

**SS 1023B (Statistical Concepts) and
SS 2037B (Statistics for Health)
Winter 2019 Course Syllabus**

1. Course Information

Calendar description: an examination of statistical issues aiming towards statistical literacy and appropriate interpretation of statistical information. Common misconceptions will be targeted. Assessment of the validity and treatment of results in popular and scientific media. Conceptual consideration of study design, numerical and graphical data summaries, probability, sampling variability, confidence intervals and hypothesis tests.

Hours and location:

Mondays: 3:30 to 4:30 pm, NSC-1

Wednesdays: 2:30 to 4:30 pm, NSC-1

Prerequisites: none

Anti-requisites: For students registered in Statistical Sciences 2037, the anti-requisite is Statistical Sciences 1023A/B. For students registered in Statistical Sciences 1023, the anti-requisites is Statistical Sciences 2037A/B.

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.

Please see the detailed course schedule on Page 5.

2. Instructor Information

Instructor Camila P. E. de Souza
Department Statistical & Actuarial Sciences

Office hours* Mondays, 1 to 2pm in WSC 225
Wednesdays, 2 to 3pm in WSC 225

Email: use OWL messages only (contact “Instructor Role”) – **not** UWO email

*Any additional help sessions or office hours before tests/exams, as well as any change to regular office hours, will be posted to OWL announcements. Please note that individual appointments will not be scheduled outside office hours unless you have direct timetable conflicts with the entire office hour period.

3. Communicating with the Instructor

Use the OWL messages (to “Instructor Role”) tool when asking a personal administrative question (i.e. confidential questions about marks, participation, progress, absences, etc.) that requires a brief response. Course content related questions or non-personal questions should be posted to the OWL course Forums. You can expect a response to a message to the instructor or a posting to the Forum within **approximately 48 hours** during the work week (during busy times, it may take a little longer). **Note that Messages or Forum questions will not be answered within the 24-hour period before the tests or exams**, nor can I guarantee responses over weekends/holidays.

Students should check OWL (<http://owl.uwo.ca>) on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class. Students are responsible for checking OWL on a regular basis.

4. Course Objectives:

By the end of this course, a successful student will be able to:

- Understand and correctly use foundational vocabulary associated with statistics;
- Interpret, create and critically evaluate graphical and numerical summaries;
- Understand and appreciate probability, chance, randomness, and ‘average’;
- Understand, assess, and critique the validity of conclusions of statistical studies;
- Critically evaluate statistical information presented in the media and society;
- Apply concepts learned in this course to future courses, careers, and everyday life.

5. Course Materials

Required text: Utts, J. M., (2015) Seeing through statistics, 4th edition. Brooks/Cole, Cengage Learning.

6. Important Information

- **If you would like to make an audio recording of the lectures/tutorials in this course, you MUST ask permission first (through OWL Messages sent to “Instructor Role”).** According to intellectual property laws, not asking permission constitutes stealing. I will **NOT** permit videotaping lectures under any circumstances.
- **All course materials (i.e. lecture slides, quizzes, assignments, and actual exam questions and other supplementary material posted on OWL) are made available to you for your personal use in this course only.** Sharing, posting, selling, or using this material outside *of your personal use in this course* is considered an infringement of intellectual property rights.
- **The Forum tool is enabled on the OWL website.** Please use this Forum to post and respond to questions about course content (e.g., lecture, readings, etc). The Forum will be monitored on a regular basis and the instructor will interject with corrections or responses as necessary. As this is an open Forum, please be respectful of your peers, instructor(s), and TAs. Derogatory, discriminatory, or otherwise inappropriate language or topics will be removed and dealt with at the instructor’s discretion.

5. Methods of Evaluation

Component	Weight	Deadlines/Due dates
Review Quizzes & Surveys	5%	Weekly on Owl
Assignment 1	5%	Wed Jan 30
Assignment 2	10%	Wed Feb 13
Assignment 3	10%	Wed Mar 13
Assignment 4	10%	Wed Apr 3
Midterm	25%	Wed Feb 27
Final exam	35%	During exam period

6. Accommodation

- No accommodation will be made after the deadline of quiz or survey for any reason (e.g., technical problems).
- There will be no assignment extensions or make-up assignments for any reason. If you are unable to submit an assignment by the due date/time, you must obtain accommodation from Academic Counseling in your Faculty's Dean's Office; those students obtaining such accommodation will have the weight(s) of the missed assignment(s) shifted to the final exam. Failure to obtain academic accommodation for a missed due date will result in a grade of 0% for the Assignment(s).
- If you miss the Midterm you must request accommodation from Academic Counseling in your Faculty's Dean's Office. Students who obtain appropriate accommodation will be eligible for writing a make-up Midterm test.
- The Final Exam will be held during the official final exam period and will be scheduled by the Registrar's Office. **Do not book travel (or other plans) during this exam period until the exam schedule is finalized by the Registrar's Office.** If you miss the Final Exam you must request accommodation from Academic Counseling in your Faculty's Dean's Office. Students who obtain appropriate accommodation will be eligible to write a make-up final exam.
- You may also be eligible to write a make-up final exam if you are in a "Multiple Exam Situation" (see http://www.registrar.uwo.ca/examinations/exam_schedule.html).

7. Academic Policies

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or supporting documentation to the Academic Counselling Office of your home faculty as soon as possible. If you are a Science student, the Academic Counselling Office of the Faculty of Science is located in NCB 280, and can be contacted at scibmsac@uwo.ca. For further information, please consult the university's medical illness policy at http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf.

The website for Registrarial Services is <http://www.registrar.uwo.ca>.

In accordance with policy, <http://www.uwo.ca/its/identity/activatenonstudent.html>, 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.

Non-programmable calculators are permitted for use during all graded components of the course. No other aids are allowed (unless otherwise noted). **Cellular phones, iPods, and other similar technology are *not* permitted in the midterm/exam rooms.** This means that cellular phones, iPods, and other similar technology **cannot** be used as a timekeeper/clock, calculator, or for any other purpose.

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.

Computer-marked, multiple-choice tests and exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

During tests/exams, proctors will inspect all personal belongings on your desk (and even your baseball cap if you are wearing one). If any items are discovered that are not permitted (e.g. any electronic device other than a non-programmable calculator, or notes) they will be confiscated and the incident will be officially reported as an academic offence. Proctors have the discretion to move students between desks during the Tests or Exam periods.

8. Support Services

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 Student Accessibility Services (SAS) at 661-2147 if you have any questions regarding accommodations.

The policy on Accommodation for Students with Disabilities can be found here:
http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_disabilities.pdf

The policy on Accommodation for Religious Holidays can be found here:
http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf

Learning-skills counsellors at the Student Development Centre (<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. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

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.

Additional student-run support services are offered by the USC, <http://westernusc.ca/services>.

Course Schedule

Week	Topics	Reminder
Jan 7 – 11	<ul style="list-style-type: none"> - Introduction to course - Statistics (Chapter 1) 	
Jan 14 – 18	<ul style="list-style-type: none"> - Statistics in the news (Chapter 2) - Seven critical components (Chapter 2) 	
Jan 21 – 25	<ul style="list-style-type: none"> - Measurement bias (Chapter 3) - Vocabulary (Chapter 3) 	
Jan 28 – Feb 1	<ul style="list-style-type: none"> - Sampling strategies (Chapter 4) - Study design (Chapter 5) 	Wed Jan 30 Assignment 1
Feb 4 – 8	<ul style="list-style-type: none"> - Summarizing data: five number summary; boxplots; histograms (Chapter 7) 	
Feb 11 – 15	<ul style="list-style-type: none"> - Normal distribution and standardized scores (Chapter 8) - Applying the empirical rule (Chapter 8) 	Wed Feb 13 Assignment 2
Feb 18 – 22	Reading week	
Feb 25 – Mar 1	<ul style="list-style-type: none"> - Misleading graphs (Chapter 9) - Wed Feb 27 Midterm exam 	Wed Feb 27 in-class Midterm exam
Mar 4 – 8	<ul style="list-style-type: none"> - Relationships between quantitative variables - Correlation coefficient; linear regression models 	
Mar 11 – 15	<ul style="list-style-type: none"> - Relationships between qualitative variables - Contingency tables; odds ratio; relative risk 	Wed Mar 13 Assignment 3
Mar 18 – 22	<ul style="list-style-type: none"> - Understanding randomness (Chapter 14) - Probability and expected value (Chapter 14) 	
Mar 25 – 29	<ul style="list-style-type: none"> - Introduction to inference: sampling variability and sampling distributions; confidence intervals (Chapters 19 & 20) 	
April 1 – 5	<ul style="list-style-type: none"> - Introduction to inference: hypothesis testing, p-value, level of significance, type I/II errors (Chapters 22 & 23) 	Wed Apr 3 Assignment 4
April 8 - 12	<ul style="list-style-type: none"> - Additional examples of hypothesis testing 	Tue Apr 9 last day of classes