THE UNIVERSITY OF WINNIPEG
WINNIPEG MANITOBA
Department of Psychology

Psychology PSYC-2101 – Fall 2021 – Sections 003, 004 & 463 – Hybrid Online
An Introduction to Data Analysis

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).

Course Information

Dr. P. M. Pearson
Student Hours: We will be meeting frequently and there will be ample time for questions in class. Individual assistance is always available via appointment. Please e-mail me to arrange a mutually convenient time for us to meet over Zoom.
Time & Location of Lectures: *Hybrid Online* (Nexus, Launchpad, iClicker & Zoom). High speed internet and access to an electronic device with a webcam (e.g. smart phone, laptop) is mandatory. You should consult the class schedule for posted on Nexus.
Contact Information: p.pearson@uwinnipeg.ca (I do my best to respond to e-mails within a few hours. Please avoid using the e-mail in Nexus as it will delay my response. Students are welcome to use an e-mail address of their choosing, but please reference the course name in your subject line. Also, I recommend that you forward Nexus e-mail to your personal e-mail address to ensure that you get my messages in a timely manner.) Phone: 204-786-9853 (Note that this is forwarded to my personal phone, so please avoid calling outside work hours.)

Materials

1. Required - Launchpad account/code. Note that Launchpad includes the e-book.
2. Required – iClicker account/code
3. 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 iClicker codes (ISBN: 9781319443511) from the university's bookstore: https://www.bkstr.com/winnipegstore/shop/books/textbooks-and-course-materials

Learning Outcomes

To be successful in this course, you should be able to determine the appropriate statistical analysis given a research question and information about the data collected.

Evaluation

Grades will be based upon mastery of the course objectives. This will be assessed via a combination of assignments in the laboratory, Launchpad assignments, iClicker, and in-class assignments. Students are permitted to use calculators, but all work must be shown. All students are required to log onto Zoom for proctoring and tests will be delivered via Nexus (2 devices with internet access strongly recommended). Consistent with best practice recommendations, questions will be delivered in random order, with the number of questions permitting approximately 1.5 minute/mark for timely completion of the test, and students can not go backwards to review or complete questions that they may have missed. Class notes and outside materials are not permitted in tests.
The weighting in determining your final mark will be as follows:

Lab: 15% (see outline from your lab instructor)
Launchpad: LearningCurve, "Which Test is Best", Interpreting Statistics & Practice Quizzes: 30% (see schedule on page 6)
iClicker: 15% (Responses to questions will be graded for accuracy.)
In-class assessments: (delivered via Nexus) 40% (see schedule on page 5)
Quiz on Course Outline & Academic Integrity (Bonus: 2% Due: Sept 15).

How Can I Best Succeed In This Course?

This class is being offered online which means that we are all being asked to rely very heavily upon technology. This means that we all going to have to be more flexible than before. I like to be very organized well before teaching starts and know exactly how things are going to proceed. Know that the reliance on technology will mean that sometimes things will go wrong. Sometimes that will mean that my technology will mess up my plan. Please be patient and supportive when this occurs, and I will do my best to extend you the same respect. That being said, the more prepared we all are the less often these glitches will interfere with our class. If you are someone who is knowledgeable about a fix to a problem a colleague (that term includes me!) is having, please help us out. Know that the inability to answer a single iClicker question will not significantly impact your grade in the course. However, if you are having a problem that prevents you from fully participating in the class on a regular basis, please let me know so I can put you in touch with someone who can get the problem resolved before it impacts your grade.

Being prepared in terms of technology means ensuring that you have the required software running before class begins. You should have iClicker running on whichever device you are going to use to respond to questions during class time. Similarly, you should be sure to know the location of the link to and password for the Zoom meeting for classes and any individual meetings we schedule. Finally, ensure that you have a copy of your formula sheet and the decision tree handy. These best practices will hopefully aid things to proceed smoothly.

This online format also demands that students be more fully prepared in terms of course content and be more active learners. I admit that while watching a number of those videos in the "how to teach online course", I found myself checking my phone, or navigating to Firefox to check out the latest COVID numbers. Heck, I even went to my background picture and completed the occasional workout while Zoom meetings dragged on. I want to try to help you avoid this temptation. When I have created videos, I have tried to keep them focused and brief. Please read the assigned chapters in the text and complete the appropriate LearningCurve activities before we discuss them in class. There will be some overlap between the text and the lectures, but the approach and a substantial amount of material will be unique to each. Your success (i.e, ability to understand the material and engage with the class at class time) will be increased if you have read the text and completed the associated LearningCurve activity before class.

So, then what are we going to do in class? A schedule and materials for each class are posted. You are expected to watch some short videos before we meet each week. That leaves us with time to discuss the material as a group and address any questions that you may have. In addition, I have prepared some demonstrations and iClicker activities that aim to provide you with a better indication of what I think is most important in a given chapter, allow you to practice with some of the concepts, and may generate more discussion/questions. The lowest grade on iClicker will be dropped from the grade calculation. Finally, in some classes (see schedule) you will be asked to complete in-class assessments to test your mastery of the concepts that have been covered. You can use the formula sheet and a calculator to complete these assignments, but should not consult with colleagues, the text, class notes, applets, or outside sources. Whereas the weighting of the iClicker elements will be low and distributed across the term (1-2% per class), the in-class assessments will be more cumulative and worth substantially more (40% of course grade).

Academic Integrity & Academic Misconduct

One of the best ways to be successful in this class is to engage actively in learning of the material and practice the application of that knowledge frequently. Thus, I have worked hard to design a number of different and hopefully engaging opportunities for you to test and demonstrate your evolving understanding and mastery of data analysis. I love to ride my bike and one of the mantras of improving one's riding is to spend some of your time riding with others who are better riders and challenge you and sometime mentoring riders who are weaker than you. In this course, I encourage you to do the same – try to spend some time working with others on this material. Please, help others when you can (you will often find it improves your understanding) and ask others for assistance when you are struggling. Laboratory assignments are excellent times to take advantage of the benefits of collaboration. When collaborating remember that the work that is submitted should be your own and should not look identical to that of your fellow collaborators (avoid plagiarism). Please read the section on Academic Misconduct in Section 8 of the General Calendar (http://uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf) and watch the tutorial (https://www.youtube.com/watch?v=UvFdxRU9a8g). If you are in doubt about whether what you are doing (or about to do, or a colleague or friend is asking you to do) is inappropriate, please stop whatever activity you are involved in immediately and e-mail me for further direction.

In-class assessments and iClicker questions are meant to evaluate your individual growth of understanding and mastery of data analysis (as well as point out areas that we may need to work on more). Therefore, I expect you to complete these individually and not communicate with other students, your text or outside sources regarding these elements of the course. At the beginning of each in-class assessment, will be reminded of these policies and you will be asked to complete an academic integrity declaration upon your submission. Failure to complete the declaration will result in a zero. If I find evidence that students have collaborated or consulted outside sources in these assignments, I will forward that evidence to the Departmental Review Committee for investigation of academic misconduct. Please note that the Zoom Proctoring Policies (see next section) will apply during all in-class assessments.

Notice Regarding Zoom Proctoring

Tests/exams and quizzes are proctored through a live Zoom meeting **and may also be recorded for later review**. Proctors will be monitoring for any evidence of academic dishonesty. Each proctor will monitor a small group of students simultaneously. Students must sit and face an engaged camera to enable monitoring. Microphones should be muted.

As part of this monitoring, please note:

- Each student's name and everything within their camera's view, including their face, body and background, will be visible to the proctor and to the other students within the group.
- If a student uses the chat feature, anything written will be visible to all meeting participants.
- If a student chooses to un-mute their microphone, anything said will be heard by all meeting participants.

Zoom has been configured to disable students from recording the test/exam. **After being reviewed for academic dishonesty, any recordings made by proctors will be deleted if no such evidence is found.**

Information regarding Zoom's data collection, including a link to its privacy policy, can be found at https://www.uwinnipeg.ca/privacy/zoom-privacy-notice.html. Your personal information is collected under the University of Winnipeg Act and 36(1)(b) of the Freedom of Information and Protection of Privacy Act. For information regarding privacy at UWinnipeg, contact Dan Elves, Senior Information and Privacy Officer, at da.elves@uwinnipeg.ca or 204.988.7538.

Policy Regarding Missed Assignments/Illness

Unfortunately, illnesses, death in the family, or other traumatic events are part of life. We have all had times that we have not been in the best state (or simply unable) to meet the expectations that are set down for us. Students are entitled to an extension of deadlines for legitimate medical or compassionate reasons (illness, physical disability, domestic affliction, or religious holidays). If you find yourself in this situation, please speak with me at the earliest opportunity to explore a recommended route forward. I generally only consider extensions when I am consulted before the deadline and when the weighting of the item is greater than 2% of the overall course grade. In the event of a sudden emergency, please contact me as soon as possible.

In the event that ongoing events result in you missing more than 2 assignments or classes you may have overextended yourself in light of those events and should seriously consider dropping the class. If such occurs or you have a medical issue that is interfering with your ongoing success at university, I recommend that you speak a counselor at Student Services as soon as possible to discuss possible arrangements. In general, retroactive requests for grade revisions on medical or compassionate grounds will not be considered.

Procedures for Appealing Academic Evaluations

If in the course of our studies, you have reason to appeal a grade on an item of work or the overall grade in the course, please speak with me about your concern within seven days of receiving your grade. If you are not satisfied with the decision of the course instructor, you may wish to consider making a written appeal to the Chair of the Departmental Review Committee. Please consult the Academic Regulations and Policies Section of the General Calendar for information about appeals.
http://uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf A guide to appeals is available from Student Services and the UWSA Office.

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. Please note that uploading course materials to sharing sites such as Course Hero or Chegg is considered to be a serious violation of academic integrity and intellectual property rights. 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* (http://uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf); such consequences could possibly involve legal sanction under the *Copyright Policy* https://copyright.uwinnipeg.ca/docs/copyright_policy_2017.pdf

Services for Students with Disabilities

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 786-9771 or accessibilityservices@uwinnipeg.ca to discuss appropriate options. All information about a student's disability or medical condition remains confidential http://www.uwinnipeg.ca/accessibility .

Additional University Policies

In the event that there is a return to campus, we ask that you please be respectful of the needs of classmates and instructors/professors by avoiding the use of unnecessary scented products while attending lectures. Exposure to scented products can trigger serious health reactions in persons with asthma, allergies, migraines or chemical sensitivities. Please consider using unscented necessary products and avoiding unnecessary products that are scented (e.g. perfume).

Undergraduate students who plan to conduct minimal-risk research interviews, focus groups, surveys, or any other method of collecting data from any person, even a family member, must obtain the approval of the Departmental Ethics Committee before commencing data collection. (For greater-than-minimal-risk or Graduate student studies, approval of the UHREB is also required.) Exceptions are research activities in class as a learning exercise. See http://uwinnipeg.ca/research/human-ethics.html for submission requirements and deadlines."

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.

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 at: http://uwinnipeg.ca/academics/calendar/docs/important-notes.pdf.

Grade Distribution/Cutoffs

A+ at the instructor's discretion
A 85+
A- 80-84
B+ 75-79
B 70-74
C+ 65-69
C 60-64
D 50-59
F less than 50

These cutoffs are tentative and may be changed in either direction by i) the instructor, ii) the Departmental Review Committee, or iii) the Senate, when circumstances warrant.

Tentative Lecture Schedule

This schedule is given as a guideline of the topics to be covered. Topics may not be covered on the exact dates shown and some topics may not be covered at all. The first day of class is Sept 7, 2021. December 7 is a make-up day for November 11 and December 8 is a make-up day for September 30. Last class will be held on Dec 8, 2021. Evaluation period is Dec 9-22, 2021.

	Topic (tentative schedule)	**Chapters/Pages**
Sept 7-14	Introduction	1-4 (omit 95-96)
Sept 16-Oct 5	Sampling & Probability	5
	Normal Curve & z scores	6
	Hypothesis Testing Using the z test	7
	University is closed Sept 30 – National Day of Truth and Reconciliation	
Oct 7-Nov 4	Confidence Intervals, Effect Sizes & Power	8
	Oct 10-16 – Reading Week – no classes	
	University is closed Oct 11 for Thanksgiving	
	Single Sample & Paired t-test	9
	Independent Sample t-test	10
Nov 16-Dec 8	One-way ANOVA	11 (omit 341-343)
	University is closed Nov 11 – Remembrance Day	
	Two-way ANOVA	12 (omit 378-399)
	Nov 16 - Deadline to Withdraw from this course without academic penalty	
	(Note: Withdrawing before this deadline does not result in a fee refund. See: https://www.uwinnipeg.ca/registration/docs/withdrawal-schedule-spring.pdf)	
	Chi Square	15
	Correlation	13
	Regression	14 (omit 451-454, 464-469)
	Review	16
	Dec 8 – Last day of classes for the term	

Tentative In-class Assessment Schedule & Weightings

The main topic of each in-class assessment and tentative dates are shown below. Although the main topics are shown, students should be aware that mastery of the concepts often rests heavily on mastering of the previous concepts. The in-class assessments will be completed online **at the beginning of class on the dates shown below**. In the event that our progression through the material takes longer than anticipated, dates may be moved later than shown here.

Sept 16	Identifying variables & calculating measures of central tendency & variability	5%
Oct 5	Hypotheses, z-scores, & z-test	10%
Nov 9	Single sample z-tests and t-tests, t-tests for two samples, & Chapter 8	10%
TBA	All Hypothesis Tests & Correlation & Regression	15%

FYI: Exam schedules will be posted at: https://www.uwinnipeg.ca/exam-schedules/

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 , Facebook Page (Psychology Department@UWinnipeg), and Instagram page (psychologyatuwinnipeg)

Tentative Launchpad Assignments Schedule & Weightings

Due dates are set in Launchpad and are tentative. However, in the event of a change it 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. Some assignments may require more time to complete than others (more points = more time to reach the threshold number of points). I strongly encourage you to read the chapter and complete the LearningCurve assignments before attending the class when the topic is to be discussed even if the due date is later. There will be **no extensions granted for Launchpad assignments** except in especially extenuating circumstances. See the text for a description of each type of assignment. Whereas you should complete LearningCurve assignments after reading the chapter and prior to class discussions, the Interpreting assignments are likely better done after the class discussion of a topic, and the Practice Quizzes after you have prepared for an upcoming in class assignment. Please be aware that research shows that the more frequent exposures are to content, the better a student's success. Therefore, spreading out your completion of these items is strongly recommended.

Sept 15	Ch 1	LearningCurve Assignment 450 points (3 topics)	1.5%
		Interpreting Statistical Results: Can a visual illusion	1%
	Ch 2	Interpreting Statistical Results: Frequency distributions	1%
	Ch 4	LearningCurve Assignment 300 points (2 topics)	1%
		Interpreting Statistical Results: Are you going to eat	1%
		Practice Quiz – Ch 1, 2 & 4	1%
Oct 3	Ch 5	LearningCurve Assignment 150 points (1 topic)	0.5%
		Interpreting Statistical Results: Is everyone else	1%
	Ch 6	LearningCurve Assignment 300 points (2 topics)	1%
		Interpreting Statistical Results: Head Injury	1%
	Ch 7	LearningCurve Assignment 450 points (3 topics)	1.5%
		Interpreting Statistical Results: Who get bullied	1%
		Practice Quiz – Ch 5, 6, 7	1%
Nov 7	Ch 8	LearningCurve Assignment 300 points (2 topics)	1%
		Interpreting Statistical Results: In their shoes	1%
	Ch 9	LearningCurve Assignment 300 points (2 topics)	1%
		Interpreting Statistical Results: Whats a signature	1%
		Which Test is Best: The Open Syllabus Project	0.5%
		Which Test is Best: Global Happiness	0.5%
	Ch 10	LearningCurve Assignment 150 points (1 topic)	0.5%
		Interpreting Statistical Results: Are all texts	1%
		Which Test is Best: Successful Dieting	0.5%
		Practice Quiz – Ch 8, 9 & 10	1%
Dec 12	Ch 11	LearningCurve Assignment 150 points (1 topic)	0.5%
		Interpreting Statistical Results: Is false modesty	1%
		Which Test is Best: Serial Killers	0.5%
	Ch 15	LearningCurve Assignment 150 points (1 topic)	0.5%
		Interpreting Statistical Results: And the winner is	1%
		Which Test is Best: Getting More Responses to Emails	0.5%
	Ch 13	LearningCurve Assignment 150 points (1 topic)	0.5%
		Which Test is Best: Tinder & Online Dating	0.5%
	Ch 14	LearningCurve Assignment 150 points (1 topic)	0.5%
	Ch 16	Interpreting Statistical Results: Is there power in	1%
		Which Test is Best: Crisis Text Line	0.5%
		Practice Quiz – Ch 11, 13, 15 & 16	1.5%