

**Math 0212 FA/ FB:**  
**Quantitative Methods for the Health Scientist**  
Fall 2023

**Instructor:** Alex Hudyma      **Office:** RB 2005      **Email:** akhudyma@lakeheadu.ca

**Class Times:** Mondays and Wednesdays in RB 1042

FB: 11:30 am - 1:00 pm

FA: 1:00 pm - 2:30 pm

**Lab Times:** Fridays 10:30 - 11:30 am in RB 1042

**Office Hours:** Tuesdays 1:00 - 2:00 pm in RB 2005

**Textbook:** *Elementary Statistics: A Brief Version*, 8th Edition, by A. G. Bluman.

**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.

**Labs:** The lab on Fridays will give students the opportunity to ask questions about course content and problems. 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 (plagiarism, cheating, or impersonation of any kind) is a serious offence and penalties will be strictly enforced.

<b>Grading Scheme:</b>	Participation	5%
	Assignments	10%
	Quizzes	15%
	Test I	15%
	Test II	15%
	Final Exam	40%

**Participation:** MathMatize poll games will be played at random during lecture. Completing one poll will contribute 0.5 % to your grade, so you must complete 10 throughout the semester to fulfil 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 10:00 pm ET on Sunday to complete that week's assignment, though the recommended due date will be Friday as I will not respond to homework emails over the weekend. Please note that late assignments will not be accepted, but your lowest assignment mark will be dropped in calculating your final grade.

**Quizzes:** There will be nine quizzes to be completed in myCourseLink. They are scheduled for the start of each lab time (10:30 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.

**Tests:** There will be two tests scheduled for Wednesday, October 4<sup>th</sup>, and Wednesday, November 8<sup>th</sup>. 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. DO NOT book a flight before the exam schedule is released. 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](mailto:sas@lakeheadu.ca)).

<b>Important Dates:</b>	September 5 <sup>th</sup>	First Day of Fall Term
	September 18 <sup>th</sup>	Final Date to Register
	October 4 <sup>th</sup>	Test I
	October 9 <sup>th</sup> -13 <sup>th</sup>	Fall Reading Week
	November 3 <sup>rd</sup>	Final Date to Withdraw
	November 8 <sup>th</sup>	Test II
	December 4 <sup>th</sup>	Last Day of Fall Term
	December 7 <sup>th</sup> -17 <sup>th</sup>	Examination Period
	December 18 <sup>th</sup>	Exam Contingency Date