THE UNIVERSITY OF WINNIPEG
Department of Psychology
*Psychology PSYC-2101-050 and -464*
*Introduction to Data Analysis*
*Fall 2021*

*Course Section Information*

Instructor: Dr. J Lawrence-Dewar (j.lawrencedewar@uwinnipeg.ca)

Lectures: In person, 6-9 pm Tuesdays

Office hours: I am available **by appointment** for in person meetings prior to class time or can meet via Zoom at other days and times. If you would like to meet with me for office hours (either in person or by video conference) please email me or speak to me at the end of class to arrange an appointment.

Voluntary Withdrawal Date: **November 16, 2021**
*Note: Withdrawing before this deadline does not result in a fee refund.*

*Calendar Description:* (3 hrs Lecture | 3 hrs Lab) This lab course introduces basic data analytic techniques appropriate to experimental and non-experimental research designs. Topics include frequency distributions, descriptive statistics (e.g., mean, standard deviations), and inferential statistics (e.g., estimation and hypothesis testing for means, correlation and count data). The lab component provides an opportunity to develop computational and basic computer skills relevant to data analysis. This course is required for Majors and Honours students in Psychology. Restrictions: Students may not hold credit for this course and STAT-1201 | STAT-1302 | STAT-1601 | STAT-2001. Requisite Courses: PSYC-1000 [prerequisite(s)]; PSYC-2101L (lab) (must be taken concurrently).

*Learning Objectives:* By the end of this course students should be able to:
- Understand what information is provided by descriptive and inferential statistics and in which situations they are useful.
- A working knowledge that allows students to determine and calculate the appropriate statistical

*Course Materials:*
1. Basic scientific calculator (you cannot use your phone during tests)
2. Required - Launchpad account/code. Note that Launchpad includes the e-book.
3. Required – REEF (iClicker) account/code and a device at class that will allow to engage in activities
4. Optional - Textbook – Nolan & Heinzen, Essentials of Statistics for the Behavioral Sciences, 5e
    Students have the option of purchasing a package that contains all 3 listed elements (ISBN: 9781319443498)
    OR a package containing only the Launchpad and REEF codes (ISBN: 9781319443511) from the university's bookstore: https://www.bkstr.com/winnipegstore/shop/books/textbooks-and-course-materials

***Requirements and Evaluation:***

Final marks will be calculated from the following components:

**Laboratory (15%):** Please see your instructor and lab outline.

***In Class REEF(iclicker) activities (10%):*** I will be using iClicker to make our class time more engaging. This will help me understand what you know, give everyone a chance to participate, and increase how much you learn in class. This will also provide you with feedback on how well you are comprehending course concepts, help you master challenging concepts, and allow you to review material after class. The activities will be scattered throughout lectures as we wrap up important concepts but you can anticipate that each lecture will contain somewhere between 5 and 10 activities. iClicker questions are graded for accuracy with each correct answer worth a small amount towards this component of your grade (0.25% for each correct answer). The lowest marks will be dropped and a maximum of 10% towards the final grade is achievable (no bonus points). One or two questions from each lecture will reappear on the term tests.

   To participate, you are required to bring a device with your iClicker account set up. The iClicker student app can be installed on a smartphone, tablet or laptop. It is your responsibility to set up your iClicker account remote in a timely fashion and properly register in my iClicker course (see our Nexus class site for instructions on how to do this). It is also your responsibility to regularly check your iClicker records for any discrepancies and bring them to my attention within 48 hours.

***Launchpad Assignments (30%):*** Launchpad assignments help you learn/review the material in the textbook and are completed outside of class in your own study time. Each week's assignments are due **before the start of the next lecture** (Tuesdays at 6pm starting Sept. 14; see Nexus and Launchpad). Due dates are set in Launchpad and are tentative. Should a change occur, it will be announced in class and on Nexus and will always be to a later date, never an earlier one, so that you do not miss the opportunity to complete the assignment. In the event a topic is not covered, the Launchpad assignment will not be counted in the grade calculation and the weighting will be distributed between the remaining assignments. You can work ahead and complete them ahead of time if you wish. Assignments vary in their value towards the final grade to reflect the amount of time/effort involved. See Schedule below for the value of each individual assignment.

***Two Term Tests (Term Test 1 on Oct 5 = 20%; Term Test 2 on TBD = 25%)***
Term tests are **closed-book,** in-person assessments. Term test 2 is not cumulative (unless a topic is revisited again since Term Test 1). Students may be asked to present photo ID. A scientific calculator (**not your phone**) is permitted during tests but you must still show your work.  You will be provided a formula sheet (without labels for the formulas) and statistical tables. Tests will be composed of a mixture of multiple choice, short answer, and statistical problem type questions. Students are responsible for all material presented in Lecture and Lab classes, as well as material in assigned readings (see schedule), even if not covered in Lecture or Labs.

*Policy regarding missed activities and assessments*
**Students are responsible for being aware of assignment deadlines and test times. There are no make ups for missed iclicker activities or Launchpad assignments.** As this course is scheduled for in person delivery, it is expected that students will be present during lectures and able to complete iClicker assignments. However, it is anticipated that life happens and students may need to miss an occasional assignment due to illness, technical issues, etc. Additionally, the iClicker activities are graded for accuracy. There will be many more opportunities to participate than the maximum available grade and the iClicker activities with the lowest grades will be dropped from the final course calculation.  As the Launch Pad assignments are posted at the start of the course, are individually each worth a small amount towards your final grade and provide at least one week for completion, there are no further accommodations provided.

Students will be allowed make-up exams for absences due to medical conditions/illness, compassionate needs (death), or religious holidays. It is the student's responsibility to inform the instructor **prior** to the date of exam to arrange a timely make-up. In the case of the emergency, it is anticipated that the student will contact the instructor as soon as possible. Students may be asked to provide documentation to support their request. Makeup tests may be in a different format. Exams missed without an acceptable excuse will be assigned a mark of zero.

*Final Grade Calculation and Assignments:*

Your grades will be updated throughout the term in Nexus to 2 decimal places. At the end of the term, your final calculated grade will be rounded to the nearest whole number. Grade cut-offs are tentative and are subject to change in either direction by the instructor, Departmental Review Committee, or the Senate when Circumstances warrant.

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|---|---|---|---|---|---|---|
| A+ | Instructor's discretion | A | 85 and over | A- | 80 - 84 |
| B+ | 75 - 79 | B | 70 - 74 | | |
| C+ | 65 – 69 | C | 60 - 64 | | |
| D | 50 - 59 | F | 0 - 49 | | |

*Classroom Environment and Expectations:*

All students, faculty and staff have the right to participate, learn and work in an environment that is free of harassment and discrimination. The UW Respectful Working and Learning Environment Policy may be found online at www.uwinnipeg.ca/respect .

Please keep in mind that some individuals are very sensitive to scents. Exposure to perfumes and other products can trigger serious health reactions in persons with asthma, allergies, migraines, or chemical sensitivities. Please help keep our lecture space a scent-free environment.

Students may choose not to attend classes or write examinations on holy days of their religion, but they must notify their instructors at least two weeks in advance. Instructors will then provide opportunity for students to make-up work and/or examinations without penalty. A list of religious holidays can be found in the 2021-2022 Undergraduate Academic Calendar, in the section, **Important Notes** (https://www.uwinnipeg.ca/academics/calendar/dates.html).

Students with documented disabilities, temporary or chronic medical conditions, requiring academic accommodations for tests/exams (e.g., private space) or during lectures/laboratories (e.g., note-takers) are encouraged to contact Accessibility Services (AS) at 204-786-9771 or accessibilityservices@uwinnipeg.ca to discuss appropriate options. All information about a student's disability or medical condition remains confidential. See: http://www.uwinnipeg.ca/accessibility.

If you are experiencing a medical or personal problem that is interfering with your ability to complete course work, please consider contact Student Services. They are not only valuable in assisting you navigate your term and identify support services that are available to you but, can also keep documentation should any test deferrals requests be needed.

*Copyright and Intellectual Property:*

Course materials are the property of the instructor who developed them. Examples of such materials are course outlines, assignment descriptions, lecture notes, test questions, and presentation slides—irrespective of format. Students who upload these materials to file sharing sites, or in any other way share these materials with others outside the class without prior permission of the instructor/presenter, are in violation of copyright law and University policy. Students must also seek prior permission of the instructor/presenter before, for example,

photographing, recording, or taking screenshots of slides, presentations, lectures, and notes on the board. Students found to be in violation of an instructor's intellectual property rights could face serious consequences pursuant to the Academic Misconduct or Non-Academic Misconduct Policy; such consequences could possibly involve legal sanction under the Copyright Policy https://copyright.uwinnipeg.ca/docs/copyright_policy_2017.pdf

*Regulations, Policies, and Academic Integrity*

Students are encouraged to familiarize themselves with the Academic Regulations and Policies found in the University Academic Calendar at: https://www.uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf. Particular attention should be given to subsections 8 (Student Discipline), 9 (Senate Appeals), and 10 (Grade Appeals).

Please note the subsection of Student Discipline pertaining to plagiarism and other forms of cheating. Even "unintentional" plagiarism, as described in the UW Library video tutorial "Avoiding Plagiarism" (https://www.youtube.com/watch?v=UvFdxRU9a8g) is a form of academic misconduct. Similarly, uploading essays and other assignments to essay vendor or trader sites (file sharing sites that are known providers of essays for use by others who submit them to instructors as their own work) is a form of misconduct, as it involves "aiding and abetting" plagiarism. More detailed information can be found here:

Academic Misconduct Policy and Procedures: https://www.uwinnipeg.ca/institutional-analysis/docs/policies/academic-misconduct-policy.pdf and https://www.uwinnipeg.ca/institutional-analysis/docs/Procedures/academic-misconduct-procedures.pdf

Non-Academic Misconduct Policy and Procedures: https://www.uwinnipeg.ca/institutional-analysis/docs/student-non-academic-misconduct-policy.pdf and https://www.uwinnipeg.ca/institutional-analysis/policies-and-procedures/index.html

*Tentative Schedule (subject to change)*

| Date | Topic | Chapters/ Pages | Associated Launch pad assignments (Due prior to the start of the next lecture – see Launchpad) |
|---|---|---|---|
| Sept 7 | Introduction | 1-4 (omit "The Interquartile Range" on p95-96) | • Ch 1 LearningCurve Assignment 450 points (3 topics) 1.5%<br>• Interpreting Statistical Results: Can a visual illusion 1%<br>• Ch 2 Interpreting Statistical Results: Frequency distributions 1%<br>• Ch 4 LearningCurve Assignment 300 points (2 topics) 1%<br>• Interpreting Statistical Results: Are you going to eat 1%<br>• Practice Quiz – Ch 1, 2 & 4 1% |
| Sept 14 | Sampling & Probability | 5 | • Ch 5 LearningCurve Assignment 150 points (1 topic) 0.5%<br>• Interpreting Statistical Results: Is everyone else 1% |
| Sept 21 | Normal Curve & z scores | 6 | • LearningCurve Assignment 300 points (2 topics) 1%<br>• Interpreting Statistical Results: Head Injury 1% |
| Sept 28 | Hypothesis Testing Using the z test | 7 | • LearningCurve Assignment 450 points (3 topics) 1.5%<br>• Interpreting Statistical Results: Who get bullied 1%<br>• Practice Quiz – Ch 5, 6, 7 1% |
| **Oct 5** | Confidence Intervals, Effect Sizes & Power | 8 | **Term Test 1 (6-7:15pm 75 minutes)**<br>• Ch 8 LearningCurve Assignment 300 points (2 topics) 1%<br>• Interpreting Statistical Results: In their shoes 1%<br>*Note that these will be due by 6pm on October 19th* |
| Oct 10-16 | | | *– Reading Week – no classes*<br>*University is closed Oct 11 for Thanksgiving* |
| Oct 19 | Single Sample & Paired t-test | 9 | • LearningCurve Assignment 300 points (2 topics) 1%<br>• Interpreting Statistical Results: Whats a signature 1%<br>• Which Test is Best: The Open Syllabus Project 0.5%<br>• Which Test is Best: Global Happiness 0.5% |
| Oct 26 | Independent Sample t-test | 10 | • LearningCurve Assignment 150 points (1 topic) 0.5%<br>• Interpreting Statistical Results: Are all texts 1%<br>• Which Test is Best: Successful Dieting 0.5%<br>• Practice Quiz – Ch 8, 9 & 10 1% |
| Nov 2 | One-way ANOVA | 11 (omit 343-346) | • LearningCurve Assignment 150 points (1 topic) 0.5%<br>• Interpreting Statistical Results: Is false modesty 1%<br>• Which Test is Best: Serial Killers 0.5% |
| Nov 9 | Two-way ANOVA | 12 (omit 378-399) | *No Assignments due by next class* |
| Nov 16 | Chi Square | 15 | • LearningCurve Assignment 150 points (1 topic) 0.5%<br>• Interpreting Statistical Results: And the winner is 1%<br>• Which Test is Best: Getting More Responses to Emails 0.5% |
| Nov 23 | Correlation | 13 | • LearningCurve Assignment 150 points (1 topic) 0.5%<br>• Which Test is Best: Tinder & Online Dating 0.5% |
| Nov 30 | Regression | 14 (omit 451-454, 464-469) | • LearningCurve Assignment 150 points (1 topic) 0.5% |

| Dec 7 | Review | 16 | • Interpreting Statistical Results: Is there power in 1% <br> • Which Test is Best: Crisis Text Line 0.5% <br> • Practice Quiz – Ch 11, 13, 15 & 16 1.5% <br> *Note that these will be due by 6 pm on December 14* |
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December Evaluation period is Dec 9-22, 2021. Please see University Scheduling period for date and time of Term Test 2.

*Additional Information*

The University will be closed on:
- September 6 (Labour Day)
- September 30, 2021 (the National Day of Truth and Reconciliation)
- October 11 (Thanksgiving Day)
- November 11 (Remembrance Day)

These dates of closure do not impact this course section.

For more information about programs in Psychology, tutoring, visiting speakers, registration information, research opportunities, and employment, visit the Psychology website at http://psychology.uwinnipeg.ca , our Facebook Page (Psychology Department@UWinnipeg), and our Instagram page (psychologyatuwinnipeg)