of due dates, examinations, etc. Students must follow up with their professors and their Academic Counselling office in a timely manner.

In the case of a final examination in the course, the student must arrange for a Special Examination or Incomplete through their Dean's office, for which you will be required to provide acceptable documentation.

If you feel that you have a medical or personal problem that is interfering with your work, you should contact your instructor and the Faculty Academic Counselling Office as soon as possible. Problems may then be documented and possible arrangements to assist you can be discussed at the time of occurrence rather than on a retroactive basis. In general, retroactive requests for grade revisions on medical or compassionate grounds will not be considered.

8.2 Make Up Examinations

Missed exams will receive zero marks unless a legitimate excuse is provided by the student and a makeup exam is scheduled by the instructor. There are no predetermined makeup dates in this course, and the makeup exams will not be arranged prior to the original test date. A make-up exam will be arranged when there is an exam conflict. The university policy states that an exam conflict consists of having 3 exams within 23 hours.

8.3 Attendance

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

9. University Policy on Cheating and Academic Misconduct

Cheating on exams will not be tolerated; students are referred to the university policy on scholastic offenses (see section 9.0 below). 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. A copy of guidelines about how to avoid cheating can be obtained from the office of the Ombudsperson, Room 3135 WSSB, (519) 661-3573.

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 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.

10. Procedures For Appealing Academic Evaluations

In the first instance, all appeals of a grade must be made to the course instructor (informal consultation). If the student is not satisfied with the decision of the course instructor, a written appeal must be sent to the Assistant Program Director or Designate of the BMOS program. If the response of the Assistant Director is considered unsatisfactory to the student, he/she may then appeal to the Dean of the Faculty in which the course of program was taken. 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 Ombudsperson's Office.

11. Student Responsibilities

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. If you miss a lecture, you should try to obtain the missed material from another student.

In this class, some students may be unaware that their private discussions are distracting to other people. If you feel that students are distracting your attention from the material, then you should ask them to be quiet. If you feel uncomfortable doing this (or the problem persists), then please see the instructor. In addition, please avoid engaging in private discussions with other students during the lectures. To avoid unnecessary distractions, please arrive to each class on time.

12. Support Services

12.1 Support Services

The Registrar's office can be accessed for Student Support Services 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/>

Student Development Services can be reached at: <http://www.sdc.uwo.ca/>

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

13. Other Issues

13.1 Grade Policy

The DAN Program has a grade policy which states that for courses in the 2000 range, the class average must fall between 65% and 70% 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.

13.2 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.

13.3 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.

13.4 Academic Concerns.

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

13.5 Important Dates:

January 4, 2016	Winter Session classes begin.
January 12, 2016	Last day to add a second-term half course
February 15, 2016	Family Day
February 15 - 26, 2016	Reading Week
March 7, 2016	Last day to drop a second-term half course without academic penalty
March 25, 2016	Good Friday
April 6, 2016	Winter Session classes end.
April 7-8, 2016	Study Days
April 9 - 30, 2016	April examination period