

## Psych 2850A, Section 530

### Statistics for Psychology I

Dr. Tony Vernon

Fall 2017

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#### COURSE DESCRIPTION

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

**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. Tony Vernon

E-mail: [vernon@uwo.ca](mailto:vernon@uwo.ca)

Telephone: 519-661-3682

Office Hours: By appointment

Time, Location of Classes: Tuesdays, 11:30am-2:30pm, 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) **Determine the probability of events from a normal distribution** (Communication; Critical thinking; Inquiry & analysis; Problem solving)
- c) **Calculate basic inferential statistics including z scores and t tests** (Communication; Critical thinking; Inquiry & analysis; Problem solving)
- d) **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)
- e) **Appropriately report and interpret the results of the various statistical procedures covered in the course** (Communication; Critical thinking; Inquiry & analysis; Problem solving)

## TEXTBOOK AND COURSE MATERIALS

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

For this course Psych 2850A, we cover selected sections from chapters 1 – 10 in the textbook. If you are continuing with Psych 2851, you will cover chapters 11 – 17. **Note: the textbook is optional for this section of the course.**

*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 a useful resource. *Mindtap* can be purchased with 6 or 12 months access depending on your course needs.

## CLASS SCHEDULE (with related Chapters and Sections from the textbook)

Sept 12: Introduction to Statistics, Chapter 1

Sept 19: Descriptive Statistics, Chapter 3, Chapter 4 (4.1, 4.2, 4.4)

Sept 26: Interpreting the Standard Deviation, Chapter 5 (5.1, 5.2), Chapter 2 (2.4)

Oct 3: Probability

Oct 10: Fall Reading Week – no class or assignment

Oct. 17: Counting Rules

Oct. 24: Discrete Random Variables and Binomial Variables, Chapter 6 (6.4)

Oct. 31: Midterm Exam

Nov 7: Use of Binomial Experiments to Test Hypotheses, Type I and Type II errors, Chapter 8 (8.1, 8.2)

Nov. 14: Continuous Random Variables, Normal Distributions, Normal Approximation to the Binomial Distribution, Chapter 6 (6.2, 6.3, 6.4)

Nov. 21: Sampling Distributions and Confidence Intervals, Chapter 7 (7.1, 7.2, 7.3), Chapter 9 (pages 284-286).

Nov. 28: 1-Sample Z Test and t Test About The Mean, 1-sample Z Test about Proportions, Chapter 9 (9.1, 9.2, 9.4)

Dec 5: 2-Sample Z Test and t Test About Means, F Test for the Equality of 2 Variances, Chapter 10 (10.1, 10.2, 10.3)

Topics will be covered in the order given above. Lecture dates are listed so that you can keep up with the readings. If you buy the textbook, 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 sections of the chapters listed above. You are not responsible for chapters or sections that do not appear above.

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## CLASSROOM ETIQUETTE

Welcome to Statistics for Psychology II! **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. V.*

## EVALUATION & EXAM SCHEDULE

### Evaluation Summary:

<b>Midterm Exam:</b> Tuesday Oct 31	35%
<b>Final Exam:</b> During the final exam period	55%
<b>Assignments:</b> Weekly	10%

### Exams

**Midterm Exam:** Scheduled for Tuesday Oct 31, in class. The 2-hour midterm is based on assigned textbook material from Chapters 1 - 6 and the lectures. The midterm will be worth 35% of your final grade.

**Final Examination:** To be scheduled by the Registrar during the Final Exam Period. The 3 hour final Exam will be based on assigned textbook material from Chapters 6– 10 and the lectures held after the midterm exam. The final exam will be worth 55% of your final grade.

**Assignments:** Ten percent (10%) of your mark comes from weekly assignments.

None of the assignments or exams is multiple-choice. Instead, you will be given word problems and you will need to perform numerical computations and to write out detailed answers. The format of the exams will be exactly the same as the assignments, so once you have done one or two assignments you will be familiar with the format. You may use your calculators on all assignments and exams but be sure to also show all your working; part marks for incorrect answers can only be given if I can see where you went wrong.

Both exams are closed book. Partial formulas and complete statistical tables will be provided with the exams.

Hard copies of the assignments will be handed out at each lecture. Complete your assignments on paper and submit them at the beginning of the next lecture. Assignments submitted later than **5 minutes** after the start of class on the due date will be counted as one day late and a 20% per day late penalty will be applied.

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. The 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 with the Oct 24 lecture and continuing through the rest of the course we will be using statistical tables which I will provide you with. You should bring these tables with you to class. You may write on these if you wish and clean tables will be provided during the exams.

**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, standard deviations 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.** It is important for you to become familiar with your calculator – be sure to devote some time to this. If you cannot learn how to use your calculator from its Manual there are numerous instructional videos on YouTube. I am also familiar with most models and you are welcome to ask me for help.

**E-mail. Please note that the primary form of contact for you will be announcements delivered as e-mail.** You **must**, therefore, make sure that your UWO e-mail account is functioning. Not receiving an announcement because your e-mail account is over quota, the message did not forward from your UWO account to a different e-mail address, or because you did not check your e-mail in a timely fashion will not be accepted as an excuse for missing a deadline or failure to complete a course responsibility.

You are responsible for checking your UWO e-mail on a regular basis for information, including any changes to dates and times of class meetings, deadlines, and other course information.

## 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)

## 2017-18 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 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.uwo.ca/univsec/pdf/academic\\_policies/appeals/medicalform.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf). 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://westerncalendar.uwo.ca/2017/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, <http://brescia.uwo.ca/academics/registrar-services/> or the list of official dates <http://westerncalendar.uwo.ca/2017/pg7.html>). 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://westerncalendar.uwo.ca/2017/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.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 (<http://www.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://westerncalendar.uwo.ca/2017/pg112.html> ).

Note that final course marks are not official until the Academic Dean has reviewed and signed the final grade report for the course. If course marks deviate from acceptable and appropriate standards, the Academic Dean may require grades to be adjusted to align them with accepted grading practices ([http://www.uwo.ca/univsec/pdf/academic\\_policies/exam/evaluation\\_undergrad.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/exam/evaluation_undergrad.pdf) and [http://www.uwo.ca/univsec/pdf/academic\\_policies/exam/finalgrades.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/exam/finalgrades.pdf)).

## **6. PREREQUISITES**

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).

## **7. SUPPORT**

### **Support Services**

The Brescia University College Registrar's website, with a link to Academic Advisors, is at <http://brescia.uwo.ca/academics/registrar-services/> . The website for the Student Development Centre at Western is <http://www.sdc.uwo.ca/> .

### **Mental Health and Wellness**

Students may experience a range of issues that can cause barriers to your learning, such as increased anxiety, feeling overwhelmed, feeling down or lost, difficulty concentrating and/or lack of motivation. Services are available to assist you with addressing these and other concerns you may be experiencing. You can learn more about mental health and wellness at Brescia at <http://brescia.uwo.ca/life/mental-health-wellness/>. 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.

### **Sexual Violence**

All members of the Brescia University College community have a right to work and study in an environment that is free from any form of sexual violence. Brescia University College recognizes that the prevention of, and response to, Sexual Violence is of particular importance in the university environment. Sexual Violence is strictly prohibited and unacceptable and will not be tolerated. Brescia is committed to preventing Sexual Violence and creating a safe space for anyone in the Brescia community who has experienced Sexual Violence.

If you or someone you know has experienced any form of Sexual Violence, you may access resources at <http://brescia.uwo.ca/life/sexual-violence/>.

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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.