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## **MOS 2242B Statistics**

### **Course Outline: Section – 001 / Winter 2017**

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#### **1. Course Information:**

##### 1.1 Class Location and Time:

TH-3101

Tuesday 10:30 – 1:30

##### 1.2 Contact Information:

Instructor: Azaz Bin Sharif, Ph.D.

Office: WSC # 285

Office Hours: Tuesday 2pm - 4pm

Phone: 661-2111 x86992

Email: [asharif9@uwo.ca](mailto:asharif9@uwo.ca)

Website Address: <http://owl.uwo.ca/portal>

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 519-661-2147 for any specific question regarding an accommodation. More information about "Accessibility at Western" is available at: <http://accessibility.uwo.ca>

#### **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 the business world. 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, 2885, Social Work 2205, Sociology 2205A/B, Statistical Sciences 2035, 2037A/B if taken before Fall 2010, 2141A/B, 2143A/B, 2244A/B, 2858A/B and the former 2122A/B.

Prerequisite(s): 1.0 course or equivalent from Calculus 1000A/B, 1100A/B, 1301A/B, 1501 A/B, Mathematics 1225A/B, 1228A/B, 1229A/B, 1600A/B and enrolment in BMOS. 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.

## 2.2 Senate Regulations

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## 3. Textbook

Bowerman, B. L., Schermer, J. A., Johnson, A. M., & O’Connell, R. T. (2014). Business statistics in practice (3rd Canadian ed.). New York, NY: McGraw-Hill.

[ISBN 0-07-133960-4]

## 4. Course Objectives and Format

### 4.1 Course objectives

This course is designed to introduce students to statistical applications related to the business world.

### 4.2 Course format

The course format will consist of lectures. Questions and discussions are desired and encouraged.

## 5. Learning Outcomes

At the end of this course, student should know how to use statistical techniques in business applications. Students will learn concepts of probability and random variables, discrete and continuous distributions, descriptive and inferential statistics, sampling distribution and experimental design, correlation and regression analysis, analysis of variance and time series methods.

## 6. Evaluation

There are 3 exams in this course.

Exam #	Percentage of Course Grade
1	20%
2	35%
3	45%

Exams are **multiple choice in format**. Each exam, in total, will be scheduled for **two hours**, consist of **60 questions**, and are **closed book examinations**. **Dictionaries are NOT allowed into the examinations**.

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

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.

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.

Exams will be scored using the program Scan Exam which examines the answer sheets for unusual coincidences in the pattern of answers given which may be indicative and used as supporting evidence of cheating.

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.

## 7. Lecture and Examination Schedule

January 10	<b>Chapter 1 - Introduction to Business Statistics (sections 1.1 to 1.6)</b>
January 17	<b>Chapter 2 - Descriptive Statistics (sections 2.1 to 2.5, 2.7, and 2.8)</b> <b>Chapter 3 - Probability (sections 3.1 and 3.2 only)</b>
January 24	<b>Chapter 4 - Discrete Random Variables (sections 4.1 to 4.3 only)</b> <b>Chapter 5 - Continuous Random Variables</b> <b>(Sections 5.1, 5.3, and 5.4 only)</b>  Exam review
January 31	<b>EXAM 1 - IN CLASS (12 questions per chapter = 12 x 5 = 60 questions)</b>
February 7	<b>Chapter 6 - Sampling Distributions (section 6.1 only)</b>  <b>Chapter 7- Hypothesis Testing (sections 7.1, 7.2, &amp; 7.4)</b>
February 14	<b>Chapter 8 – Comparing Population Means and Variances using t-Tests and F Ratios (sections 8.1 to 8.4)</b>
February 28	<b>Chapter 9 - Confidence Intervals (sections 9.1 and 9.2)</b>

March 7                    **Chapter 14 - Chi-Square Tests (sections 14.1 and 14.2)**

Exam review

**March 14 - EXAM 2 - IN CLASS (12 questions per chapter =  $12 \times 5 = 60$  questions)**

March 21                **Chapter 10 - Experimental Design and Analysis of Variance (sections 10.1, 10.2, and 10.4)**

March 28                **Chapter 11 - Correlation Coefficient and Simple Linear Regression Analysis (sections 11.1 to 11.11)**

**Chapter 12 - Multiple Regression (sections 12.1 to 12.9)**

April 4                    **Chapter 16 - Time Series Forecasting (sections 16.1, 16.2, 16.6, and 16.7)**

Exam review

**EXAM 3 - SET BY REGISTRAR'S OFFICE - April 9-23, 2016 (15 questions per chapter =  $15 \times 4 = 60$  questions)**

## 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](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](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

The student must write a make-up exam. The make-up exam differs in format from the original exam and would be scheduled before or at the completion of the course. Make-up examinations

will be of the **true/false** nature **with guessing penalty** in which 0.5 marks are deleted from the number correct for *each* incorrect answer.

This format equates the grade a student would achieve if they randomly guessed on a multiple choice exam, which would result in a grade of approximately 20-25%. If a student randomly guessed on a true/false exam, they would achieve a grade of 50%. Thus the guessing penalty then equates the grade due to guessing alone to 25%.

### 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. 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.

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/](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 1000-2999 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 5: Classes resume  
January 13: Last day to add a second term half course.  
February 20: Family Day. All offices closed.  
February 20 – 24: Reading Week.

March 7: Last day to drop a second term half course without penalty.  
April 7: Classes end  
April 8: Study day  
April 9 – 30: Examination Period  
April 14: Good Friday. All offices closed.  
April 30: Second term ends. Last day to apply for Spring Graduation.

## 14. Other Information

- Always keep a calculator handy.
- 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 (and a non-programmable calculator)
- Do not wear baseball caps to exams
- Do not bring cassette/CD players, cell phones, beepers, etc. to exams

For The University of Western Ontario Senate Regulations, please see the Handbook of Academic and Scholarship Policy at: [http://www.uwo.ca/univsec/academic\\_policies/index.html](http://www.uwo.ca/univsec/academic_policies/index.html)

## 15. E-mail Policies

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

### 15.1 UWO.CA Email Addresses Only

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

### 15.2 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 Professor teaches different courses and sections and cannot properly respond to questions if he does not know which course or section you are enrolled in.

### 15.3 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

### 15.4 Non-Acceptable 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