



Brescia University College
LONDON CANADA

**Psychological Statistics Using Computers
Psychology 3800f-530**

Fall 2017

Class Meetings:

Lecture: Mondays 9:30-11:30 AM, St. James Room 206 (computer lab)
Labs: Wednesdays 9:30 AM – 11:30 AM, St. James Room 206 (computer lab)

Course Instructor Dr. Melanie MacEacheron
Office: tba
Email: mmaceac4@uwo.ca
Tele: tba
Office Hours: tba, after asking when works for the class

Materials:

- Field, A. (2013). *Discovering Statistics Using IBM SPSS Statistics, 4th edition*. Sage: London (on reserve in Brescia Library)

This is a highly-accessible text, with clear instructions as to when to run statistical tests and how to do so in SPSS. This text clearly labels what is “needed to be known”, for those seeking only to understand that. It also points to more challenging material for those interested. If you plan on continuing in a quantitative graduate program, this text should be useful to you for years to come. It is available for purchase from online sellers such as *amazon.ca* and *chapters.ca*.

- A USB drive is the best and most reliable way to save your work in the computer lab.
- Lecture/lab slides, as well as supplemental handouts, videos, and web site links will be available on the Owl page associated with each week’s topic

Course Website

Registered students will see the course listed on their Owl page. All resources, including class slides, helpful websites, data sets, etc. will be posted on Owl.

Course Description and Information

This course covers the most common statistical procedures used in psychological research, and the use and interpretation of SPSS for Windows. Topics covered include the *t*-test, various forms of analysis of variance, bivariate and multiple regression and correlation, factor analysis, and multivariate analysis of variance.

Prerequisite(s): Psychology 2800E or Psychology 2856F/G, Psychology 2810 or Psychology 2851A/B, and registration in third or fourth year of the Honors Specialization Psychology program or permission of the department.

Learning Objectives

By the end of this course, students should be able to

- determine the appropriate statistical test for various types of data in psychology (Problem Solving)
- conduct a variety of statistical tests using SPSS software (Inquiry and Analysis)
- interpret the output of statistical tests conducted with SPSS (Inquiry and Analysis)

- write an APA-style results section reporting the outcomes of common statistical tests (Communication, Inquiry and Analysis)

Lectures and Lab meetings

Each week, the lecture will run on Monday in the computer lab (room 206, St. James): The associated laboratory will run on Wednesday, in the same location. We will have a 50-minute lecture, followed by a 10-minute break, and then another 50-minute lecture each Monday. Assignments to complete for the next week will be available after our Wednesday meetings.

Evaluation

Student evaluation will be based on:

Results Reports (4 reports x 8% each = 32%)

Mini-Assignments (2 x 4% each = 8%)

Quizzes (2 quizzes x 10% each = 20%)

Article Analysis (1 x 10%)

Final Exam (30%)

Results Reports: You will be required to perform a specific statistical test using SPSS and write a maximum 2-page Results-type section in APA format. You will also be required to submit your SPSS output. More information about the reports will be available in class.

Mini-Assignments: There will be two mini-assignments in the first half of the semester. These will involve analyzing data in SPSS and answering questions about the analysis and/or the interpretation of the output.

Quizzes: In-class quizzes will be conducted twice during the semester. The quizzes will be held at the beginning of class and will cover the topics discussed since the last quiz (or the beginning of the term in the case of Quiz 1). Missed quizzes may not be made up; students who miss a quiz and provide documentation for accommodation through the academic advisor will have the remaining quiz re-weighted. Students who miss a quiz and do not provide documentation through the academic advisor will receive a zero for the quiz.

Article Analysis: In 2 – 3 double-spaced pages, you will critically analyze a research article of your choosing with special emphasis on the statistical analyses performed, their interpretation, and their appropriateness for the research design. This article can be something you've read for your thesis or another course and must report the results of an original study in psychology (*i.e.*, no meta-analyses or review papers). Use the knowledge gained in this course as a foundation to understand the paper's analyses and investigate and understand any statistical concepts you are unfamiliar with. Specifics about this paper will be discussed in class.

Final Exam: The final exam will be held during the December exam period. It will consist of short answer, multiple choice, and short essay items based on conceptual information from the course, SPSS outputs and datasets, and research scenarios.

Deadlines

Report assignments and mini-assignments will be available on the Owl site after our Monday meeting or earlier (see schedule below). Required hard copies for any component are due at the beginning (no later than 9:45 am) of the class meeting. Late reports will be subject to a 10% per day penalty*, starting at 9:45 am on the due date. Thus, a report handed in on:

- the Monday due date anytime after 9:45 am: -10%
- the Tuesday following the due date (anytime): -20%
- the Wednesday following the due date (anytime): -30%
- the Thursday following the due date (anytime): -40%

**Papers not accepted later than Thursday following the due date (mark will be 0)

All work submitted after a class meeting has ended should be taken to the late assignment (hard copy) drop-off box located outside the Dean's Office. This box will be cleared daily at 4 pm; anything submitted after 4 pm is considered the next day's date. Please note that use of the drop-off box should be considered a "last resort", not the primary way to submit assignments. Students should not submit late assignments to the Brescia welcome desk staff or staff at the Hive.

In addition, the text of your written reports (*i.e.*, all but the SPSS output) and the article analysis paper should be submitted to *turnitin.com* via the Owl course page by 9:45 am on the due date. Please do this before class starts to avoid disruption (a good habit is to submit it while your paper prints). While there is no mark penalty for a late *turnitin* submission, marked hard copies of reports will not be handed back without such a submission.

Accommodation for handing in late or failing to hand in any assignment, missing a quiz, or failure to complete the final exam in this course requires supporting documentation that is verified by an Academic Advisor. Please see the policy section below on academic accommodation for more information.

Please note that your final mark in this course is based exclusively on your performance in the above assessments. Marks will not be adjusted based on requests, and students will not be given the opportunity to improve their marks by completing additional assignments. Also note that the make-up exam may consist, in part or exclusively, of essay, short answer, and/or multiple-choice items.

LECTURE/LAB SCHEDULE – subject to change, see Owl and announcements in class and lab for updates

Date	Topic	Field Chapter	Assignment Due
Sept. 11	(Lec.) Course overview, Basic concepts review	1-2	--
Sept. 13	(Lab) Problems with NHST, effect size	1-2	--
Sept. 18	(Lec.) Correlation	7	--
Sept. 20	(Lab) Correlation, continued	7	--
Sept. 25	(Lec.) Linear regression	8	--
Sept. 27	(Lab) Linear regression, continued	9	Mini-assignment 1
Oct. 2	(Lec.) Multiple regression	8	--
Oct. 4	(Lab) Multiple regression, continued	8	Mini-assignment 2
Oct. 9	<i>Thanksgiving: no class today</i>		
Oct. 11	Fall Reading Week (no class)		
Oct. 16	Quiz 1 , and (Lec.) <i>t</i> -test	9	--
Oct. 18	(Lab) <i>t</i> -test, continued	9	Multiple Regression Report
Oct. 23	(Lec.) One-way ANOVA	11	--
Oct. 25	(Lab) One-way ANOVA, continued	11	<i>t</i> -test Report
Oct. 30	(Lec.) Completely Randomized Factorial ANOVA	13	--

Nov. 1	(Lab) Completely Randomized Factorial ANOVA, continued	13	One-way ANOVA Report
Nov. 6	(Lec.) Repeated Measures ANOVA	14	--
Nov. 8	(Lab) Repeated Measures ANOVA, continued	14	--
Nov. 13	(Lec.) Mixed ANOVA	15	--
Nov. 15	(Lab) Mixed ANOVA, continued	15	--
Nov. 20	Quiz 2 , and (Lec.) Multivariate ANOVA	16 (16.1 – 16.3, only)	--
Nov. 22	(Lab) Multivariate ANOVA, continued	16 (16.1 - 16.3, only)	Mixed ANOVA Report
Nov. 27	(Lec.) Factor Analysis (Principal Components Analysis)	17	--
Nov. 29	(Lab) Factor Analysis (Principal Components Analysis), continued	17	--
Dec. 4	(Lec.) Non-parametrics: Chi-Square	6 & 18 (Chi-Square)	--
Dec. 6	(Lab) Non-parametrics: Chi-Square, continued	6 & 18 (Chi-Square)	Article Analysis paper due
Final exam period	Final Exam date TBA (see Registrar's website)		

⇒ **A note of caution:** Technical failure (e.g., my printer broke/is out of toner, my usb drive is lost/won't work, Word/SPSS/Excel/my laptop broke/exploded/is giving me the screen of death/was stolen out of my car, etc.) is not considered grounds for accommodation. **Please do yourself and me a favour, and develop the habits of 1) backing up your work frequently (even better: saving to the cloud with software like *Google Drive* or *Dropbox*) and 2) not waiting until the last minute to print.**

Email information for students

Course Website and Emails

Registered students will see the course listed on the course Owl site. Various types of information (e.g., handouts or slides) will be posted to the course site. It is the student's responsibility to check the site regularly. You are also required to have an active UWO email account and to use this or to link it to your regularly used email address. **Please note that an important form of contact for this course will email.** You **must**, therefore, make sure that your UWO email account is functioning. Note also that official communications from the university are sent to students' registered UWO email addresses. Not using UWO email is not considered an excuse for not receiving such notifications.

You are responsible for checking the course Owl site and your UWO email on a regular basis for information including requirements for this course. Not receiving an announcement because your email is over quota or a message did not forward from your UWO email account, or because you did

not check your email in a timely fashion will not be accepted as an excuse for missing a deadline or failing to complete a course responsibility.

If you need to ask questions you may speak to me: feel free to approach me after class or during my office hours. Because I am a part-time faculty member and will frequently be out of my office, it may be best for you not to call me. If you prefer to communicate by telephone, however, please let me know and I will be sure to let you know if I have been given a telephone number at Brescia: in that case, to speak to me, please call me during my office hours and do not leave voicemails. If you choose to use email to contact me, please note that a reply may not be immediate. I respond to students' emails by the business day after the business day I receive them. For example, if you email me after 5 p.m. on a Friday, I will respond by some time the following Tuesday (assuming Monday is not a holiday).

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. 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_and_ergad.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 and 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/>.

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.