Statistical Methods in Psychology I PSYC 300A 03 (CRN 12971)
Fall 2023: September-December

Territory Acknowledgement

We acknowledge and respect the lək̓ʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and WSÁNEĆ peoples whose historical relationships with the land continue to this day.

When and Where is Class?

Lectures	When: Mondays, Wednesdays, and Thursdays at 2:30-3:20pm Where: David Turpin Building Room A102
	Note: Sessions in this course may be recorded and posted in Brightspace to allow students who are not able to attend to watch later. Please note that recordings are not guaranteed, and glitches may occur that prevent recordings from being possible or diminish the quality of the recording. Students who have privacy concerns can contact me and will have the option to limit their personal information shared in the recording. If you have other questions or concerns regarding class recording, please contact privacyinfo@uvic.ca.
Labs	Check the academic calendar to find the date and time for which you signed up.

Meet Your Teaching Team

Professor	Name: Dr. Maria Iankilevitch (she/her) Email: mariaiankilevitch@uvic.ca Office hours: Wednesdays 4:30-5:30pm in COR A250 Thursdays 4:30-5:30pm in COR A250 By appointment in COR A250
Teaching Assistant	Name: Kingsley Ivande (he/him) Email: kingsleyivande@uvic.ca Office Hours: by appointment
Teaching Assistant	Name: Bennett King-Nyberg (he/him) Email: bennettkingnyberg@uvic.ca Office Hours: by appointment

*Note that office hours will be available during the following dates: September 6th-November 30th. Office hours will not be available during holidays, Reading Break, exam days, or October 5th.

Prerequisites

Prerequisites for PSYC 300A:

1. PSYC 201 and the Academic Writing Requirement (AWR) fulfilled
2. Highly recommended: Math 12 (Pre-Calculus), MATH 120 at UVic, or MATH 151 at UVic

Course Description

This course provides a conceptual and practical understanding of descriptive and inferential statistics as applied to psychological research. With an understanding of the core statistical concepts learned in this course, students will develop their skills to evaluate and carry out statistical analyses in psychology and become critical consumers of scientific claims.

Class structure: Each week will include 3 lectures, each 50 minutes long, where we will focus on course content. There will also be labs, which will include guided activities for you to practice and apply the course content. You must attend the lab section you are registered in. You will be able to ask questions during lectures and labs. You may also ask questions and provide feedback anonymously (see below). Please note that students are expected to attend lectures and labs and that lecture slides are not an adequate substitute for attending lectures and labs.

Learning Goals

By the end of the course, students should be able to…	
Understand 	Explain which statistical analyses to conduct for a given study design. Explain the logic and theory behind each analysis.
Apply 	Calculate the appropriate statistic for the appropriate purpose. Apply your understanding of statistics to answer various research questions.
Analyze 	Examine, compare, and contrast different types of study designs and analyses. Organize, structure, and analyze data.
Evaluate 	Evaluate the quality of statistical analyses that have been already conducted. Think critically about data and analyses. Decide the best course of action to proceed with. Draw correct conclusions based on evidence.
Communicate 	Convey research ideas and research findings in written communication. Communicate the results of an analysis in a clear and concise manner.

Course Resources and Required Materials

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

1. Field, A., Miles, J., & Fields, Z. (2012). *Discovering statistics using R*. Thousand Oaks, CS: Sage Publications.
2. Gravetter, F. J., & Wallnau, L. B. (2017). *Statistics for the behavioral sciences* (10th ed.). Wadsworth, Cengage Learning.
3. Howell, D. C. (2017). *Fundamental statistics for behavioral sciences* (9th ed.). Wadsworth, Cengage Learning.

You will need a scientific (non-graphing) calculator for this course to be able to work on problems. It is recommended that the calculator have exponents, brackets, square root, etc., which are standard functions on a scientific calculator.

The course website is **Brightspace** and can be found at https://bright.uvic.ca where all course-related information will be posted. You will need to complete the Course Orientation, Syllabus, and Other Resources Module prior to beginning the course to familiarize yourselves with the course. In general, the easiest way to find your way around the course's Brightspace page is to go to Course Home at the top left of the screen. On this page, you will find modules for all course components. By visiting the site using this method, this will ensure that you will find all relevant materials for each part of the course. Other methods of using the site may lead to missed materials.

You will need to check your University of Victoria email account **daily** for relevant updates. These can be personal emails or class-wide announcements.

[course resources are continued on the next page]

You will need an iClicker Personal Response System. You can choose to purchase the iClicker device (new or used) or the iClicker Student app subscription or at the bookstore.

iClicker device: Both the first and second-generation iClickers can be used. In order to earn participation points, you must register your iClicker using the following steps:

1. Log into the UVic portal (http://www.uvic.ca/)
2. Click on: My page
3. Student Services
4. Scroll down to Tools and Forms
5. Select iClicker
6. Enter your iClicker's serial number
7. Click submit

Note that iClicker serial numbers do not contain letter O's, only number 0's. For FAQ about the iClicker, see: http://elearning.uvic.ca/iclicker/students.

iClicker Student app: Here are the steps to acquiring the app and registering for the course:

1. Create an account (https://student.iclicker.com/#/login) with your campus email address and enter your correct V-number to the profile section.
2. Download the iClicker Student app iOS or Android app from your iTunes or Play Store.
3. Enter your access code (received when you purchase an iClicker Student app subscription from the store).
4. Log into your iClicker account using a web browser (access codes cannot be entered via smartphone or tablet apps). If you are using a smartphone or tablet, simply use the web browser on your device to follow the registration guidelines.

To continue onto registration: click the "Menu" icon in the upper left corner, select "Subscriptions", click "Polling", click "Enter Access Code", type in the code, and click "Submit".

This course will include an introduction to R, a statistical software program. You will use R to complete some of the lab activities. You may be required to download the software. Information on downloading the software can be found in the Lab Brightspace site and during lab time.

What to Bring to Class to be Prepared

Lecture slides will generally be posted on Brightspace before classes, and it is highly recommended to bring them to class.
Notebook/paper and writing implements, even if you bring a laptop as well. We will occasionally take time for you to work on a problem in class so we can take it up after.
Scientific (but non-graphing) calculator to be able to work on problems.
iClicker to be able to engage in in-class activities and earn participation bonus points.
Laptop or **tablet** for programming labs.

Behavioural Expectations

The University of Victoria is committed to promoting, providing, and protecting a positive, supportive, and safe learning and working environment for all its members and so am I. If you have any concerns regarding activities that are intrinsic to PSYC 300A, please see me in the first week of the term. It is my intention 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 intention to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic 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 course deadlines conflict with your religious events, please let me know so that we can make arrangements for you.

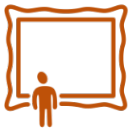
Course Communication and Support

As a first step, you should always check the syllabus and the course website to find the answer to your questions. If you do have a question, there are several ways you can get help. Given that oftentimes multiple people have the same question, the professor will send out announcements to the class with answers to common questions. Below are different ways that you can find information and get support in this course:

1. Check Brightspace (i.e., syllabus, course announcements, lectures, etc.)
2. Students are welcome to ask questions during lectures and labs by raising their hand.
3. Students may speak to the professor during class time (i.e., before class and after class if times allows).
4. Students are welcome to attend the professor's office hours for one-on-one meetings.
5. Students can email the TA or the professor to set up a one-on-one meeting by appointment.
6. Students are encouraged to form study groups with fellow students and/or to work with their lab groups to study together and/or ask questions.
7. For questions of a personal nature (e.g., extensions, concerns, accessibility, illness, etc.), students should email the professor and can set up a one-on-one meeting if needed.

Emails: When communicating via email please adhere to the following protocols:

- Students can expect an **email response within 48 hours not including weekends** (do not email the night before an assignment is due with a question about the assignment, we might not see your email in time to send a helpful reply). If we have not answered your email in two business days, feel free to send a follow-up email.
- Please consult the course outline, other handouts, and the course website before submitting inquiries by email.
- If you want to set an appointment, include a **variety of dates and times** that would work for you, and allow a few days for us to get back to you. Please do not email the night before and expect us to be available the next day.
- In the subject line indicate the course code, section number, and the topic of your email (e.g., PSYC300A 03 descriptive statistics question).
- Emails should come from your UVic email account.
- All communications (verbal, email) should be respectful in language and tone and constructive in nature. This includes communications with the professor, the TA, and your fellow students.



The big picture: Ultimately, **you are not alone** in this course and the teaching team is here to support you! All you need to do is take advantage of the many resources available! We look forward to interacting with you all!

Course Feedback

You are welcome to feedback anonymously about the course at any time throughout the semester by completing a brief feedback form, which can be found on the Feedback about the Course link in the "Course Orientation, Syllabus, and Other Resources" module on Brightspace. You may submit feedback as many times as you would like to throughout the course. This is a way to share with me either:

- Difficulties that may arise with the comprehension of the subject matter;
- Insights on the various topics and critical reflections;
- Positive experiences that you are having in the course and that you would like to see continue;
- Any other feedback that is relevant, constructive, respectful, and would serve to improve the content or the delivery of the lectures and make them a better learning experience.

Informative feedback is the cornerstone of a positive learning environment. As such, I will read all feedback submitted by students weekly. However, it may be impossible to reply to and incorporate all feedback received. I will follow up on the more impactful or important pieces of feedback by anonymously sharing them with the class during lecture. This will be a way to address recurring concerns or to come back on the previous week's content. Your comments are important and appreciated, and you can (and

should) always communicate directly with the professor or the TA should you feel that you require immediate attention.

Course Assessments

Component	Due Date	Weight
Homework	Throughout the semester at 9:00pm	5%
Quizzes	Throughout the semester at 11:59pm	10%
Labs	Most weeks during lab sessions	10%
Midterm Exam 1	October 4th	15%
Midterm Exam 2	October 23rd	15%
Midterm Exam 3	November 9th	15%
Final Exam (cumulative)	TBD during exam period	30%
iClicker Participation	Throughout the semester during class time	3% max bonus marks

Homework: The goal of weekly homework is to get students to practice applying what they are learning in class. There will be 11 homework assignments over the term. I understand that sometimes we experience an off week, therefore, the lowest two scores will be dropped and only the 9 best scores will count towards your grade. Homework questions will be assigned and graded automatically on Brightspace. Students can complete the homework in groups, however, each person must submit their own answers on Brightspace. Given that we drop the lowest two homework scores, there will be no make-up for homework.

Quizzes: The goal of quizzes is to gauge students' understanding of course concepts. There will be 11 quizzes over the term. Just like with the homework, students may have an off week sometimes, therefore, the lowest two scores will be dropped and only the 9 best scores will count towards your grade. Quiz questions will be assigned and graded automatically on Brightspace. Given that these are quizzes, they must be completed individually (i.e., students cannot work collaboratively on quizzes). However, you can attempt each quiz up to five times while it is open and your final grade for any quiz will be the mean of all your quiz attempts. Note that all quizzes that have been started will be submitted and will count as attempts. Given that we drop the lowest two quiz scores, there will be no make-up for quizzes.

Labs: The goal of labs is to get hands-on practical experience so that students can deeply integrate the course material and learn from fellow class members. To complete labs, you will work in groups of 3-6 students during lab sessions. Each group will hand in one lab at the end of each lab session. Each group member is expected to contribute equally to the submitted product. If a person has concerns regarding the contribution of one or more members of the group, they should speak to Dr. Iankilevitch; it is possible to request re-assignment to a different group. Students are expected to come to lab sessions prepared. There will be 11 lab sessions in total with 7 content labs and 4 programming labs. Students' lowest content lab and lowest programming lab will be dropped such that the best 6/7 content labs (9% of final grade) and the best 3/4 programming labs (1% of final grade) will count towards the final lab grade. This will allow you to miss up to two lab sessions due to illness or other external factors without penalty. There are no make-ups for labs.

Lab Attendance: Labs are mandatory. See "Course Completion" section on page 6 for details.

Exams: Exams will include material covered in relevant lectures, labs, homework, and quizzes. Overall, the questions in the exams are designed to not only test students' knowledge of course material, but also students' ability to apply the concepts in novel situations. The exams may be a combination of multiple choice, short answer, and long answer questions. The exams will be in person. Students are encouraged to check the grade posted to ensure that the grade is correct.

Missed Midterm Exams: You are responsible for attending exams as scheduled. **No make-up exams will be given.** [continued on next page]

If you miss one of Midterm Exams 1-3 due to illness, accident, or family affliction, you must contact Dr. Iankilevitch as soon as possible indicating that you have missed the exam, and the reason for it. Students are not required to provide documentation to support their request for academic concession (e.g., medical notes), but it is appreciated. If you miss a midterm exam due to illness, accident, or family affliction, then your grade for the missed exam will be proportionally transferred to the remaining Midterm Exams and Final Exam. For example, if you miss Midterm Exam 1 (which is originally 15% of the final grade), then Midterm Exam 2 will be worth 18.75%, Midterm Exam 3 will be worth 18.75%, and the Final Exam will be worth 37.5% of your final grade.

Students who miss two Midterm Exams will earn 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.

Missed 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 alterative date to write the make up exam must be arranged with the professor. If you do not take the final exam, you will earn an "N" in this course regardless of the course percentage earned up until the exam. The final exam, unlike the other three exams, will not be extrapolated and **must** be taken.

iClicker Participation: iClickers are used as a way to work together through questions posed in class. When used effectively, iClickers can increase your ongoing engagement and involvement, promote a safe environment to communicate your answers, and create lively discussions in class. iClickers can also provide immediate feedback about your understanding of the class material and help us figure out how to improve your understanding of a concept.

In order to receive the full 3% bonus, students need to participate in 75% of questions posed in 75% of classes with iClicker questions. Given that these are bonus points and the level of participation required to receive maximum points is set at 75% of all classes to allow you to occasionally miss a class, forget your iClicker, or run out of batteries, there are no opportunities to make up iClicker points.

It is an academic infraction to use or bring another student's iClicker to class, to lend your iClicker to another student, or to click in when not present in class. This will be treated similarly to other academic infractions (such as cheating on an exam) and will be subject to university disciplinary procedures. Please remember that the iClickers provide you with an opportunity to enhance your in-class learning, and it is expected that you cooperate in making the system work to help you and your colleagues learn.

Course Completion Requirements

Students who have completed the following elements will be considered to have completed the course:

- **Complete at least two Midterm Exams**
- **Complete the Final Exam**

Failure to complete one or more of these elements will result in a grade of "N" regardless of the cumulative percentage of all other elements in the course. N is a failing grade and factors into GPA as a value of 0. In accordance with the University's policy on academic concessions, "A student who completes all course requirements is not eligible for an academic concession". Consequently, students can only request deferrals for the completion of required course components and not for non-essential course components.

Important: In addition, **labs are mandatory**, and students are expected to attend them. You must earn a passing grade (minimum 50% average) on the labs. If you do not earn a passing grade in the labs, you will be ineligible to write the final exam and will earn an "F" in the course regardless of your performance in the remainder of the course. Note that grades are not rounded up. Given that we drop two of the lowest lab scores, there are no make-up labs. If you are struggling with regular lab attendance, please contact Dr. Iankilevitch as soon as possible.

Tentative Course Outline and Schedule

WEEK	DATE	TOPIC	HOMEWORK/ QUIZZES DUE
SECTION 1: UNIVARIATE STATISTICS			
1*	Wed Sept 6	Topic 1: Course Introduction	HW/Quiz Topic 1 Due Sept 22
	Thu Sept 7	Topic 1: Scales of Measurement	
	Mon Sept 11	Topic 1: Scales of Measurement	
2	Wed Sept 13	Topic 2: Frequency Distributions	HW/Quiz Topic 2 Due Sept 22
	Thu Sept 14	Topic 2: Frequency Distributions	
	Mon Sept 18	Topic 2: Frequency Distributions	
3	Wed Sept 20	Topic 3: Central Tendency & Variability	HW/Quiz Topic 3 Due Sept 29
	Thu Sept 21	Topic 3: Central Tendency & Variability	
	Mon Sept 25	Topic 3: Central Tendency & Variability	
4	Wed Sept 27	Topic 3: Central Tendency & Variability	
	Thu Sept 28	Topic 4: Correlation	
	Mon Oct 2	**NO CLASS: NATIONAL DAY FOR TRUTH & RECONCILIATION (SEPT 30)**	
5	Wed Oct 4	**Midterm Exam 1: Section 1**	
SECTION 2: BIVARIATE STATISTICS			
5	Thu Oct 5	Topic 4: Correlation (**online video recording**)	HW/Quiz Topic 4 Due Oct 13
	Mon Oct 9	**NO CLASS: THANKSGIVING DAY**	
6	Wed Oct 11	Topic 4: Correlation	
	Thu Oct 12	Topic 5: Regression	HW/Quiz Topic 5 Due Oct 20
	Mon Oct 16	Topic 5: Regression	
7	Wed Oct 18	Topic 5: Regression	
	Thu Oct 19	Topic 5: Regression	
	Mon Oct 23	**Midterm Exam 2: Section 2**	
SECTION 3: PROBABILITY THEORY AND INFERENTIAL STATISTICS			
8	Wed Oct 25	Topic 6: Empirical Distributions	HW/Quiz Topic 6 Due Nov 1
	Thu Oct 26	Topic 6: Empirical Distributions	
	Mon Oct 30	Topic 7: Probabilities	HW/Quiz Topic 7 Due Nov 6
9	Wed Nov 1	Topic 7: Probabilities	
	Thu Nov 2	Topic 8: Hypothesis Testing	HW/Quiz Topic 8 Due Nov 8
	Mon Nov 6	Topic 8: Hypothesis Testing	
10	Wed Nov 8	Topic 8: Hypothesis Testing	
	Thurs Nov 9	**Midterm Exam 3: Section 3**	
	Mon Nov 13	**NO CLASS: READING BREAK**	
SECTION 4: SINGLE SAMPLE HYPOTHESIS TESTING			
11*	Wed Nov 15	**NO CLASS: READING BREAK**	
	Thu Nov 16	Topic 9: Sampling Distribution of the Mean	HW/Quiz Topic 9 Due Nov 24
	Mon Nov 20	Topic 9: Sampling Distribution of the Mean	
12	Wed Nov 22	Topic 10: Single Sample Hypothesis Testing: z-Test	HW/Quiz Topic 10 Due Dec 1
	Thu Nov 23	Topic 10: Single Sample Hypothesis Testing: z-Test	
	Mon Nov 27	Topic 11: Single Sample Hypothesis Testing: t-Test	HW//Quiz Topic 11 Due Dec 8*
13	Wed Nov 29	Topic 11: Single Sample Hypothesis Testing: t-Test	*or 24 hours prior to the final
	Thu Nov 30	Topic 11: Single Sample Hypothesis Testing: t-Test	exam, whichever is sooner.
	Mon Dec 4	**NO CLASS**	
Final Exam (cumulative): Time, date, and location TBD during final exam period: Sections 1-4 (Cumulative)			

*There will be no lab this week. Weeks without a star have labs associated with them.
Important: A minimum final grade of 50% is required to continue to PSYC 300B.

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/undergraduate/housing-student-life/student-life/index.php

Counselling Services:
The Student Wellness Centre can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students.
https://www.uvic.ca/student-wellness/contacts/student-wellness-team/index.php#ipn-counsellors

Health Services:
The Student Wellness Centre also provides a full service primary health clinic for students.
https://www.uvic.ca/student-wellness/contacts/student-wellness-team/index.php#ipn-physicians

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/. 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/

Mental Health Supports and Services:
Mental health supports and services are available to students from all areas of the UVic community: https://www.uvic.ca/student-wellness/wellness-resources/mental-health/

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. 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: Office of Equity and Human Rights, Sedgewick Building, Room C115

Phone: 250 721 8021

Email: svpcoordinator@uvic.ca

Web: https://www.uvic.ca/sexualizedviolence/