Mathematics 0212 YA

INEP – Quantitative Methods for the Health Scientist

Instructor: John Kimball

Lecture Schedule: Tuesdays: 9:00am – 11:30am and Thursdays: 11:30am – 1:00pm, RB2025

Office Hours: RB2005 by appointment.

Email: jfkimbal@lakeheadu.ca

Textbook: Math 0212 YA – 2025/2026, Quantitative Methods for the Health Scientist, Course Guide Notes by John Kimball – price: $57.45

Course Webpage: There is a page for the course on MyCourseLink through myInfo. Announcements, Assignments, due dates, the syllabus, and any other course information will be posted here.

Course Content: By the end of the course students will be able to: solve equations and rearrange formulae, ratio and proportions, unit conversions, permutations and combinations, sets and Venn Diagrams, an introduction to probability; the binomial, Poisson and normal distributions; analysis of data; statistical inference; ANOVA; linear regression and correlation; nonparametric methods.

Course Evaluation:

Category	Weight
Attendance	10%
Test #1	Best 2 20%
Test #2	
Test #3	
Final Exam	30%

Category	Weight
Weekly Assignments	20%
Probability Assignment	5%
Data Assignment	5%
Inferential Stats Assign.	10%
Total	**100%**

Attendance: Students are expected to attend every class and on time. Being late to class is disruptive and disrespectful to the instructor and your peers. Furthermore, coming to every class greatly increases your chances in being successful in this course.

Assignments: Working regularly on the assignments is essential for success in this course. Students are also strongly encouraged to do as many problems on their own as their time permits from the extra practice problems.

Tests: There are 3 tests in this course. I will count the best 2 of 3 (10% each). Students who will not be able to write these days for a valid reason, e.g. religious or illness (medical note is required), must inform both Lisa and myself. An alternative plan will be conjured to ensure you have equal opportunity as your peers to be assessed.

Final Exam: There will be a Final Exam at the end of the year. The date and time will be scheduled by the registrar.

Course Withdrawal: The final date that you may drop this course without academic penalty is Friday, February 6th, 2026.

Artificial Intelligence (AI): Artificial Intelligence (AI) tools, such as ChatGPT and similar platforms, can be valuable resources for clarifying concepts, exploring examples, and enhancing your understanding of course material. You are encouraged to use these tools for learning support, provided that you critically evaluate any information they provide. However, using AI to generate answers for graded assignments or exams is strictly prohibited and will be considered academic misconduct. All submitted work must represent your own independent effort in accordance with the University's Academic Integrity policy.

Students with Disabilities or Chronic Conditions: Reasonable accommodations are available for students with a documented disability or chronic condition. It is the student's responsibility to request these accommodations. Students who may require accommodations to fully participate in this course should contact Student Accessibility Services (SC0003) at (807)343-8047.

Assignment – Due Dates

1	Fri, Sept 12	**6**	Fri, Oct 31	**10**	Fri, Jan 16	**15**	Fri, Mar 10
2	Fri, Sept 19	**7**	Fri, Nov 7	**11**	Fri, Jan 23	**16**	Fri, Mar 20
3	Fri, Sept 26	**8**	Fri, Nov 14	**12**	Fri, Jan 30	**17**	Fri, Mar 27
4	Fri, Oct 3	**9**	Fri, Nov 28	**13**	Fri, Feb 6	**18**	Fri, Mar 27
5	Fri, Oct 14			**14**	Fri, Feb 27		

Probability Major Assignment	Due: Thurs, Nov 20th, (ext to Dec 2)
Data Major Assignment	Due: Thurs, Jan 29th, (hard deadline)
Inferential Statistics Major Assignment	Due: Thurs, Mar 26th, (ext to Apr 2)

Math 0212 YA Course Plan

Day	Topic	Day	Topic
1	Introduction/Calculator Usage	25	Ch1 – The Nature of Prob and Stats
2	Fractions – Review	26	Ch2 – Freq Distr. and Graphs
3	Introduction to Algebra	27	Ch3 – Data Description
4	Solving Equations I	28	Ch4 – Probability and Counting Rules
5	Solving Equations II (with roots)	29	Ch4 – Conditional Probability
6	Formulae	30	Ch5 – Discrete Probability Distribution
7	**Rates/Ratio/Proportion**	31	Ch5 – Binomial Distribution
8	**Word Problems**	32	Ch6 – The Normal Distribution Pt 1
9	**Metric Conversions**	33	Ch6 – The Normal Distribution Pt 2
10	**Imperial Conversion/Conversions III**	34	Review
11	**Dosages**	35	Work Period
12	Review/Work Period	36	**Test #3**
13	**Test #1**	37	Ch7 – Conf Intervals and Sample Sizes 1
14	**Counting (with mult rule, factorial)**	38	Ch7 – Conf Intervals and Sample Sizes 2
15	**Permutations/Combinations**	39	Ch8 – Hypothesis Testing 1
16	**Sets/Venn Diagrams**	40	Ch8 – Hypothesis Testing 2
17	**Intro to Probability**	41	Ch9 – Hypothesis Testing
18	**Measure of Central Tendency/ Variability**	42	Hypothesis Testing/Conf Interval Review
19	**Indirect Area, intro to Z-table**	43	Ch10 – Correlation and Regression
20	**Applications of Normal Distribution**	44	Work Period
21	Review/Work Period	45	Ch 11 – Chi-Square and ANOVA
22	**Test #2**	46	Review
23	Work Period (Major Assignment #1)	47	Review
24	Work Period (Major Assignment #1)	48	Work Period

Day	1	2	3	4	5	6	7	8	9	10	11	12
Date	Sept 2	Sept 4	Sept 9	Sept 11	Sept 16	Sept 18	Sept 23	Sept 25	Oct 2	Oct 7	Oct 9	Oct 21

Day	13	14	15	16	17	18	19	20	21	22	23	24
Date	Oct 23	Oct 28	Oct 30	Nov 4	Nov 6	Nov 11	Nov 13	Nov 18	Nov 20	Nov 25	Nov 27	Dec 2

Day	25	26	27	28	29	30	31	32	33	34	35	36
Date	Jan 6	Jan 8	Jan 13	Jan 15	Jan 20	Jan 22	Jan 27	Jan 29	Feb 3	Feb 5	Feb 10	Feb 12

Day	37	38	39	40	41	42	43	44	45	46	47	48
Date	Feb 24	Feb 26	Mar 3	Mar 5	Mar 10	Mar 12	Mar 17	Mar 19	Mar 24	Mar 26	Mar 31	Apr 2