

PSY 3800f-530

Psychological Statistics Using Computers

School of Behavioural and Social Sciences

In the event of a COVID-19 resurgence during the course that necessitates the course moving away from in-person delivery, course content may be delivered online either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). There may also be changes to any remaining assessments at the discretion of the course instructor. In the event of a COVID-19 resurgence, detailed information about the impact on this course will be communicated by the Office of the Dean and by the course instructor.

General Information

Course #: Psy 3800

Section #: 530/531 (lecture/lab) – all Owl content will be on the **530** website

Term: Fall

Year: 2021

Delivery: in person, with some components on Owl

Instructor Information

Name: Dr. Jennifer Sutton

E-mail: jennifer.sutton@uwo.ca

Office: Ursuline Hall 327

Zoom office hours: Mondays 1 – 2*

In-person office hours: Tuesdays 11-12*

*office hours will occasionally be rescheduled, check class & Owl Announcements

Course Description

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.

Prerequisites: Both [Psychology 2850A/B](#) and [Psychology 2851A/B](#) and both [Psychology 2855F/G](#) and [Psychology 2856F/G](#) or [Psychology 2820E](#) or both [Psychology 2800E](#) and [Psychology 2810](#).

Required Course Materials

1. There are two texts for this course, and both are free. They are very similar but differ in the software they refer to in the examples. Otherwise, they are mostly interchangeable.

The **Jamovi** text can be downloaded at <https://www.learnstatswithjamovi.com/>

Navarro D.J. and Foxcroft D.R. (2019). *Learning statistics with jamovi: A tutorial for psychology students and other beginners* (Version 0.70). doi: 10.24384/hgc3-7p15

The **JASP** text is available at <https://learnstatswithjasp.com/>

Navarro DJ, Foxcroft DR, Faulkenberry TJ. (2019). *Learning statistics with JASP: A tutorial for psychology students and other beginners.*

The texts are here to support your understanding of the different analyses we will cover with additional information, should you need it. Some people will find them helpful and others less so. Important concepts will be covered in lecture and lab, so I consider these texts secondary to our in-class work.

2. You will also need to download the statistical software packages we'll use, Jamovi & JASP. Both are free. Jamovi can be downloaded at <https://www.jamovi.org/download.html> (choose the "solid" version) and JASP can be downloaded at <https://jasp-stats.org/download/>
3. You should also have Microsoft Excel installed from the UWO Microsoft 365 Office package site (free for students): <https://wts.uwo.ca/sitelicense/microsoft/homeuse.html>

Learning Outcomes

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

- determine the appropriate statistical test for various types of data in psychology (*Brescia Competency: Problem Solving*)
- conduct a variety of statistical tests using Jamovi and JASP software (*Brescia Competency: Inquiry and Analysis*)
- interpret the output of statistical tests conducted with Jamovi and JASP (*Brescia Competency: Inquiry and Analysis*)
- write an APA-style results section reporting the outcomes of common statistical tests (*Brescia Competencies: Communication, Inquiry and Analysis*)

- give and receive constructive feedback on submitted work and revise work accordingly (*Communication, Self-Awareness*)
- reflect on the state of their own knowledge and identify personal strategies that maximize achievement (*Self-Awareness*)

Brescia Competencies

- Critical Thinking
- Problem Solving
- Inquiry & Analysis
- Communication
- Self-awareness

Teaching Methodology and Expectations of Students

Each week we will meet for **lecture followed immediately by the lab**. In the lecture portion, you will learn about or review a particular statistical test. In the lab portion, you will practice running the test in Jamovi or JASP and/or practice communicating the results in writing, along with other activities. Most weeks you will have a **homework assignment** posted on Owl that makes use of concepts and skills relevant for running the statistical test that week. In order to access the homework information, you will need to take a very short **learning-check quiz** on that week's statistical test that will provide immediate feedback on your answers and will NOT be graded. Some weeks, the homework will be a larger **results report** that will undergo a peer review process before the final version is turned in. Students are expected to participate fully in the peer review process and meet the deadlines announced in class. **Lecture and lab slides** will be available on Owl by the afternoon before class (Wednesday), and it is recommended that you take notes in whatever way is most effective for you during lecture (by hand, laptop, etc).

Copyright and Intellectual Property

PowerPoint lecture slides and notes, videos, lists of readings, in-class activities, assignment guidelines, and other components of the course materials are typically the intellectual property of the instructor. Unauthorized reproduction through audio-recording, video-recording, photographing, sharing on social media, or posting on course-sharing websites is an infringement of copyright and is prohibited. Such action may be considered a Code of Conduct violation and lead to sanctions.

Evaluation

Evaluation Breakdown:

Component	Weight	Date/ Deadline	Learning Outcome	Brescia Competencies
Results Report 1	15%	12PM OCT 13	All outcomes listed in syllabus	Communication, Inquiry & Analysis, Critical Thinking, Problem Solving, Self-Awareness
Results Report 2	15%	12PM NOV 24	All outcomes listed on first page of syllabus	Communication, Inquiry & Analysis, Critical Thinking, Problem Solving, Self-Awareness
Final Results Report	25%	Due 5 PM Dec 17 th (in exam period)	All outcomes listed on first page of syllabus	Communication, Inquiry & Analysis, Critical Thinking, Problem Solving, Self-Awareness
Homework Assignments (6 total; best 5 count toward final mark)	20%	Most weeks due on Wednesday at 12pm; complete Learning Check to access	Conduct and interpret statistical tests	Problem solving, Inquiry & Analysis, Communication
Application Quiz	25%	Dec 9 in class	Determine appropriate statistical test and interpret results	Problem solving, Inquiry & Analysis

Results Reports: You will be required to perform statistical tests using Jamovi or JASP and write a Results-type section in APA format. You will also be required to submit your Jamovi/JASP output. We will be using peer review for these reports. More information about the reports, including the procedures for peer review, will be available on Owl and in class. The final report will not be peer reviewed, and it should be completely your own work.

Homework Assignments: Most weeks, there will be an activity to complete and turn in using Jamovi or JASP. There will be 6 homework assignments total, but we will count only your best 5 marks (each assignment is worth 4%, for a total of 20% for homeworks).

Learning-Check Quizzes: After each week's class meeting, there will be a very short non-graded quiz available on Owl. You will need to complete the quiz in order to access the homework assignment for that week. You will get feedback on your answers immediately after you finish. Again, these quizzes are not graded and do not count toward your final mark in the course. Instead, they are intended to give you some retrieval practice with that week's analysis and possibly highlight concepts you may need to study further.

Application Quiz: The Application Quiz is marked and will serve as a learning check before the Final Results Report is completed. The Application Quiz is open book/open notes and will be conducted in class using Owl. It will cover information from lectures, labs, and the textbook. You will apply your knowledge of statistics to determine the appropriate test for a set of data, infer an experimental design based on a data sheet or results output, and run statistical tests and interpret the output.

Deadlines

Completed assignments must be uploaded to Owl by the due date and time. The late penalty is 10% per 24-hours late. For example, something due Wednesday at 12PM noon that is turned in:

from 12:01PM on the Wednesday due date to 12:00PM Thursday: -10%

from 12:01PM on Thursday to 12:00PM Friday: -20%

from 12:01PM on Friday to 12:00PM Saturday: -30%

and so on.

Late penalties for reports that include a peer review and revision component will work slightly differently. The initial report upload and the final revised upload will be subject to the same 10% per 24 hours penalty as above. However, the peer reviews you provide are extremely time-sensitive and cannot be submitted late; each one that is not completed on time will receive 0 out of 2 points.

Essay Course Requirements

Because this is an essay course, as per Senate Regulations, you must pass the essay component to pass the course. That is, the average mark for your written assignments must be at least 50% in order to pass the course.

Academic Accommodation

For course components worth any amount of the total course grade, please seek Academic Accommodation with your Academic Advisor. See the Academic Policies and

Regulations section at the end of this course outline or consult the Academic Calendar for more details.

Course Content

Topics will be covered in the order listed. **Note that dates may change**, see Owl/in-class announcements for updates.

Weekly Organizer:

Week	Date	Topic	JAMOVI or JASP text chapter	Homework
1	Sept 9	Welcome, basic concepts review, problems w/NHST, effect size	Jamovi 9 (you might like the reviews in 1, 2, 7, & 8, too)	Complete learning check quiz (not graded!).
2	Sept 16	Correlation	Jamovi 12.1 – 12.2	Complete learning check quiz; Jamovi correlation homework due 12pm Wed, Sept 22
3	Sept 23	Simple Linear Regression	Jamovi 12.4	Complete learning check quiz; Jamovi regression homework due 12pm Wed, Sept 29
4	Sept 30	Multiple Regression	Jamovi 12.5-12.7, 12.8.2	Complete learning check quiz; then Correlation/Regression Report: <ul style="list-style-type: none"> • Initial draft due 12pm Wed, Oct 6 • Peer feedback due 5pm Friday, Oct 8 • Revision + Cover letter due 12pm Wed, Oct 13
5	Oct 7	<i>t</i> test	JASP 10.2-10.5, 10.7	No homework, but learning check quiz will be available
6	Oct 14	Oneway Analysis of Variance	JASP 12.3, 12.4, 12.5, 12.6.1 – 12.6.3	Complete learning check quiz; <i>t</i> -test /Oneway homework due 12pm Wed, Oct 20

7	Oct 21	Factorial Analysis of Variance	JASP 13.1-13.4.1 (note that we will always be including the interaction)	Complete learning check quiz; JASP factorial ANOVA homework due 12pm Wed, Oct 27
	Oct 28	Repeated Measures ANOVA	JASP 12.8	Complete learning check quiz; JASP RM ANOVA homework due 12pm Wed, Nov 10
8	Nov 4	FALL BREAK		
9	Nov 11	Mixed Analysis of Variance	Lecture slides	Complete learning check quiz; ANOVA report <ul style="list-style-type: none"> Initial draft due 12pm Wed, Nov 17 Peer feedback due 5pm Friday, Nov 19 Revision + Cover letter due 12pm Wed, Nov 24
10	Nov 18	ANOVA variations: MANOVA & ANCOVA	JASP 13.5	Complete learning check quiz; ANOVA variations homework due 12pm Wed, Nov 24
11	Nov 25	Factor Analysis (PCA)	Lecture slides	<ul style="list-style-type: none"> No homework, but learning check quiz will be available Get notes ready and study for application quiz
13	Dec 2	Application Quiz (open notes) in class	Notes/activities from the term	Look for results on Owl in 1 -2 days

December Exam Period: Final Take Home Report Due 5pm December 17th

Basic needs

Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live and believes this may affect their performance in the course, is urged to contact the Brescia Student Life Centre

(bucstudent.life@uwo.ca) for support. Furthermore, please notify me if you are comfortable doing so. This will enable me to point you toward resources at Brescia that you may not be aware of (e.g., the Brescia Care Program).

Mental health resources

The Brescia Student Life Centre maintains a number of mental health resources you can access to get help for yourself or someone else. Wondering whether you should seek help for yourself? Read more here:

https://brescia.uwo.ca/student_life/health_and_wellness/get_help.php. I can also help you tap into the Brescia Care Program if you are comfortable speaking to me.

Are you in crisis right now? Follow this link for a comprehensive list of contacts that can help: https://brescia.uwo.ca/student_life/health_and_wellness/resources/crisis_contacts.php

2021-22 BRESCIA UNIVERSITY COLLEGE ACADEMIC POLICIES AND REGULATIONS

1. POLICY REGARDING ACADEMIC ACCOMMODATION

The complete policy regarding [Accommodation for Illness - Undergraduate Students](https://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_12) can be found at https://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_12 .

Students who have long-term or chronic medical conditions which may impede their ability to complete academic responsibilities should seek Academic Accommodation through Student Accessibility Services (https://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_10).

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.

Students who experience an illness or extenuating circumstance sufficiently severe to temporarily render them unable to meet academic requirements may submit a request for academic consideration through the following routes:

1. Submitting a **Self-Reported Absence** form provided that the conditions for submission are met;
2. For medical absences, submitting a **Student Medical Certificate (SMC)** signed by a licensed medical or mental health practitioner;
3. For non-medical absences, submitting **appropriate documentation** (e.g., obituary, police report, accident report, court order, etc.) to their Academic Advisor. Students are encouraged to contact their Academic Advisor to clarify what documentation is acceptable.

Requests for Academic Consideration Using the Self-Reported Absence Portal

Students who experience an unexpected illness or injury or an extenuating circumstance of 48 hours or less that is sufficiently severe to render them unable to meet academic requirements should self-declare using the online Self-Reported Absence portal. This option should be used in situations where the student expects to resume academic responsibilities within 48 hours. Note that the excused absence includes all courses and academic requirements within the up to 48 hours, it is not intended to provide an excused absence from a single course while students fulfill their academic responsibilities in other courses during that time.

The following conditions are in place for self-reporting of medical or extenuating circumstances:

1. Students will be allowed **a maximum of two self-reported absences** between September and April and one self-reported absence between May and August;
2. The duration of the absence will be for a maximum of 48 hours from the time the Self-Reported Absence form is completed through the online portal, or from 8:30 am the following morning if the form is submitted after 4:30 pm;
3. The excused absence will terminate prior to the end of the 48 hour period if the student undertakes significant academic responsibilities (writes a test, submits a paper) during that time;
4. Self-reported absences will **not** be allowed for scheduled final examinations; midterm examinations scheduled during the December examination period; or for final lab examinations scheduled during the final week of term;
5. Self-report absences may **not** be used for assessments worth more than 30% of any course;
6. Any absences in excess of 48 hours will require students to present a Student Medical Certificate (SMC), or appropriate documentation;
7. Students **must** communicate with their instructors **no later than 24** hours after the end of the period covered by the Self-Reported Absence form to clarify how they will fulfil the academic expectations they may have missed during the absence.

Request for Academic Consideration for a Medical Absence

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 their academic responsibilities. Minor ailments typically treated by over-the-counter medications will not normally be accommodated.

The following conditions apply for students seeking academic accommodation on medical grounds:

1. Students must submit their Student Medical Certificate (SMC) 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. An SMC can be downloaded from http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf ;
2. In cases where there might be an extended absence or serious issue, students should submit their documentation promptly and consult their Academic Advisor for advice during their recovery period;
3. Whenever possible, students who require academic accommodation should provide notification and documentation in advance of due dates, scheduled tests or examinations, and other academic requirements;
4. Students **must** communicate with their instructors **no later than 24 hours** after the end of the period covered by the SMC to clarify how they will fulfil the academic expectations they may have missed during the absence;
5. Appropriate academic accommodation will be determined by the Dean's Office/Academic Advisor in consultation with the course instructor(s). Academic accommodation may include extension of deadlines, waiver of attendance requirements, arranging Special Exams (make-ups), re-weighting course requirements, or granting late withdrawal without academic penalty.

The [full policy on requesting accommodation due to illness](#) can be viewed at:

http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_12

2. ACADEMIC CONCERNS

If you feel that you have a medical or personal challenge 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 are not normally considered.

If you think that you are too far behind to catch up or that your work load is not manageable, you should consult your Academic Advisor (https://www.brescia.uwo.ca/enrolment_services/academic_advising/index.php). If you consider reducing your workload by dropping one or more courses, this must be done by the appropriate deadlines; please refer to <http://brescia.uwo.ca/academics/registrar-services/> or the list of official sessional dates in the Academic Calendar (<http://www.westerncalendar.uwo.ca/SessionalDates.cfm?SelectedCalendar=Live&ArchiveID=>).

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.*

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.

Please note that for asynchronous online courses, attendance or participation requirements maybe different than for synchronous or in-person courses.

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 and warranted.

It is important to note that the Academic 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/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=5&SelectedCalendar=Live&ArchiveID=#SubHeading_68).

4. SCHOLASTIC 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: http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_20.

Students are responsible for understanding the nature of and avoiding the occurrence of plagiarism and other academic offences. 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 Scholastic Discipline for Undergraduate Students in the Academic Calendar.

If you are in doubt about whether what you are doing is inappropriate or not, consult your instructor, the Academic Dean's Office, 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.

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 is to be sent to the School Chair. If the response of the Chair is considered unsatisfactory to the student, they may then submit a written appeal to the Office of the Dean. If the student is not satisfied with the decision of the Dean, they may appeal to the Senate Review Board Academic (SRBA), if there are sufficient grounds for the appeal and if the matter falls

within the jurisdiction of the SRBA. For information on academic appeals consult your Academic Advisor or see the Student Academic Appeals – Undergraduate in the Academic Calendar http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_14.

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.

6. PREREQUISITES

Unless you have either the prerequisites for a course or written Special Permission from the 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/> . Students can access supports through Brescia's Student Life Centre (<http://brescia.uwo.ca/life/student-life/>) and Learning Skills Services at Western (<https://www.uwo.ca/sdc/learning/>)

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 obtain information about how to obtain help for yourself or others through **Health & Wellness at Brescia** (https://brescia.uwo.ca/student_life/health_and_wellness/index.php) and **Health and Wellness at Western**, http://uwo.ca/health/mental_wellbeing/index.html.

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 https://brescia.uwo.ca/safe_campus/sexual_violence/index.php .

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.
