

Math 0212 FA/ FB:
Quantitative Methods for the Health Scientist
Fall 2025

Instructor: Alex Hudyma **Office:** RB 2006 **Email:** akhudyma@lakeheadu.ca

Class Times: Mondays and Wednesdays

FB: 8:30 - 10:00 am in RB 1042

FA: 1:00 - 2:30 pm in ATAC 1001

Lab Times: Mondays 11:30 am - 12:30 pm in ATAC 1003

Office Hours: Wednesdays 10:00 - 11:00 am in RB 2006

Textbook: *Elementary Statistics: A Brief Version*, 9th Edition, by A. G. Bluman.

[Print copy: \\$149.95](#) | [E-book 180 day rental: \\$69.00](#)

This book is used as a complementary resource for the course for extra explanations and examples, as well as assigned practice problems used to study for exams. It is not technically “mandatory”, particularly if you already understand the field of Statistics, but getting a copy is strongly recommended. Older editions are absolutely acceptable, just note that the page/question numbers assigned for studying will differ.

Course Webpage: There is a page for the course on myCourseLink through myInfo. Announcements, your WeBWorK login info, MathMatize info, quizzes, due dates, lecture notes, the syllabus, and any other course information will be posted here.

Course Content: We will cover the majority of the textbook material. By the end of the course students will be able to: summarize both qualitative and quantitative data sets using frequency distributions and graphs; interpret data presented graphically; calculate measures of central tendency such as mean, median, mode, and midrange; calculate measures of variation such as variance, standard deviation, and coefficient of variation; and identify the position of a data value in relation to its data set using both z-scores and percentiles; define a sample space and distinguish between simple and compound events; identify mutually exclusive and independent probability events; compute classical and empirical probabilities, as well as compound and conditional probabilities; use counting rules to compute the probabilities of more complex events; construct and interpret discrete probability distributions; identify binomial distributions and apply the binomial probability formula to compute expected values; use the application of the normal distribution to compute probabilities for normally distributed data; apply the Central Limit Theorem to make predictions about sampling distributions; apply the normal approximation to the binomial distribution to compute binomial probabilities on large data sets; construct confidence intervals for various population parameters and use them to make estimates; perform a variety of hypothesis tests to draw research conclusions; describe

relationships between two quantitative variables using Pearson's correlation coefficient and regression lines; and compare three or more population means using one way Analysis of Variance.

Course Schedule: If all goes as planned, we will cover the following topics in the lecture notes. Note that the sections do correspond to the textbook. Reading the section in the textbook ahead of time is an extremely effective strategy to get the most out of the lecture time. Instead of using class time to familiarize yourself with the words and symbols, instead you can focus on comprehending what is happening.

		Sept 3rd	Course Intro
Sept 8th	1.1-1.4	Sept 10th	2.1-2.2
Sept 15th	2.3-3.1	Sept 17th	3.2-3.3
Sept 22nd	3.4-4.2	Sept 24th	4.3-4.4
Sept 29th	4.5-5.1	Oct 1st	5.2
Oct 6th	TEST 1	Oct 8th	5.3-6.1
Oct 9th-13th		Reading Week (no classes)	
Oct 20th	6.2-6.3	Oct 22nd	6.4-7.1
Oct 27th	7.2-7.4	Oct 29th	7.5-8.1
Nov 3rd	8.2	Nov 5th	TEST 2
Nov 10th	8.3-8.4	Nov 12th	9.1-9.2
Nov 17th	9.3-9.5	Nov 19th	10.1-10.2
Nov 24th	10.3-11.1	Nov 26th	11.2-11.3
Dec 1st	Final Exam talk		
Dec 5th-15th			
		Final Exam period	

Nov 7th
Drop Date

Labs: The lab time on Mondays will give students the opportunity to ask questions about course content. There will also be quizzes given at the start of lab time (see “Quizzes”).

Class Policies: Paying attention during lecture, asking and answering questions, and otherwise participating when prompted are all ways to respect myself and your fellow students. Lakehead University will not tolerate any form of harassment or discrimination to students or instructors. Academic dishonesty (ie asking chatGPT to do your homework, copying from your classmate’s paper during an exam, etc.) is a serious offence and penalties will be strictly enforced.

Grading Scheme:	Participation	5 %
	Assignments	7 ½ %
	Quizzes	7 ½ %
	Test I	20 %
	Test II	20 %
	Final Exam	40 %

Participation: MathMatize polls will be played at random during lecture. Completing one poll will contribute ⅓ % to your grade, so you must attend a minimum of 15 out of the 21 lectures this semester to get a perfect grade in this component. There will be no make up polls.

Assignments: Homework will be assigned every week via the online homework system WeBWorK. You will have until 11:59 pm ET each Tuesday to complete that week's assignment. Please note that late assignments will not be accepted, but your lowest assignment mark will be dropped in calculating your final grade to account for missing an assignment for whatever reason.

Quizzes: There will be nine quizzes to be completed in myCourseLink. They are scheduled for the start of each lab time (11:30 am) every week aside from test weeks, and the material to be covered will be announced in myCourseLink. Note that there will be no make up quizzes, but your lowest quiz mark will be dropped in calculating your final grade to account for missing a quiz for whatever reason.

Tests: There will be two tests scheduled for Monday, October 6th and Wednesday, November 5th. You will be allowed a scientific calculator and one double-sided 8.5x11" formula sheet. Make up tests will only be arranged if a legitimate and documented reason is given (i.e. a doctor's note) as soon as possible.

Final Exam: The final exam will be scheduled by the registrar during the examination period. Exams rescheduled due to unforeseen events (i.e. campus closure due to weather) will be written on the contingency date. The final will be a three hour cumulative exam, and you will be allowed a scientific calculator as well as two double-sided 8.5x11" formula sheets.

Accommodations: Lakehead University is committed to achieving full accessibility for persons with disabilities. This includes arranging academic accommodations for students with disabilities and/or medical conditions to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact Student Accessibility Services (SAS) and register as early as possible. For more information, please contact Student Accessibility Services <http://studentaccessibility.lakeheadu.ca> (SC0003, 343-8047, or sas@lakeheadu.ca).