PSYC-2101-001:
Introduction to Data Analysis
Spring Term 2024

COURSE DESCRIPTION AND SECTION INFORMATION

Instructor: Dr. Jane Lawrence Dewar (j.lawrencedewar@uwinnipeg.ca)
Office: 4L35
Course Delivery Method: In person lectures (see web advisor for location)
Lecture time: 9:00 am -11:00 am Monday, Wednesday, Friday. There is also a lab component to this course.
Office Hours: Mondays 11:00 am -12:00 pm

This is a 6-week course. The first day of class is May 6, 2024. The last class will be held on June 17, 2024. Important dates can be found at:
https://www.uwinnipeg.ca/academics/calendar/docs/dates-spring.pdf

Voluntary Withdrawal Date: **June 5, 2024**
Note: Withdrawing before this deadline does not result in a fee refund. You cannot simply stop going – you must formally withdraw.

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 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 test.

COURSE REQUIREMENTS AND EVALUATION:

COURSE MATERIALS:

1. Basic scientific calculator (you cannot use your phone during tests)
2. Required - Achieve Access Card. **Note that this includes access to the e-book.**
3. Required – iClicker account/code (included with Achieve) installed on a device that you will bring to class to complete activities.
4. Optional - Textbook – Nolan & Heinzen, Statistics for the Behavioral Sciences, 5e
   As you will already have an e-version of the textbook that accompanies Achieve, it is up to you whether you wish to have a hard copy (it is a loose leaf version).

Students have the option of purchasing a package that contains all 3 listed elements (ISBN: 9781319529697) OR a package containing Achieve (with iClicker) and the e-book (9781319511944) from the university's bookstore: https://www.bkstr.com/winnipegstore/shop/books/textbooks-and-course-materials

EVALUATION:

Your final grade will be calculated from the following components **only**. I do not permit retaking tests that you have already written. There are no opportunities for additional work to increase your mark. I will not respond to either of these requests or for changes in final marks based on personal circumstances.

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

In Class iClicker activities (10%): Throughout lectures there will be activities in which you submit responses using iClicker. To participate, you will need to bring a device (smartphone, tablet or laptop) with your iClicker account set up. It is your responsibility to set up your iClicker account in a timely fashion and properly register in my iClicker course. A banner in Achieve should prompt you to connect but further instructions are also available on our Nexus class site. iClicker questions are graded for accuracy with each correct answer worth 0.25% to a maximum of 10% towards the final grade (no bonus points). This means you need 40 correctly answered questions to receive the full 10%. The inability to answer a few iClicker questions will not significantly impact your grade in the course as there will be many more opportunities for iClicker marks than those that can be counted toward your final grade. However, if you are having a problem that prevents you from fully participating in the class on a regular basis (e.g. connecting to WIFI, logging into iClicker), please let me know so that I can connect you with the appropriate support to resolve the issue before it impacts your grade. It is also your responsibility to check your iClicker record for any discrepancy and bring them to my attention.

Achieve Assignments (30%): Achieve assignments help you learn/review the material in the textbook and are completed outside of class in your own study time. There are four types of Assignments:

1. **Learning Curve Assignments** may be most helpful to complete after reading the chapter and before covering the topic in class. Each assignment has a target score. Answering questions correctly earns points. The activity uses adaptive testing. Questions will get

harder as more questions are answered correctly. Harder questions are worth more points – so reading carefully and answering correctly will get you to the target more quickly. Once you reach the target score, you receive full credit (100%) for completing the activity. This activity should still be available to you for review purposes even after completion and the due date (but there is no further credit).

2. **Interpreting Statistical Results Assignments** may be most useful after class. These allow one attempt per question and are graded for accuracy.
3. **Which Test is Best** may also be useful after class. These are interactive activities where you review the presented material and answer questions. Once completed you receive full credit (100%).
4. **Practice Quizzes** will help prepare you for the upcoming tests. These are graded for accuracy. You have 3 attempts at these quizzes with the highest score being used towards your final mark.

All assignments are done at your own pace (there are no time limits). You may want to time yourself on the practice quizzes to see how long they are taking you to answer.
Individual deadlines for Achieve assignments are set according to the timeline of material coverage. See your Achieve calendar for specific deadlines. They are always set to end of day, 11:59pm. You can work ahead and complete them ahead of time if you wish. As deadlines are tentative, if a change occurs it will be announced in class and on Nexus and will always be to a later date, never an earlier one. In the event a topic is not covered, the Achieve assignment will not be counted in the grade calculation and the weighting will be distributed between the remaining assignments. Assignments vary in their value towards the final grade to reflect the amount of time/effort involved (see tentative schedule). **There are no extensions or make ups for missed Achieve Assignments.**
Note: Achieve also has an optional Intro Survey and a Check point survey which are not assessed. These are to assist you in setting goals, identifying study strategies that work for you, and allow you to communicate any additional information that you think I should know).

***Two Term Tests (Term Test 1 on May 22 = 20%; Term Test 2 on TBD during the spring evaluation period (June 19 or 20) = 25%*)**: Tests are closed-book, in-person assessments. Students may be asked to present photo ID. Each test will be focussed on the chapters covered since the last term test (not cumulative) but many of the topics build upon each other. Students can anticipate that some concepts and calculations will be revisited and therefore reappear. A **non-programmable scientific calculator (not your phone) is permitted** during tests but, remember that calculation questions are graded based on the shown work. Electronics (other than your calculator) are not permitted during tests. You will be asked to stow your personal belongings away. 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.

Bonus Mark
There is an available 1% bonus mark towards your final grade available to you by completing a 10-question online quiz (delivered on Nexus) related to the information in this syllabus before the end of day (11:59pm) of May 13. There are no extensions.

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 Achieve 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 activities. However, it is anticipated that life happens, and students may need to miss an occasional class 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. Achieve assignments are posted at the start of the course with plenty of advance notice of upcoming deadlines. Students are expected to manage their time to ensure work is submitted prior to deadline. Do not leave Achieve assignments to the very last minute. Each assignment is individually worth a small amount towards your final grade. There are no further accommodations provided.

Students will be allowed an alternate writing time for tests missed due to medical conditions/illness, compassionate needs (death), or religious holidays. It is the student's responsibility to inform the instructor **prior to the exam start time** 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.

A+	95 and over	A	85 - 94	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 an opportunity for students to make-up work and/or examinations without penalty. A list of

religious holidays can be found in the 2023-2024 Academic Calendar, in the section, Important Notes (https://www.uwinnipeg.ca/academics/calendar/docs/important-notes.pdf).

This course is being offered as in-person delivery. Should the local COVID-19 situation change, there may be a permitted or necessary change in the mode of delivery may require adjustments to important aspects of course outlines, like class schedule and the number, nature, and weighting of assignments and/or exams. Should delivery be changed, a remote teaching plan will be posted to NEXUS.

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/policies/docs/policies/academic-misconduct-policy.pdf
https://www.uwinnipeg.ca/policies/docs/procedures/academic-misconduct-procedures.pdf

Non-Academic Misconduct Policy and Procedures:
https://www.uwinnipeg.ca/policies/docs/policies/student-non-academic-misconduct-policy.pdf
https://www.uwinnipeg.ca/policies/docs/procedures/student-non-academic-misconduct-procedures.pdf
https://www.uwinnipeg.ca/policies/docs/policies/acceptable-use-of-information-technology-policy.pdf

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

Academic Integrity and AI Text-generating Tools:
Students must follow principles of academic integrity (e.g., honesty, respect, fairness, and responsibility) in their use of material obtained through AI text-generating tools (e.g., ChatGPT, Bing, Notion AI). If an instructor prohibits the use of AI tools in a course, students may face an allegation of academic misconduct if using them to do assignments. If AI tools are permitted, students must cite them. According to the MLA (https://style.mla.org/citing-generative-ai/), writers should:

- cite a generative AI tool whenever you paraphrase, quote, or incorporate into your own work any content (whether text, image, data, or other) that was created by it
- acknowledge all functional uses of the tool (like editing your prose or translating words) in a note, your text, or another suitable location
- take care to vet the secondary sources it cites

If students aren't sure whether or not they can use AI tools, they should ask their professors.

Resources and Support for students:

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 contacting Student Services**. They are not only valuable in assisting you navigate your term and can identify support services that are available to you but, can also keep documentation should any test deferrals requests be needed. Their office offers a variety of resources including study skills workshops (for schedule of offerings this term see https://www.uwinnipeg.ca/academic-advising/study-skills-workshops.html) Their office also provides a USupport program (https://www.uwinnipeg.ca/academic-advising/usupport.html). Should you miss a test without explanation, I will submit a referral to the USupport program and a student success advisor will be in touch with you. Should you express to me that you are facing challenges that are affecting your ability to engage in your course work, I will offer to make a referral.

The University of Winnipeg affirms the importance of student mental health and our commitment to providing accessible, culturally appropriate, and effective services for students. Students who are seeking mental health supports are encouraged to reach out to the Wellness Centre at studentwellness@uwinnipeg.ca or 204.988.7611. For community-based mental health resources and supports, students are encouraged to dial 2-1-1. This program of United Way is available 24/7 in 150 languages.

Tips for Success in this course:

- Take advantage of our in-class time – ask questions! I guarantee that a classmate will have the same question or is equally as confused. I am always happy to take a few additional minutes to try to explain concepts in another way or try to work through an example.
- Each test will include a formula sheet with unlabelled formulas. I do not provide a copy of these until we get to review activities to encourage you to engage with the formulas on your own. At the end of each chapter, the textbook lists the new symbols and formulas that were introduced as well as page where they first occur. As we go, I suggest that you to start building your own formula sheet for use during studying and organizing by chapter.
- The end of each chapter includes practise questions. Solutions to the odd number questions can be found in Appendix C of the textbook. I recommend that students start practicing with these so that they can check their work and once they become comfortable with them, use the even questions to increase their efficiency in solving the problems. Appendix D contains solutions to the check your learning problems presented within each chapter.
- There are several options for tutoring available. See our nexus class site for more information.

Additional Information about the Psychology Department:

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

Tentative Course Schedule (subject to change)

Date	Topic	Chapters/ Pages	Associated Achieve assignments (see Achieve for individual due dates)	
May 6-10	Intro, Frequency Distributions, Visual Displays, Central Tendency & Variability, Sampling & Probability	Chapters 1 - 5 (omit pages p103-105)	• 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%
			• Ch 5 LearningCurve Assignment 300 points (2 topics)	1%
			• Interpreting Statistical Results: Is everyone else	1%
May 13 - 17	Normal Curve & z scores	6	• LearningCurve Assignment 300 points (2 topics)	1%
			• Interpreting Statistical Results: Head Injury	1%
	Hypothesis Testing Using the z test	7	• LearningCurve Assignment 450 points (3 topics)	1.5%
			• Interpreting Statistical Results: Who get bullied	1%
			• Practice Quiz – Ch 5, 6, 7	1%
May 20	**Victoria Day - University Closed**			
May 22	**Term Test 1: Chapters 1 - 7 (20%)**			
May 24	Confidence Intervals, Effect Sizes & Power	8	• Ch 8 LearningCurve Assignment 300 points (2 topics)	1%
			• Interpreting Statistical Results: In their shoes	1%
May 27 - 31	Single Sample and Paired sample t tests	9 & 10	• LearningCurve Assignment 150 points (1 topics)	0.5%
			• Interpreting Statistical Results: What's a signature	1%
			• Which Test is Best: Global Happiness	0.5%
			• Learning Curve Assignment 150 points (1 topics)	0.5%
			• Which Test is Best: The Open Syllabus Project	0.5%
	Independent Sample t-test	11	• LearningCurve Assignment 150 points (1 topic)	0.5%
			• Interpreting Statistical Results: Are all texts	1%
			• Practice Quiz – Ch 8, 9, 10 & 11	1%
June 3 - 7	One-way ANOVA	12 & 13 (omit p. 361-366)	• LearningCurve Assignment 150 points (1 topic)	0.5%
			• Interpreting Statistical Results: Is false modesty	1%
			• Which Test is Best: Serial Killers	0.5%

	Two-way ANOVA	14 (omit p. 425-440)	• *No Assignments*	
June 10 -14	Chi Square	17 (omit p. 553-556)	• 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%
	Correlation & Regression	15 (omit p. 470-475), 16 (omit p. 505-508, and p. 519-523)	• LearningCurve Chapter 15 Assignment 150 points (1 topic)	0.5%
			• Which Test is Best: Tinder & Online Dating	0.5%
			• LearningCurve Chapter 16 Assignment 150 points (1 topic)	0.5%
June 17	Choosing the correct statistical test	18 (omit p. 585-596	• Interpreting Statistical Results: Is there power in 1%	1%
			• Which Test is Best: Crisis Text Line	0.5%
			• Practice Quiz – Ch 12, 14, 17, 15, 16 & 18	1.5%
	Review			
TBD (June 19 or 20)	**Term Test 2: Chapters 8 - 18 (25%)**			

Other important dates:

Victoria Day, May 20, University is closed

https://www.uwinnipeg.ca/academics/calendar/docs/dates-spring.pdf