



**Brescia University College**  
**LONDON CANADA**

**Psych 2850A, Section 531**  
**Statistics for Psychology I**  
**Dr. C.M. Tenk**  
**2014-15**

**COURSE DESCRIPTION**

This course provides an introduction to techniques of statistical analysis with an emphasis on application in Psychology. Topics include descriptive statistics, the normal distribution, probability, inferential statistics, and hypothesis testing.

Also included will be discussion on the interpretation of statistics in other research designs including correlation, repeated samples testing and analysis of variance.

**Prerequisites:** At least 60% in a 1000 level Psychology course.

**Antirequisites:** All University level statistics courses numbered 2000 or above, including Psychology 2810, 2820, 2830A, 2885.

**COURSE INFORMATION**

Instructor: Dr. Christine M. Tenk

Office: BR 211

E-mail: ctenk2@uwo.ca

Telephone: ext 28242

Office Hours: Monday 4:00 – 5:00pm, Tuesday 11:30 – 12:30 pm, and by appointment

Time, Location of Classes: Monday, 6 – 9pm, BR 204

Course Website: on Western Owl

**COURSE OBJECTIVES**

By the end of the course, students will be able to

- a) Explain how statistical techniques fit into the general process of scientific research: how, when and why they are used.
- b) Summarize data from a research study using graphical representation, measures of central tendency and variability.
- c) Determine the probability of events from a normal distribution.
- d) Calculate basic inferential statistics including z scores and t tests.
- e) Implement the logic of hypothesis testing including stating hypotheses about sample

data, calculating sample data statistics, making a statistical decision about the hypotheses and interpreting the result.

- f) Assess a set of data to determine which statistical test would be most appropriate and interpret results from a variety of statistical tests and experimental designs

## TEXTBOOK AND COURSE MATERIALS

**Required:** Gravetter, F. J. & Wallnau, L. B. (2013). *Statistics for the Behavioral Sciences*, 9<sup>th</sup> edition. Thomson Wadsworth

**Highly Recommended:** Coursemate code for *Statistics for the Behavioral Sciences*, 9<sup>th</sup> edition. (i.e. *Online studyguide*). Thomson Wadsworth.

## CLASS SCHEDULE (tentative)

Date	Topic	Reading
Sept. 8	Introduction to Statistics	Course outline & Ch. 1
Sept. 15	Frequency Distributions	Ch. 2
Sept. 22, 29	Central Tendency <i>Assignment &amp; Reflection 1 due Sept. 29</i>	Ch. 3
Sept. 29, Oct. 6	Variability	Ch. 4
Oct. 13	Thanksgiving holiday – <i>no class</i>	
<b>Oct. 20</b>	<b>Midterm test</b>	<b>Chapters 1 – 4</b>
Oct. 27	z-Scores	Ch. 5
Nov. 3, 10	Probability <i>Assignment &amp; Reflection 2 due Nov. 3</i>	Ch. 6
Nov. 10, 17	Probability and Samples <i>Assignment &amp; Reflection 3 due Nov. 17</i>	Ch. 7
Nov. 17, 24	Introduction to Hypothesis Testing & Research Designs <i>Assignment 4 due Nov. 24</i>	Ch. 8
Nov. 24, Dec. 1	Introduction to the <i>t</i> Statistic;	Ch. 9
Dec. 1	<i>t</i> Test for Independent Samples;	Ch. 10
<b>December Exam Period</b>	<b>Final exam</b>	<b>Chapters 5 – 10</b>

Topics will be covered in the order given above. **Approximate** lecture dates are listed so that you can keep up with the readings. It is best to read the assigned chapter briefly before class, and then return to the text and reread the material more carefully after we have discussed it. For chapters that are on the class schedule you are responsible for the entire reading, including sections that we do not cover in class, unless otherwise stated during lecture or on the course outline. You are not responsible for chapters that do not appear on the class schedule.

## CLASSROOM ETIQUETTE

Welcome to Statistics for Psychology I! **In order to make the most of this learning experience for yourself and your fellow students, PLEASE**

- Do not use computers in class *for any reason*, except to take notes.
- Do not send or read e-mails/text messages/IM's during class time.
- Turn off cell phones.
- Refrain from speaking to a neighbour during class time (unless invited to do so by the instructor), especially if someone (either the instructor or a fellow class member) is speaking to the class.

These activities can be very distracting to your fellow students and to the instructor, and in that event, **you will be asked to refrain from these activities and/or asked to leave the classroom.** I look forward to teaching you in Psych 2850 and wish you all the best for a great term! ~ *Dr. T.*

## EVALUATION & EXAM SCHEDULE

### Evaluation Summary:

<u>Course Component</u>	<u>Date</u>	<u>Weight</u>
Midterm	Mon. Oct. 20	35%
Final exam	TBA – December exam period (Dec. 6 – 17)	40%
Assignments	Due throughout the term - see dates below	20%
Learning reflections	Due throughout term	5%

### Exams

**Midterm Test:** Scheduled for Monday, October 20<sup>th</sup>, in class. The midterm is based on assigned textbook material from Chapters 1 - 4 and the corresponding lectures. The midterm will be worth 35% of your final grade.

**Final Examination:** To be scheduled by the Registrar for the December Exam Period (Dec. 6 – 17). The 3 hour final Exam will be based on assigned textbook material from Chapters 5 – 10 and the corresponding lectures. The final exam will be worth 40% of your final grade.

The Midterm Test and Final Exam will include questions in several different formats, including short written answers, calculation questions, definitions, and multiple choice. You *will* have to calculate statistical terms in the tests and exams. Marks will be given for selecting the correct statistical test (unless given as part of the question), steps in working out the problem, the correct statistic (i.e., the correct numerical value), and, in some cases, interpretation of the statistic. Thus, even if you arrive at an incorrect final value, marks for intermediate steps may be available. More details about test and exam format will be

available as we approach the test or exam date.

All exams are closed book exams. Any necessary formula and tables will be provided with the examination. Calculators, but not laptops, cell phones or other electronic devices, are allowed in the tests and exams.

### Assignments

Twenty percent (20%) of your mark comes from a series of assignments. There are 4 assignments and you need to submit at least 3 out of the 4. It is your choice which you submit. If you submit all 4 assignments, the best 3 will be counted toward your assignment mark. Because the number of steps involved in completing the assignments will vary, the marking of assignments may vary. For example, some assignments may be marked out of 20 while others may be marked out of 25. Despite this difference, each assignment contributes the same amount to your final grade (6.66%).

Assignments will usually involve working out a statistical problem (showing all calculations), providing a graphic or concise written interpretation or presentation of the analysis and short answer or definition questions on the corresponding statistical theory.

**Assignments will be posted on the course website about one week before the due date.**

Complete your assignment on separate pages being sure to show all your work. Assignment due dates are listed below.

Assignments should be submitted in class. Assignments submitted later than **5 minutes** after the start of class on the due date will be counted as one day late and the 20% per day late penalty applied

**Late Assignments:** There is a per day penalty for assignments submitted **later than 5 minutes** after the start of class on the due date. The late penalty is 20% of the assignment total per day late.

<i>Assignment</i>	<i>Topic</i>	<i>Due</i>
Assignment 1	Freq. Distributions & Central Tendency	Sept. 29
Assignment 2	Variability & z Scores	Nov. 3
Assignment 3	Probability and Samples	Nov. 17
Assignment 4	Hypothesis Testing	Nov. 24

### Learning Reflections

Five percent (5%) of your final grade comes from a series of self assessments of your learning achievements throughout the course. You will generate one such assessment for each of the first 3 assignments that you complete. Your best 2 of 3 assessment grades will contribute 5% of your final grade.

Each assessment will follow a specific format as outlined on the reflection form posted with the corresponding assignment on OWL. Only reflections completed using the posted form will be accepted for grading. More details will be provided about the required components of these reflective assessments during the course. In brief, reflection #1 will assess your areas of difficulty completing the assignment and your plan to improve in these areas, reflection #2 will assess your areas of success and celebrate these successes and reflection #3 will combine the components of reflection #1 and #2 together.

Reflective assessments are due at the same time as assignments. Reflections submitted **later than 5 minutes** after the start of class on the due date will be counted as one day late and the 20% per day late penalty applied

### 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 Web site:

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

Also, multiple choice tests and exams are subject to software that performs similarity reviews to check for unusual coincidences in answer patterns that may indicate cheating. **Thus, it is in your interest to avoid sitting near anyone you studied course material with when writing an exam.**

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Please note that grades **cannot** be adjusted on the basis of need. Your mark in the course will be the mark that you earn. Assignments, tests and exams cannot be re-written to obtain a higher mark.

For questions regarding missed tests or exams, see the academic policies section, attached, or consult the professor or an Academic Advisor.

For academic accommodation to be considered for any course component worth less than 10% of the final course grade, it is the responsibility of the student to approach the course instructor(s) in a timely fashion. Students may be required to submit documentation to their academic advisor. If documentation is required, the request for accommodation will be decided by the academic advisor in consultation with the instructor. If documentation is not required, the instructor will make the final decision. The policies governing requests for academic accommodation for course components worth 10% or more of the course grade are outlined in the Academic Policies section included at the end of the course outline.

### GENERAL INFORMATION

Starting in late September and continuing through the rest of the course we will be using the tables found in the back of the textbook (Appendix B). You should either bring your textbook or a photocopy of the tables to class. During regular classes (but not tests or exams), you are welcome to share your textbook or photocopied statistical tables with your classmates.

**Buy a calculator and bring it with you to all classes.** It is recommended that your calculator have squares, square roots, some memory capacity and basic statistical functions such as means and sum of squares ( $\sum x^2$ ). You do not need an expensive or elaborate calculator, even quite basic models will do everything that you need.

**Learn how to use your calculator.** We will **not** spend any class time on how to use your calculator; there are too many different models for this to be useful. It is important for you to

become familiar with your calculator – be sure to devote some time to this.

# BRESCIA UNIVERSITY COLLEGE ACADEMIC POLICIES AND REGULATIONS

## 1. POLICY REGARDING MAKEUP EXAMS AND EXTENSIONS OF DEADLINES

When a student requests academic accommodation (e.g., extension of a deadline, a makeup exam) for work representing 10% or more of the student's overall grade in the course, it is the responsibility of the student to provide acceptable documentation to support a medical or compassionate claim. All such requests for academic accommodation **must** be made through an Academic Advisor and include supporting documentation. Academic accommodation on medical grounds will be granted only if the documentation indicates that the onset, duration and severity of the illness are such that the student could not reasonably be expected to complete her academic responsibilities. Appropriate academic accommodation will be determined by the Dean's Office in consultation with the student's instructor(s). Please note that personal commitments (e.g., vacation flight bookings, work schedule) which conflict with a scheduled test, exam or course requirement are not grounds for academic accommodation.

A UWO Student Medical Certificate (SMC) is **required** if a student is seeking academic accommodation on medical grounds. This documentation should be obtained at the time of the initial consultation with the physician/nurse practitioner or walk-in clinic. A SMC can be downloaded under the Medical Documentation heading of the following website: <https://studentservices.uwo.ca/secure/index.cfm> . If it is not possible to have an SMC completed by the attending physician/nurse practitioner, the student must request documentation sufficient to demonstrate that her ability to meet academic responsibilities was seriously affected. Please note that under University Senate regulations documentation stating simply that the student "was seen for a medical reason" or "was ill" is **not** adequate to support a request for academic accommodation. All documentation is to be submitted to an Academic Advisor.

Whenever possible, requests for academic accommodation should be initiated in advance of due dates, examination dates, etc. Students must follow up with their professors and Academic Advisor in a timely manner.

The full statement of University policy regarding extensions of deadlines or makeup exams can be found at <http://www.westerncalendar.uwo.ca/2014/pg117.html>

## 2. ACADEMIC CONCERNS

If you feel that you have a medical or personal problem that is interfering with your work, contact your instructor and Academic Advisor 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. Retroactive requests for academic accommodation on medical or compassionate grounds may not be considered.

If you think that you are too far behind to catch up or that your work load is not manageable, you should consult an Academic Advisor. If you consider reducing your workload by dropping one or more courses, this must be done by the appropriate deadlines (refer to the Registrar's website, [www.registrar.uwo.ca](http://www.registrar.uwo.ca), for official dates). 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 eligibility and/or Entrance Scholarship eligibility.*

The Dean may refuse permission to write the final examination in a course if the student has failed to maintain satisfactory academic standing throughout the year or for too frequent absence from the class or laboratory.

## 3. ABSENCES

**Short Absences:** If you miss a class due to a minor illness or other problems, check your course outline for information regarding attendance requirements and make sure you are not missing a test

or assignment. Cover any readings and arrange to borrow notes from a classmate. Contact the course instructor if you have any questions.

**Extended Absences:** If you have an extended absence, you should contact the course instructor and an Academic Advisor. Your course instructor and Academic Advisor can discuss ways for you to catch up on missed work and arrange academic accommodations, if appropriate.

#### **4. POLICY ON CHEATING & 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](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 offences. Students are urged to read the section on Scholastic Offences in the Academic Calendar. Note that such offences 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. Students are advised to consult the section on Academic Misconduct in the Western Academic Calendar.

If you are in doubt about whether what you are doing is inappropriate or not, consult your instructor, the Student Services Centre, or the Registrar. A claim that "you didn't know it was wrong" is not accepted as an excuse.

The penalties for a student guilty of a scholastic offence (including plagiarism) 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.

#### **Plagiarism:**

Students must write their essays and assignments 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 proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar).

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.

#### **Computer-marked Tests/exams:**

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating. Software currently in use to score computer-marked multiple-choice tests and exams performs a similarity review as part of standard exam analysis.

#### **5. PROCEDURES FOR APPEALING ACADEMIC EVALUATIONS**

All appeals of a grade must be directed first to the course instructor. If the student is not satisfied with the decision of the course instructor, a written appeal signed by the student must be sent to the Department Chair. If the response of the department is considered unsatisfactory to the student, she may then submit a signed, written appeal to the Office of the Dean. 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, or you can consult an Academic Advisor. Students are advised to consult the section on Academic Rights and Responsibilities in the Western Academic Calendar.

#### **6. PREREQUISITES AND ANTIREQUISITES**



Unless you have either the prerequisites for a course or written special permission from your Dean to enroll in it, you will be removed from the 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.

Similarly, you will also be deleted from a class list if you have previously taken an antirequisite course unless this has the approval of the Dean. These decisions may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course because you have taken an antirequisite course.

## **7. SUPPORT SERVICES**

The Brescia University College Registrar's website, with a link to Academic Advisors, is at [http://www.brescia.uwo.ca/academics/registrar\\_services/index.html](http://www.brescia.uwo.ca/academics/registrar_services/index.html) . The Western Registrar's website is at <http://www.registrar.uwo.ca/index.cfm> . The website for the Student Development Centre at Western is at <http://www.sdc.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.

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Portions of this document were taken from the Academic Calendar, the Handbook of Academic and Scholarship Policy and the Academic Handbook of Senate Regulations. This document is a summary of relevant regulations and does not supersede the academic policies and regulations of the Senate of the University of Western Ontario.