

**Introduction to Data Analysis  
PSYO 271, Summer Term 1, 2024**

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<b>Instructor</b>	Maya Pilin
<b>Class</b>	ART 366
<b>Location</b>	
<b>Class Time</b>	Mondays & Thursdays, 1pm to 4:30pm
<b>Class</b>	Hybrid
<b>Modality</b>	
<b>E-Mail</b>	<a href="mailto:maya.pilin@ubc.ca">maya.pilin@ubc.ca</a>
<b>Office Hours</b>	Mondays & Thursdays, 1pm – 2pm

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**TEXTBOOK**

*Statistics for the Behavioral Sciences*, by Gravetter, F. & Wallnau, L. B. Cengage. 10<sup>th</sup> Edition.  
<https://the.bookstore.ubc.ca/CourseSearch/?course%5b%5d=UBCO,2024S1,PSYO,PSYO271,001>

**CANVAS**

Recorded lectures, extra resources, assignment instructions, and all other course-related information will be available on Canvas.

**LEARNING OBJECTIVES**

The goal of this course is to provide students with an understanding of the basic principles of behavioural data analysis in the context of the research methods and designs of Psychology.

**STUDENT OUTCOMES**

By the end of the course, students are expected to be able to do the following:

- Have a complete enough understanding of both descriptive and inferential statistics so that they will be able to perform common statistical procedures and answer questions on the underlying theory.
- Develop and express an understanding of the role of probability and statistics within psychological research, and that includes the ability to discuss their basic concepts and practical applications.
- Differentiate between statistical tests to choose the appropriate test and to answer specific research questions.

**THE HYBRID FORMAT**

You may be wondering how the hybrid format works in the context of a university course. While each hybrid course works differently, here is some information about how this course will work.

1. **Recorded Lectures:** Lectures will not be given in-class. Instead, they will be recorded and available to you on Canvas. Lectures will be released as the course proceeds. It is your responsibility to watch lectures prior to coming to class. A detailed course schedule is available below. This course schedule indicates when you should watch each lecture.
2. **In-Class Time:** We will still have in-person class time. Class time will typically proceed as follows, though you should check the course schedule for details on each day:

Time	Activity	Is it Mandatory?
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1pm – 2pm	Office Hours	No, you only need to attend if you have a question.
2pm – 3:20pm	Assignment Time	Yes, this is mandatory.
3:20pm – 3:30pm	Break	
3:30pm – 4:15pm	Unit Test	Yes, this is mandatory

More information on Assignments and Unit Tests is available below. However, the gist is that in-class time will be spent on practicing the skills that you learned in the lectures. As such, keeping up with recorded lectures is key.

## SUPPORT AND RESOURCES

Students who have done well in this course in the past have sought additional support when they needed it. My goal in this course is to provide you with as many support resources as possible. Here is a list of some sources of support that you can seek on campus or via the course.

- 1) **Office Hours:** Office hours will be held twice a week. Given that this is a hybrid schedule, I have the ability to hold office hours during the scheduled course time. As such, this time is already blocked off in your schedule. Please make the effort to attend office hours if you did not understand something in the recorded lecture.
- 2) **PowerPoints:** While we will be using a required textbook for the bulk of the material, sometimes it is useful to read a different source if you do not understand the textbook and/or lecture explanation of a concept. When additional resources are available, they will be listed in the Notes section of each PowerPoint. If you have trouble accessing a resource, please let me know and I will help you. Each PowerPoint will be downloadable below the recorded lecture.
- 3) **Student Learning Hub:** The SLH is a resource on campus that offers appointments with learning strategists. These individuals can help you set goals for your learning, develop a study schedule, and work on note-taking skills, among other useful strategies. You can learn more and book an appointment here: <https://students.ok.ubc.ca/academic-success/learning-hub/>
- 4) **Study Buddies:** We will take some time in class to make sure that everyone is paired with at least one study buddy. If you would like to have a larger study group, that is fine too. You can use your peers as resources to help each other understand the topics covered in this course.
- 5) **Additional Resources:** If there are additional resources that would be helpful for you to have in order to succeed in this course, please meet me during office hours or email me to let me know.

## EVALUATION

Your final grade in this course is derived from four sources.

- 1) **Assignments:** Assignments will be completed in class. You will be provided with approximately 1hr and 20mins per assignment. The assignments will provide you with a dataset and will involve calculation. These assignments require you to show your work. Most assignments will require you to integrate knowledge from several lectures.

Assignments are graded individually, but you are welcome to collaborate with others in the classroom. Rubrics will be provided for each assignment.

- 2) **Unit Tests:** Unit tests will be completed in class, with the exception of Unit Test 5. You will be provided with approximately 45 minutes to complete each unit test. Unit tests will include multiple-choice style questions. They will require you to do calculations, but only the final answer on the multiple-choice will be graded. Unit Tests will typically test your knowledge of two to three lectures/chapters. These tests are to be completed individually. Collaborating with others is an academic integrity violation and will result in a zero.
- 3) **Mid-Semester Check-In:** A mid-semester check-in is a brief meeting with me held anywhere between May 20<sup>th</sup> and June 10<sup>th</sup>. Meetings are to be held during office hours and do not need to be scheduled. You may come into any office hour between the dates above and let me know that you would like to do the check-in. You will be asked to discuss a series of questions with me regarding your goals and progress in the course. You do not need to prepare anything. This assignment is marked on a Pass/Fail basis.
- 4) **Exam:** The course will include one closed-book cumulative final exam. The exam will be 120 minutes in duration. The exam will include multiple-choice questions as well as 'long-answer' (calculation) questions where you will be required to demonstrate the process that you used to obtain the answer. The long-answer section will also include theory questions. Please note that the bulk of the marks for these long-answer questions will be based on your process, not your final answer. As such, showing your work is very important. During the exam, you will be provided with a formula sheet, and you will be allowed to use your approved calculator (see below).

Assessment	Percentage
Assignments (Total)	28%
Unit Tests (Total)	28%
Mid-Semester Check-In	4%
Final Exam	40%

**MISSED ASSIGNMENTS/UNIT TESTS:** If you need to miss an assignment or unit test, you are required to provide me with a doctor's note within 48 hours of missing the assignment/unit test. If you submit a valid doctor's note, you will be provided with an extended deadline for the missed assignment. You will also be required to come into the next office hours to complete your missed Unit Test. No extensions will be provided without doctor's notes.

**APPROVED CALCULATOR:** A basic calculator with a square root and memory function is necessary for course work. Sophisticated calculators with built-in or programmable statistical functions are **NOT** permitted and **CANNOT** be used during examinations or unit tests. Should you arrive at any of the unit tests or exam with an unacceptable calculator then it will be removed, and you will be forced to complete the unit test/exam with paper and pencil only. It is your responsibility to ensure that you have an approved calculator for the exam.



**PREREQUISITES:**

One of PSYO 111, PSYC 111 and one of PSYO 121, PSYC 121. Registration in the Psychology Majors program [B.A. or B.Sc.].

### **SEQUEL COURSES**

Students in the Honours Psychology programs [both B.A. & B.Sc.] are required to take two more research methods / statistics courses as part of their programs. To be admitted to the first course in the series [i.e., PSYO 372], students must attain a minimum grade of 80% in this course and in PSYO 270; to get into PSYO 373, students will need a minimum of 76% in PSYO 372.

Entry into PSYO 372 will be based on academic performance in Psychology courses: We will initially have everyone interested in PSYO 372 go on a waitlist. We will then rank order applicants based on their Psychology weighted average. Entry will depend on the number of seats we ultimately decide to open, but currently we expect there to be 35 openings. Entry into PSYO 373 is also limited by space.

If you are completing a Major, you are **not** required to take any more stats/methods courses, but you are advised that these courses would be helpful if you are planning to attend graduate studies in psychology or related social sciences. Taking the PSYO 372/373 will keep your options open for doing an Honours degree at a later date. There is a provision for students to return to the University and upgrade their Major in Psychology to an Honours in Psychology by taking the Honours thesis and additional psychology credits. If you already have PSYO 372/373, this can be done in one academic year; if not, it will likely take two academic years. Entry into these courses is limited and does **not** guarantee admissions to the Honours programs.

### **FINAL EXAMINATIONS**

The examination period for Term 1 of Summer 2024 is June 24<sup>th</sup> to June 28<sup>th</sup>; Saturday and Sunday exams are possible. Students are permitted to apply for out-of-time final examinations only if they are representing the University, the province, or the country in a competition or performance; serving in the Canadian military; observing a religious rite; working to support themselves or their family; or caring for a family member. This option is also available in the case of examination clashes and hardships (three or more formal examinations scheduled within a 27-hr inclusive period) or unforeseen events. Unforeseen events include, but may not be limited to, the following: ill health or other personal challenges that arise during a term and changes in the requirements of an ongoing job.

Students who miss, or plan to miss the Final Exam, **must** consult the office of the Associate Dean, Curriculum and Student Affairs and follow the University's policies on out-of-time exams. See <https://fass.cms.ok.ubc.ca/wp-content/uploads/sites/131/2020/06/Out-of-time-examination-FASS.pdf>. Further information on Academic Concession can be found under Policies and Regulation in the *Okanagan Academic Calendar* <http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,48,0,0>

### **INCLUSIVE LEARNING ENVIRONMENTS**

In this class, we will work together to develop a learning community that is inclusive and respectful. Our diversity may be reflected by differences in race, skin colour, culture, age, religion, sexual orientation, socioeconomic background, and myriad other social identities and life experiences. The goal of inclusiveness, in a diverse community, encourages and appreciates expressions of different ideas, opinions, and beliefs, so that conversations and interactions that could potentially be divisive turn instead into opportunities for intellectual and personal enrichment. A dedication to inclusiveness requires respecting what others say, their

right to say it, and the thoughtful consideration of others' communication. Both speaking up and listening are valuable tools for furthering thoughtful, enlightening dialogue. Respecting one another's individual differences is critical in transforming a collection of diverse individuals into an inclusive, collaborative and excellent learning community. Our core commitment shapes our core expectation for behavior inside and outside of the classroom.

### **ACADEMIC INTEGRITY**

The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., academic misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating usually result in a failing grade or mark of zero on the assignment or in the course. Careful records are kept in order to monitor and prevent recidivism. A more detailed description of academic integrity, including the policies and procedures, may be found at <https://learningcommons.ubc.ca/academic-integrity/> and <http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,54,111,959>

### **DISABILITY RESOURCES**

If you require disability related accommodations to meet the course objectives, please contact the Coordinator of Disability Resources located in the Student Development and Advising area of the Student Services building. For more information about Disability Resources or about academic accommodations please visit the following website:

<http://students.ok.ubc.ca/drc/welcome.html>

### **UBC OKANAGAN EQUITY AND INCLUSION OFFICE**

Through leadership, vision, and collaborative action, the Equity & Inclusion Office (EIO) develops action strategies in support of efforts to embed equity and inclusion in the daily operations across the campus. The EIO provides education and training from cultivating respectful, inclusive spaces and communities to understanding unconscious/implicit bias and its operation within in campus environments. UBC Policy 3 prohibits discrimination and harassment on the basis of BC's *Human Rights Code*. UBC Okanagan is a place where every student, staff, and faculty member should be able to study and work in an environment that is free from human rights-based discrimination and harassment. UBC prohibits discrimination and harassment on the basis of the following grounds: age, ancestry, colour, family status, marital status, physical or mental disability, place of origin, political belief, race, religion, sex, sexual orientation, or unrelated criminal conviction. If you require assistance related to an issue of equity, educational programs, discrimination, or harassment please contact the EIO.

**UNC 216**      250.807.9291

email: [equity.ubco@ubc.ca](mailto:equity.ubco@ubc.ca)

Web: [www.equity.ok.ubc.ca](http://www.equity.ok.ubc.ca)

### **HEALTH & WELLNESS**

At UBC Okanagan health services to students are provided by Health and Wellness. Nurses, physicians and counsellors provide health care and counselling related to physical health, emotional/mental health and sexual/reproductive health concerns. As well, health promotion, education and research activities are provided to the campus community. If you require

assistance with your health, please contact Health and Wellness for more information or to book an appointment.

**UNC 337**      250.807.9270

email: [healthwellness.okanagan@ubc.ca](mailto:healthwellness.okanagan@ubc.ca)

Web: [www.students.ok.ubc.ca/health-wellness](http://www.students.ok.ubc.ca/health-wellness)

### **STUDENT LEARNING HUB**

The Student Learning Hub is your go-to resource for **free** learning support—now **online** and flexible to meet your remote learning needs! The Hub welcomes undergraduate students from all disciplines and years to access a range of supports that include **tutoring in math, sciences, languages, and writing**, as well as **dedicated learning support** to help you develop skills and strategies for **academic success**. Don't wait—successful learners access support early and often. For more information, visit [students.ok.ubc.ca/hub](http://students.ok.ubc.ca/hub) or contact [learning.hub@ubc.ca](mailto:learning.hub@ubc.ca).

### **OFFICE OF THE OMBUDSPERSON FOR STUDENTS**

The mandate of the Ombuds Office is to ensure that students are treated fairly in every aspect of their university life. The office is a safe and confidential place where students can get assistance and guidance on existing resources and processes, and help in resolving conflicts related to fairness issues. If you require assistance, please contact the Office of the Ombudsperson: [ombuds.office@ubc.ca](mailto:ombuds.office@ubc.ca) | 604-822-6149 [www.ombudsoffice.ubc.ca](http://www.ombudsoffice.ubc.ca)

### **SAFEWALK**

*Don't want to walk alone at night? Not too sure how to get somewhere on campus?*

*Call Safewalk at **250-807-8076**. For more information, see:*

<http://security.ok.ubc.ca/welcome.html>

Date	Before Class	In Class
May 13 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Watch Introduction to Statistics Lecture</li> <li>• Read the Syllabus</li> <li>• Read Chapter 1</li> </ul>	<ul style="list-style-type: none"> <li>• Office Hours (1pm – 2pm)</li> <li>• Syllabus Review (2pm – 3:30pm)</li> </ul>
May 16 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Watch Frequency Distributions Lecture</li> <li>• Watch Central Tendency Lecture</li> <li>• Read Chapter 2</li> <li>• Read Chapter 3</li> </ul>	<ul style="list-style-type: none"> <li>• Office Hours (1pm – 2pm)</li> <li>• Complete Assignment 1 (Frequency Distributions &amp; Central Tendency) (2pm – 3:20pm)</li> <li>• Complete Unit Test 1 (Introduction to Statistics/Frequency Distributions/Central Tendency) (3:30pm – 4:15pm)</li> </ul>
May 20 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Victoria Day (No Work Assigned)</li> </ul>	<ul style="list-style-type: none"> <li>• Victoria Day (No Class/No Office Hours)</li> </ul>
May 23 <sup>rd</sup>	<ul style="list-style-type: none"> <li>• Watch Percentiles Lecture</li> </ul>	<ul style="list-style-type: none"> <li>• Office Hours (1pm – 2pm)</li> <li>• Complete Assignment 2 (Percentiles) (2pm – 3:20pm)</li> <li>• Complete Unit Test 2 (Percentiles) (3:30pm – 4:15pm)</li> </ul>
May 27 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Watch Variability Lecture</li> <li>• Watch Z-Scores Lecture</li> <li>• Read Chapter 4</li> <li>• Read Chapter 5</li> </ul>	<ul style="list-style-type: none"> <li>• Office Hours (1pm – 2pm)</li> <li>• Complete Assignment 3 (Variability/Z-Scores) (2pm – 3:20pm)</li> <li>• Complete Unit Test 3 (Z-Scores/Variability) (3:30pm – 4:15pm)</li> </ul>
May 30 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Watch Distribution of Sample Means Lecture</li> <li>• Read Chapter 6</li> <li>• Read Chapter 7</li> </ul>	<ul style="list-style-type: none"> <li>• Office Hours (1pm – 2pm)</li> <li>• Complete Assignment 4 (Distribution of Sample Means) (2pm – 3:20pm)</li> </ul>
June 3 <sup>rd</sup>	<ul style="list-style-type: none"> <li>• Watch Hypothesis Testing Lecture</li> <li>• Watch Single Sample T-Test Lecture</li> <li>• Read Chapter 8</li> <li>• Read Chapter 9</li> </ul>	<ul style="list-style-type: none"> <li>• Office Hours (1pm – 2pm)</li> <li>• Complete Assignment 5 (Hypothesis Testing/Single Sample T-Test) (2pm – 3:20pm)</li> </ul>



		<ul style="list-style-type: none"> <li>Complete Unit Test 4 (Distribution of Sample Means/Hypothesis Testing/Single Sample T-Test) (3:30pm – 4:15pm)</li> </ul>
<b>June 6<sup>th</sup></b>	<ul style="list-style-type: none"> <li>Watch Independent Samples T-Test Lecture</li> <li>Watch Paired Samples T-Test Lecture</li> <li>Read Chapter 10</li> <li>Read Chapter 11</li> <li>Complete Unit Test 5 (Independent Samples T-Tests/Paired Samples T-Tests)</li> </ul>	<ul style="list-style-type: none"> <li>Convocation Day (No Class/No Office Hours)</li> </ul>
<b>June 10<sup>th</sup></b>	<ul style="list-style-type: none"> <li>Watch ANOVA Lecture</li> <li>Read Chapter 12</li> </ul>	<ul style="list-style-type: none"> <li>Office Hours (1pm – 2pm)</li> <li>Complete Assignment 6 (ANOVA) (2pm – 3:20pm)</li> <li>Complete Unit Test 6 (ANOVA) (3:30pm – 4:15pm)</li> </ul>
<b>June 13<sup>th</sup></b>	<ul style="list-style-type: none"> <li>Watch Correlation Lecture</li> <li>Watch Regression Lecture</li> <li>Read Chapter 15</li> <li>Read Chapter 16</li> </ul>	<ul style="list-style-type: none"> <li>Office Hours (1pm – 2pm)</li> <li>Complete Assignment 7 (Correlation/Regression) (2pm – 3:20pm)</li> <li>Complete Unit Test 7 (Correlation/Regression) (3:30pm – 4:15pm)</li> </ul>
<b>June 17<sup>th</sup></b>	<ul style="list-style-type: none"> <li>Watch Effect Sizes Lecture</li> <li>Watch Future of Statistics Lecture</li> </ul>	<ul style="list-style-type: none"> <li>Office Hours (1pm – 2pm)</li> <li>Complete Assignment 8 (Effect Sizes/Future of Statistics) (2pm – 3:20pm)</li> <li>Complete Unit Test 8 (Effect Sizes/Future of Statistics) (3:30pm – 4:15pm)</li> </ul>
<b>June 20<sup>th</sup></b>	<ul style="list-style-type: none"> <li>Catch-Up</li> </ul>	<ul style="list-style-type: none"> <li>Office Hours (1pm – 2pm)</li> <li>Optional Q&amp;A Session (2pm – 4:15pm)</li> </ul>