

# PSYC 300B – Summer 2021

## Statistical Methods in Psychology II

**Dates:** July 5<sup>th</sup> – August 20<sup>th</sup>, 2021

**Time:** Monday & Wednesday (12:30-14:20), Friday (12:30-13:20)

**Labs:** Thursday 12:30-13:20 (B01), Thursday 11:30-12:20 (B02)

**Room:** Online via Zoom Conferencing

**Instructor:** Nathan Lewis

**Email:** [nathanlewis@uvic.ca](mailto:nathanlewis@uvic.ca)

**Office:** B335g Cornett Building

**Office Hours:** By appointment

**Teaching Assistant:** Josh Palmer (labs)

Tom Spence

**Email:** [jmpalmer@uvic.ca](mailto:jmpalmer@uvic.ca)

[tomspace@uvic.ca](mailto:tomspace@uvic.ca)

### **Course Description:**

This course will provide a conceptual and practical understanding of descriptive and inferential statistics as applied to psychological research. Building on the skills developed in PSYC 300A, this course will have an emphasis on topics relating to inferential analysis, power, and multiple group comparisons. By the end of this course, you will develop the skills to:

- Read and critically evaluate academic papers and reports;
- Know when to apply the appropriate test statistic to a given research design;
- Interpret and communicate results of statistical analyses in a manner appropriate for psychological research

### **Zoom Video Conferencing**

Please log into the Zoom Video Conferencing site for PSYC 300A through the Brightspace site under General Course Resources. This will ensure that you are properly represented in the session. If you are in a waiting room, you need to exit and log in again through the UVic system.

<https://www.uvic.ca/systems/support/avmultimedia/zoomvideoconferencing/resources.php>

*Please do not share Zoom login information with anyone not registered in PSYC 300A.*

### **Text**

There is no required textbook for this course. All course content will be delivered through lectures, assignments, and discussion of course concepts. If you are interested in having a supplemental text as a guide, I recommend the following **OPTIONAL** texts:

Gravetter, F. J., & Wallnau, L. B. (2017). *Statistics for the behavioral sciences* (10th ed.). Thomson Wadsworth.

Field, A., Miles, J., & Field, Z. (2012). *Discovering Statistics Using R*. Thousand Oaks, CA: Sage Publications

*Note: These texts are for supplemental reading only. Material from these texts will not be tested.*

### **Prerequisites:**

The prerequisites for PSYC 300B include:

1. The completion of Psychology 300A with a minimum grade of 50%.

### **Course Requirements and Evaluation:**

<b>Evaluation</b>	<b>Date</b>	<b>% of Grade</b>
Assignments	Throughout term	20%
Post-class quizzes	Throughout term	8%
Midterm Exam #1	Friday, July 16 <sup>th</sup>	10%
Midterm Exam #2	Friday, August 6 <sup>th</sup>	15%
Research Report: Proposal	Thursday, July 22 <sup>nd</sup>	2%
Research Report: Final Report	Monday, August 16 <sup>th</sup>	15%
Final Exam (Cumulative)	Friday, August 20 <sup>th</sup>	30%

#### ***Assignments***

There will be a total of four (4) assignments throughout the course, each worth 5% of your total grade. The assignments are designed to give you experience working with real data and become familiar using and interpreting results from R statistical software. Assignments will be posted on Brightspace roughly one week before the due date.

#### ***Post-Class Quizzes***

Quizzes will be posted on Brightspace following each lecture (excluding exams and holidays) to encourage you to review the material and keep up with regular practice. Each quiz will consist of a few questions corresponding to material covered in the lecture and you will have until 5pm the following day to complete the quiz. You will be allowed multiple attempts for each quiz, with the highest grade for the quiz being applied to the final grade.

#### ***Research Report Project***

This is your chance to experience the exotic, fast-paced world of academic research. You will have the opportunity to create your own study on a topic of your choice (mostly), based on real data (from the easySHARE dataset on Brightspace). Additional details on this project will be provided on Brightspace and discussed in class. NOTE: An original research report is required for successful completion of this course. *If you do not submit the research project paper you will receive an “N” in this course.*

#### ***Exams***

There will be two midterm exams (one worth 10% and the second worth 15%) and one cumulative final exam worth 30%. All exams will be written online and will be timed; to reduce load on the Brightspace servers, you will be given a window of time in which to start your exam, including the scheduled course time. All grades will be posted on Brightspace following each exam.

**Missed Exams:** It is your responsibility to attend midterms as scheduled. If you miss a midterm due to illness, accident, or family affliction, you must send me an email as soon as possible indicating that you have missed the midterm, and the reason for it. For the 2021 summer term, students are not required to provide documentation to support their request for academic concession (e.g. medical notes), but it is appreciated. A make-up midterm will be scheduled to be completed within 7 days of the missed midterm. If the make-up midterm is not completed within that timeframe, a score of 0 will be assigned to the midterm, unless there are exceptional circumstances.

Students who miss two midterms will receive a grade of “N” in the course as they will be deemed to have missed too much of the course material to have met course completion requirements.

**Final Exam:** If you are unable to attend the final exam you must apply to Records Services for a “Request for Academic Concession”, typically within 10 working days of the exam date. If an academic concession is granted for the final exam, an alternative date to write the make up exam **MUST** be arranged with the instructor.

### ***Research Participation or Research Review (Bonus Marks)***

You will be given the option to earn up to 2% bonus marks to be applied to the final grade. For the first option, you can participate in research studies as a participant in Department of Psychology for the equivalent of 2 hours of participation, or 2 SONA credits, and complete a brief report about your experience as a participant and the aims of the study (i.e., “How does this relate to PSYC 300?”). Or, you can review published research on a specific topic and complete a brief analysis and report. The purpose of the research participation/review is to provide you with experience applying what you have learned in the course to real research. The Research Participation/Research Review contributes a maximum of 2% bonus towards your grade, and more details for both options will be posted on the course webpage.

### ***Grading***

Your final grade will be a percentage and will be rounded to the nearest whole number (no APA-style reporting here). Rounding will only occur for the final grade.

Any student who does not take the final exam will receive an “N” in this course. Link for RAC – <https://www.uvic.ca/registrar/students/appeals/acad-concession/index.php>

The final letter grade in the course will be based on total percent score as shown:

A+ = 90 - 100	B+ = 77 - 79	C+ = 65 - 69	F = 0 - 49
A = 85 - 89	B = 73 - 76	C = 60 - 64	
A- = 80 - 84	B- = 70 - 72	D = 50 - 59	

### **Application of Course Material**

#### **R Statistical Software**

R is a freely available software for statistical analysis. In this course, it is expected that you will gain some familiarity and comfort in interpreting R output and using R for statistical analysis. R studio will be used to organize analytic scripts. R software can be downloaded [here](#), and R studio desktop (free) is available [here](#).

#### **Labs**

The weekly labs will be an opportunity for you to become familiar with the mechanics of using R software with the assistance of the TA. The guided activities will overlap considerably with material on the assignments, so attendance of each lab is imperative. Please note, ***Labs are mandatory, and you must attend them in real time.*** You must attend at least 50% of the labs or you will receive an “N”, in the course. You must attend the lab section you are registered in.

B01: Thursdays at 12:30-1:20

B02: Thursdays at 11:30-12:20

## Study Groups

Working together in groups of 2 to 4 people on a regular basis (not just the day before the exam) is helpful for some people. If you find this helpful I highly encourage you to seek out other interested students (the Brightspace discussion forum or labs could be a good place to arrange this). Also, I welcome study groups to come see me in pre-arranged office hours.

## Tentative Class Schedule

Wk.	Day	Date	Topic	Assignments
1	Mon	July 5	Course intro; Variables and Measurement	
1	Wed	July 7	Hypothesis testing refresher; $t$ -test for Related Samples Design	
1	Fri	July 9	$t$ -test for Related Samples Design	
2	Mon	July 12	$t$ -test for Independent Samples Design	Assign. 1
2	Wed	July 14	$t$ -test for Independent Samples Design	
2	Fri	July 16	<b>Exam #1</b>	
3	Mon	July 19	Power	
3	Wed	July 21	Multigroup Design (ANOVA)	
3	Thur	July 22	<u>Interactive Lab Day</u> : “Selecting the appropriate analyses”	<b>Proposal Due</b>
3	Fri	July 23	Multigroup Design (ANOVA)	
4	Mon	July 26	Multigroup Design (ANOVA); Regression	Assign. 2
4	Wed	July 28	Regression	
4	Fri	July 30	Multiple Comparisons	
5	Mon	August 2	<i>BC Day – No Class</i>	Assign. 3
5	Wed	August 4	Multiple Comparisons	
5	Fri	August 6	<b>Exam #2</b>	
6	Mon	August 9	Factorial Designs (ANOVA)	Assign. 4
6	Wed	August 11	Factorial Designs (ANOVA); Interactions in Factorial Designs	
6	Fri	August 13	Interactions in Factorial Designs	
7	Mon	August 16	Non-Parametric Tests	<b>Report Due</b>
7	Wed	August 18	Review	
7	Fri	August 20	<b>Final Exam</b>	

**UNIVERSITY OF VICTORIA**  
**Department of Psychology**  
**Important Course Policy Information**  
**Summer 2021**

***Prerequisites***

Students who remain in courses for which they do not have the prerequisites do so at their own risk. Students who complete courses without prerequisites ARE NOT exempt from having to complete the prerequisite course(s) if such courses are required for the degree program.

***Program Requirements***

For more information see the UVic Calendar May 2021.

***Registration Status***

Students are responsible for verifying their registration status. Registration status may be verified using My Page, View Schedule. Course adds and drops will not be processed after the deadlines set out in the current UVic Calendar.

***Commitment to Inclusivity and Diversity***

The University of Victoria is committed to promoting, providing and protecting a positive and supportive and safe learning and working environment for all its members.

***In the Event of Illness, Accident or Family Affliction***

- ***What to do if you miss the final exam scheduled during the formal exam period***

Apply at Records Services for a "Request for Academic Concession", normally within 10 working days of the date of the exam. Records Services will forward the form to the instructor. If the concession is granted, the instructor will determine how to deal with the situation (for example, a deferred exam). Where a concession is not applied for or where such application is denied, an N grade will be entered on the student's academic record.

OR, you can download the Request for Academic Concession form here:

<http://www.uvic.ca/registrar/assets/docs/record-forms/rac.pdf>

- ***What to do if you miss an exam other than one scheduled during the formal exam period***

Do not apply at Records Services for a "Request for Academic Concession". Instead submit documentation of the illness, accident or family affliction directly to your course instructor (or designated teaching assistant).

- ***What to do if you require additional time to complete course requirements***

Apply at Records Services for a "Request for Academic Concession", normally within 10 working days of the end of the course. Records Services will forward the form to the instructor. If the concession is granted, the instructor will determine how to deal with the situation (for example, a deferred exam). Where a concession is not applied for or where such application is denied, an N grade will be entered on the student's academic record.

OR, you can download the Request for Academic Concession form here:

<http://www.uvic.ca/registrar/assets/docs/record-forms/rac.pdf>

***Policy on Academic Integrity including Plagiarism and Cheating***

The Department of Psychology fully endorses and intends to enforce rigorously the Senate Policy on Academic integrity [https://www.uvic.ca/calendar/future/undergrad/#/policy/Sk\\_0xsM\\_V?bc=true&bcCurrent=08%20-%20Policy%20on%20Academic%20Integrity&bcGroup=Undergraduate%20Academic%20Regulations&bcItemType=policies](https://www.uvic.ca/calendar/future/undergrad/#/policy/Sk_0xsM_V?bc=true&bcCurrent=08%20-%20Policy%20on%20Academic%20Integrity&bcGroup=Undergraduate%20Academic%20Regulations&bcItemType=policies). It is of utmost importance that students who do their work honestly be protected from those who do not. Because this policy is in place to ensure that students carry out and benefit from the learning activities assigned in each course, it is expected that students will cooperate in its implementation.

The offences defined by the policy can be summarized briefly as follows:

1. **Plagiarism.** You must make sure that the work you submit is your work and not someone else's. There are proper procedures for citing the works of others. The student is responsible for being aware of and using these procedures.
2. **Unauthorized Use of an Editor.** The use of an editor is prohibited unless the instructor grants explicit written authorization.
3. **Multiple Submission.** Only under exceptional circumstances may a work submitted to fulfill an academic requirement be used to satisfy another similar requirement. The student is responsible for clarifying this with the instructor(s) involved.
4. **Falsifying Materials Subject to Academic Evaluation.** This includes falsification of data, use of commercially prepared essays, using information from the Internet without proper citation, citing sources from which material is not actually obtained, etc.
5. **Cheating on Assignments, Tests, and Examinations.** You may not copy the work of others in or out of class; you may not give your work to others for the purpose of copying; you may not use unauthorized material or equipment during examinations or tests; and you may not impersonate or allow yourself to be impersonated by another at an examination. The Department of Psychology has a policy of not making old examinations available for study purposes. Therefore, use of old exams without the express written permission of the instructor constitutes cheating by the user, and abetting of cheating by the person who provided the exam.
6. **Aiding Others to Cheat.** It is a violation to help others or attempt to help others to engage in any of the conduct described above.

Instructors are expected to make every effort to prevent cheating and plagiarism. This may include the assignment of seating for examinations, asking students to move during examinations, requests to see student identification cards, and other measures as appropriate. Instructors also have available to them a variety of tools and procedures to check for Internet and electronic media-based cheating. In instances of suspected or actual plagiarism or cheating, instructors, following prescribed procedures, are authorized to take steps consistent with the degree of the offence. These measures will range from a zero on the test or assignment or a failing grade for the course, probation within a program to temporary or even permanent suspension from the University.

Rights of Appeal are described in the Policy on Academic Integrity in the University calendar May 2021.

**The definitive source** for information on Academic Integrity is the University Calendar

**Other useful resources on Plagiarism and Cheating include:**

1. The Ombudsperson's office: <https://uvicombudsperson.ca/tips/plagiarism/>  
The [Office of the Ombudsperson](#) is an independent and impartial resource to assist with the fair resolution of student issues. A confidential consultation can help you understand your rights and responsibilities. The Ombudsperson can also clarify information, help navigate procedures, assist with problem-solving, facilitate communication, provide feedback on an appeal, investigate and make recommendations. Phone: 250-721-8357; Email: [ombuddy@uvic.ca](mailto:ombuddy@uvic.ca); Web: [uvicombudsperson.ca](http://uvicombudsperson.ca).

2. UVic Library Resources: <http://www.uvic.ca/library/research/citation/plagiarism/>
3. [https://www.uvic.ca/library/research/citation/documents/avoiding%20plagiarism%20guideUpdate\\_Sept\\_2013.pdf](https://www.uvic.ca/library/research/citation/documents/avoiding%20plagiarism%20guideUpdate_Sept_2013.pdf)