



## PSYCHOLOGY 300B – Section A02

### Statistical Methods in Psychology II

### Spring (Jan. - Apr. ) 2021 : CRN 22560

|   |  |
|---|--|
| <b>Time:</b> TWF 12:30 pm – 1:20 pm   | <b>Room:</b> Online via Zoom Video Conferencing  |
| <b>Instructors:</b> David Medler (Lectures)<br><b>Office:</b> COR A277<br><b>Office Hours:</b> M 1:00 - 2:00; W 2:00 - 3:00<br><b>Email:</b> dmedler@uvic.ca (Lecture/Exam Questions) | <b>Instructors:</b> Louise Chim (Labs/Research Project)<br><b>Office:</b> COR A277<br><b>Office Hours:</b> By Appointment<br><b>Email:</b> chim@uvic.ca (Labs/Project Questions) |
| <b>Teaching Assistant:</b> Tom Ferguson<br><b>Email:</b> tomferg@uvic.ca  | <b>Teaching Assistant:</b> Tom Spence<br><b>Email:</b> tomspence@uvic.ca   |
| <b>Office Hours:</b> By Appointment   |  |

#### ZOOM VIDEO CONFERENCING INFORMATION

Please log into the Zoom Video Conferencing site for PSYC 300B (A02) 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 will need to exit and log in again through the UVic system.** Due to previous issues last term, *students will not be admitted into the Zoom session through the waiting room.*  
<https://www.uvic.ca/systems/support/avmultimedia/zoomvideoconferencing/resources.php>

In case you need it, the general information for the Zoom session is as follows:

**Meeting ID:** 910 1419 6620

**Password:** 821775

*Please do not share this information with anyone not registered in PSYC 300B (A02).*

#### PREREQUISITES AND REGISTRATION

The prerequisite for Ψ300B is simply:

1. The completion of Psychology 300A with a minimum grade of 50%. This is non-negotiable.

Students are responsible for checking their registration status before the end of the course change period (January 22, 2021). Students will **not be added** to the course after this time.

#### BRIGHTSPACE

All course material, including detailed lecture notes, is available through BrightSpace, which you can access by logging in through MyPage or directly through [bright.uvic.ca](http://bright.uvic.ca). This site will have all course lecture material with the accompanying overheads that are presented in class, as well as the recorded lectures. It will also have blank copies of homework assignments and their respective answer keys. Most files are in pdf format.

**Required Text:** Psyc 300B CoursePack, from the BrightSpace website

**OPTIONAL TEXT:** Howell, David C. (2017/2014). Fundamental Statistics for Behavioral Sciences

(9<sup>th</sup>/8<sup>th</sup> Edition). May be on reserve in library. This text is for supplemental reading and supplemental homework. *No material from the optional text will be examined.*

#### COURSE OBJECTIVES

1. To gain conceptual understanding of statistical analyses to advanced research designs.
2. To gain practical experience in the interpretation and communication of statistical analysis in a manner appropriate for those involved in psychological research.

#### TOPICS COVERED

Measurement (independent & dependent variables); Power; Inferential analysis for research designs under the Random Sampling Model of Hypothesis Testing. Research designs include related-samples, bivariate correlation, independent samples for  $j = 2, j > 2$  (Analysis of Variance — ANOVA), & multi-factorial ANOVA. Other topics include multiple comparisons, options for analyzing data when assumptions are violated, and analysis of frequency data (Chi-Square).



## TENTATIVE COURSE SCHEDULE

| WEEK   | DATE   | CHAPTER / LECTURE TOPIC   |
|--|--------|---|
| <b>PART 1 – Hypothesis Testing with 1- and 2-Sample Designs, Variability Explained</b> |        |   |
| 1  | 12-Jan | Tuesday Course Introduction   |
|  | 13-Jan | Wednesday Lecture 1: Independent & Dependent Variables                    |
|  | 15-Jan | Friday Lecture 1: Independent & Dependent Variables                       |
| 2  | 19-Jan | Tuesday Lecture 2: Hypothesis Testing – Related Sample Design             |
|  | 20-Jan | Wednesday Lecture 2: Hypothesis Testing – Related Sample Design           |
|  | 22-Jan | Friday Lecture 3: Hypothesis Testing – Correlation Design                 |
| 3  | 26-Jan | Tuesday Lecture 4: Hypothesis Testing – Independent Samples Design        |
|  | 27-Jan | Wednesday Lecture 4: Hypothesis Testing – Independent Samples Design      |
|  | 29-Jan | Friday Lecture 4: Hypothesis Testing – Independent Samples Design         |
| 4  | 02-Feb | Tuesday Lecture 4: Hypothesis Testing – Independent Samples Design        |
|  | 03-Feb | Wednesday Lecture 5: Variability Explained ( $r^2$ )                      |
|  | 05-Feb | Friday <b>Review/Catch-Up</b>   |
| 5  | 09-Feb | Tuesday <b>Exam #1</b> (Lectures 1 – 5, Labs #1 & #2, Homework)           |
| <b>PART 2 – Power and Multigroup Design (ANOVA)</b>                                    |        |   |
|  | 10-Feb | Wednesday Lecture 6: Power  |
|  | 12-Feb | Friday Lecture 6: Power   |
| 6  | 16-Feb | Tuesday <i>Reading Break – No Class</i>                                   |
|  | 17-Feb | Wednesday <i>Reading Break – No Class</i>                                 |
|  | 19-Feb | Friday <i>Reading Break – No Class</i>                                    |
| 7  | 23-Feb | Tuesday Lecture 6: Power  |
|  | 24-Feb | Wednesday Lecture 7: Hypothesis Testing – Multigroup Design (ANOVA)       |
|  | 26-Feb | Friday Lecture 7: Hypothesis Testing – Multigroup Design (ANOVA)          |
| 8  | 02-Mar | Tuesday Lecture 7: Hypothesis Testing – Multigroup Design (ANOVA)         |
|  | 03-Mar | Wednesday Lecture 7: Hypothesis Testing – Multigroup Design (ANOVA)       |
|  | 04-Mar | Friday Lecture 8: Multiple Comparisons                                    |
| 9  | 09-Mar | Tuesday Lecture 8: Multiple Comparisons                                   |
|  | 10-Mar | Wednesday Lecture 8: Multiple Comparisons                                 |
|  | 12-Mar | Friday <b>Review/Catch-Up</b>   |
| 10   | 16-Mar | Tuesday <b>Exam #2</b> (Lectures 6 – 8, Class Exercise #3 & #4, Homework) |
| <b>PART 3 – Multifactorial Designs and Non-Parametric Tests</b>                        |        |   |
|  | 17-Mar | Wednesday Lecture 9. Hypothesis Testing: Multi-Factorial Designs          |
|  | 19-Mar | Friday Lecture 9. Hypothesis Testing: Multi-Factorial Designs             |
| 11   | 23-Mar | Tuesday Lecture 9. Hypothesis Testing: Multi-Factorial Designs            |
|  | 24-Mar | Wednesday Lecture 10: Interactions in Factorial Designs                   |
|  | 26-Mar | Friday Lecture 10: Interactions in Factorial Designs                      |
| 12   | 30-Mar | Tuesday Lecture 10: Interactions in Factorial Designs                     |
|  | 31-Mar | Wednesday Lecture 11: Analysis of Frequency Data                          |
|  | 02-Apr | Friday <i>Good Friday – No Class</i>                                      |
| 13   | 06-Apr | Tuesday Lecture 11: Analysis of Frequency Data                            |
|  | 07-Apr | Wednesday Lecture 12: Options when Assumptions are Violated               |
|  | 09-Apr | Friday Lecture 12: Options when Assumptions are Violated                  |
|  | 12-Apr | Monday <b>Review/Catch-Up</b>   |

## APPLICATION OF COURSE MATERIAL

**Homework Assignments:** You will be given up to 12 graded homework assignments worth a total of 5% of your final grade. The homework will provide you with opportunities to test your mastery of the material. There is simply NO substitute for wrestling a statistics problem to the ground yourself in order to understand the material. You will be required to enter your answers to the homework questions on BrightSpace. Answer keys will be provided once the homework has been closed. The lowest two homework grades will be dropped.

**Labs:** To further facilitate your integration of the course material, you will participate in GRADED lab exercises worth 10% of your final grade. Further information is provided in the Lab Document provided on BrightSpace. Please note, **Labs are mandatory, and you must attend them in real time.** You must attend at least 50% of the labs, and receive a passing grade (minimum 50% average) on the labs, or you will receive an “N”, in the course. As we drop the lowest lab grades, there are no make-up labs, etc.

**Zoom Polling:** In order to assess concept attainment in class, Zoom Polling will be used during the lectures. You will be graded on your correct responses, but these grades will be considered bonus marks. Each correct Zoom Poll response will be worth 0.1% of your total grade, to a maximum of 3%. It is expected that there will be approximately 40+ Zoom Polling questions distributed throughout the term.

**Research Project Report:** An original research report is REQUIRED for successful completion of this course. This term you will have the opportunity to create your own study following the guidelines on BrightSpace, “Research project”. You will be provided with a data set unique to your study.

**If you do not turn in the research project paper you will receive an “N” in this course.**

## 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. It is perfectly acceptable for a study group to come for assistance “en masse” during pre-arranged office hours.

## COMPUTER SOFTWARE PROGRAM FOR STATISTICAL ANALYSIS

Some homework assignments require the use of computers. We will be using *R* and/or JASP for this class; please bear with me this term as I am integrating *R* and JASP into the class — there will likely be some bumps along the way. The best thing is that both of these programs are free. *R* is more of a command line program that is very popular these days, but requires a bit more programming knowledge. JASP is easier to use overall, but not as easily adaptable. You will need to become somewhat familiar with either of these programs as you will require them to analyze your project data.

## GENERAL STATEMENT OF BEHAVIOURAL EXPECTATIONS

The University of Victoria is committed to promoting, providing & protecting a positive, supportive, and safe learning and working environment for all its members and so am I. If you have any concerns regarding the activities that are intrinsic to Psyc 300B, please see me in the first week of the term.

**Respect for Diversity:** It is my intent that students from all diverse backgrounds and perspectives be well-served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socio-economic status, ethnicity, race, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. In addition, if any of our class meetings conflict with your religious events, please let me know so that we can make arrangements for you.

## STATEMENT OF COPYRIGHT NOTICE

All lecture notes and course materials provided to you including all exams and quizzes are my intellectual property, and are made available to students for instructional purposes only. You do not have my permission to distribute my lecture notes or any exams or quizzes from the course. Such distribution, through note-sharing sites or other means, violates the Policy on Academic Integrity.

## SPECIAL STATEMENT ON ONLINE COURSE DELIVERY

Given the current situation and need for physical distancing, the course will be delivered remotely online and will involve a mixture of self-directed activities and online live video lecture and discussion sessions. Because of its online delivery there might be some additional challenges for you as a student. Please read the following carefully and keep in mind for the course:

- Useful information on online learning can be found at the [UVic Learn Anywhere](#) portal.
- This course will be delivered “live” on Tues, Wed, and Fri from 11:30 am-12:20 pm (Pacific Standard Time / Pacific Daylight Time when the switch occurs) through the Zoom (video-conferencing) platform. All UVic students are automatically provisioned with access to Zoom. It is best that you log in using the link provided on the BrightSpace site, as this ensures that you are properly registered in the lecture for the day.
- Attending the live lectures at the designated times is expected. Real-time interaction with the instructor and class-mates as well as the structure provided by having set times greatly enhances the learning experience. However, recognizing students face unusual challenges in the context of the COVID-19 disruption and that some students may be joining the class remotely from vastly different time zones, attendance is not strictly mandatory. Lectures will be recorded and posted on BrightSpace, although lectures may be edited.
- BrightSpace (which has replaced CourseSpaces) is the main course hub where you will access materials (e.g. the course outline, readings, links), complete quizzes and exams, submit assignments, check your grades, and engage in discussions.
- **Technology requirements:** You will need reliable access to the internet and a computer (preferably with webcam/microphone) or a smartphone to connect with the class for the online lessons (through Zoom). You should be comfortable using a word processor such as MS Word (Office 365) and will be required to submit labs in .doc or .pdf formats.
- The online format can seem strange and awkward at first, but we will do everything possible to make this a comfortable and effective learning environment. Keep in mind that we are all new to this format and we all need to be forgiving, open-minded, and adaptable. We’re in it together.
- Ensure you have a distraction-free space at home (or elsewhere) for the online classes.
- To help build community, you are encouraged to turn your video on during sessions, especially prior to the start of lecture. I do understand, however, there are circumstances in which you may be unwilling or unable to do so which is perfectly acceptable. Remember when joining with video, your classmates will be able to see your background... so hide embarrassing things.
- If possible, please upload a picture of yourself so classmates can still see you when your video is off.
- The “live” portion of the course will involve lectures, break-out group sharing, class discussion, and time for questions and answers. Please listen carefully to directions given at the beginning of class around asking questions (through the Chat feature) and effective dialogue through this format. When you are not actively contributing, please ensure you “mute” yourself to reduce ambient noise.
- Both in live class discussions and in the online forum, please be respectful, constructive, and professional in all your online interactions. No falling into troll-mode.



**UNIVERSITY OF VICTORIA**  
**Department of Psychology**

**Important Course Policy Information**  
**Spring 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 January 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 January 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)

# BE WELL



A note to remind you to take care of yourself. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress. All of us benefit from support during times of struggle. You are not alone.

## ***Social Life, Friends, & Community at UVic:***

Having a social network is an extremely important foundation for positive mental health. There are lots of benefits to joining clubs, course unions, intramurals and teams on campus.

<https://www.uvic.ca/mentalhealth/undergraduate/connecting/index.php>

## ***Counselling Services:***

Counselling Services can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students. [www.uvic.ca/services/counselling/](http://www.uvic.ca/services/counselling/)

## ***Health Services:***

University Health Services (UHS) provides a full service primary health clinic for students, and coordinates healthy student and campus initiatives.

[www.uvic.ca/services/health/](http://www.uvic.ca/services/health/)

## ***Centre for Accessible Learning:***

The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations [www.uvic.ca/services/cal/](http://www.uvic.ca/services/cal/). The sooner you let us know your needs, the quicker we can assist you in achieving your learning goals in this course.

## ***Elders' Voices:***

The Office of Indigenous Academic and Community Engagement (IACE) has the privilege of assembling a group of Elders from local communities to guide students, staff, faculty and administration in Indigenous ways of knowing and being.

[www.uvic.ca/services/indigenous/students/programming/elders/](http://www.uvic.ca/services/indigenous/students/programming/elders/)

## ***Mental Health Supports and Services:***

Mental health supports and services are available to students from all areas of the UVic community: [www.uvic.ca/mentalhealth/undergraduate/](http://www.uvic.ca/mentalhealth/undergraduate/)



## Sexualized Violence Prevention and Response at UVic

UVic takes sexualized violence seriously, and has raised the bar for what is considered acceptable behaviour. We encourage students to learn more about how the university defines sexualized violence and its overall approach by visiting [www.uvic.ca/svp](http://www.uvic.ca/svp). If you or someone you know has been impacted by sexualized violence and needs information, advice, and/or support please contact the sexualized violence resource office in Equity and Human Rights (EQHR). Whether or not you have been directly impacted, if you want to take part in the important prevention work taking place on campus, you can also reach out:

Where: Sexualized violence resource office in EQHR, Sedgewick C119

Phone: 250.721.8021

Email: [svpcoordinator@uvic.ca](mailto:svpcoordinator@uvic.ca)

Web: [www.uvic.ca/svp](http://www.uvic.ca/svp)