



Brescia University College
LONDON CANADA

Psych 2850A, Section 530
Statistics for Psychology I
Dr. C. Tenk
2016-17

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 (above the Merici Lounge)

E-mail: ctenk2@uwo.ca

Telephone: ext 28242

Office Hours: Monday 12:00 – 1:00pm, Wednesday 4 – 5pm, and by appointment

Time, Location of Classes: Tuesday, 2:30 – 5:30pm, BR 202

Course Website: on Western Owl

LEARNING OUTCOMES

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

- a) **Identify how statistical techniques fit into the general process of scientific research: how, when and why they are used** (Communication; Critical thinking; Inquiry & analysis; Problem solving)
- b) **Apply descriptive statistics to present data using graphical representation, measures of central tendency and variability** (Communication; Critical thinking;

- Inquiry & analysis; Problem solving)
- c) **Determine the probability of events from a normal distribution** (Communication; Critical thinking; Inquiry & analysis; Problem solving)
 - d) **Calculate basic inferential statistics including z scores and t tests** (Communication; Critical thinking; Inquiry & analysis; Problem solving)
 - e) **Assess a set of data to determine which statistical test would be most appropriate & implement the logic of hypothesis testing** (Communication; Critical thinking; Inquiry & analysis; Problem solving)
 - f) **Appropriately report and interpret the results of the various statistics tests covered in the course** (Communication; Critical thinking; Inquiry & analysis; Problem solving)
 - g) **Actively engage in a cooperative learning environment to foster the academic and personal development of oneself and others** (Communication; Social awareness & engagement; Self awareness & development; Valuing)

TEXTBOOK AND COURSE MATERIALS

For this course Psych 2850A, we cover chapters 1 – 10 from the textbook listed below. If you are continuing with Psych 2851B, you will cover chapters 11 – 17.

Mindtap for Statistics for the Behavioral Sciences includes an e-copy of the text as well as online resources: videos, tutorials, practice quizzes and is **highly recommended**. *Mindtap* can be purchased with 6 or 12 months access depending on your course needs.

Required:

Gravetter, F. J. & Wallnau, L. B. (2017). *Statistics for the Behavioral Sciences, 10th edition*. Cengage Learning

OR

Mindtap for Statistics for the Behavioral Sciences – E-text + online resources (2017), 10th edition, Cengage Learning (**highly recommended option**)

Note: *Mindtap* is also available bundled with a hard copy of the textbook. This option is also **highly recommended**.

CLASS SCHEDULE (tentative)

Date	Topic	Reading
Sept. 13, 20	Introduction to Statistics	Ch. 1
Sept. 20, 27	Frequency Distributions	Ch. 2 (exclude pg. 52 – 55 "Interpolation" & Sec 2.5)
Sept. 27, Oct. 4	Central Tendency	Ch. 3 (exclude pg. 80 – 81)

		“Finding the Precise Median...” & Box 3.2)
Oct. 4, 11	Variability <i>Assignment 1 due Oct. 4</i>	Ch. 4
Oct. 18	Midterm test	Chapters 1 – 4
Oct. 25	z-Scores	Ch. 5
Nov. 1, 8	Probability <i>Assignment 2 due Nov. 8</i>	Ch. 6 (exclude Sec 6.4 pg 179 – 183)
Nov. 8, 15	Probability and Samples	Ch. 7
Nov. 15, 22	Introduction to Hypothesis Testing & Research Designs <i>Assignment 3 due Nov. 22</i>	Ch. 8
Nov. 22, 29	Introduction to the <i>t</i> Statistic <i>Assignment 4 due Nov. 29</i>	Ch. 9 (exclude pg 281 – 286)
Nov. 29, Dec. 6	<i>t</i> Test for Independent Samples	Ch. 10 (exclude Sec. 10.4)
December Exam Period	Final exam	Chapters 5 – 10

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	Tues. Oct. 18	35%
Final exam	TBA – December exam period (Dec. 10 – 21)	40%
Assignments	Due throughout the term - see dates below	21%
Participation	Throughout term - not announced in advance	4%

Exams

Midterm Test: Scheduled for Tues. October 18th, 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. 10 – 21). 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. The relative weighting of different types of test and exam questions will change during the course; you can expect more questions with written answers during some parts of the course (e.g., probability), and more calculation questions with other topics (e.g., *t*-test) 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 or cell phones, are allowed in the tests and exams.

Assignments

Twenty-one percent (21%) of your mark comes from a series of assignments. There are four assignments and you need to submit at least three out of the four. It is your choice which you submit. If you submit all four assignments, the best three 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 (7%).

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 lined paper being sure to show all your work. As with exams, marks will be given not only for the correct answer but also for showing formulae, calculations and intermediate steps. 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	Oct. 4
Assignment 2	Variability & z Scores	Nov. 8
Assignment 3	Probability and Samples	Nov. 22
Assignment 4	Hypothesis Testing	Nov. 29

Participation

Active engagement in learning is a critical component for student success. Therefore, 4% of your final grade will come from activities designed to assess your learning engagement. These activities may take place during class or may be assigned to be completed outside of class time.

Participation activities will **not** be announced in advance.

You **must** be **present** during in-class participation activities in order to complete them.

Academic accommodation will only be granted to students who have provided appropriate documentation (see course outline). Participation activities assigned to be completed outside of class may be completed at any time before the required due date. Out of class activities may not be substituted for in-class activities.

Please note that grades **cannot** be adjusted on the basis of need. Your mark in the course will be the mark that you earn. Tests and exams cannot be re-written nor assignments resubmitted to obtain a higher mark. There are no supplemental or bonus assignments

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 mediated 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 October and continuing through the rest of the course we will be using the tables found in the back of the textbook (Appendix B pg 647 - 651). 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.

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

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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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 for illness 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. Minor ailments typically treated by over-the-counter medications will not normally be accommodated. Documentation shall be submitted as soon as possible to the student's Academic Advisor indicating the period of illness and when the student should be able to resume academic responsibilities. Students must submit their documentation along with a request for relief specifying the nature of the accommodation being requested no later than two business days after the date specified for resuming 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 from: <http://www.westerncalendar.uwo.ca/2016/pg117.html> 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.

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 policy on requesting accommodation due to illness can be viewed at: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf

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, 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 (<http://www.westerncalendar.uwo.ca/2016/pg130.html>)

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.westerncalendar.uwo.ca/2016/pg113.html>

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 Student Academic Appeals under Academic Rights and Responsibilities in the Western Academic Calendar (<http://www.westerncalendar.uwo.ca/2016/pg112.html>)

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 prerequisite(s).

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 is at <http://brescia.uwo.ca/academics/registrar-services/> . 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://uwo.ca/health/mental_wellbeing/ for information including a complete list of options about how to obtain help.

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.