Math 4030 SA   Probability and Statistics   (2023 Spring)

Instructor: John Kimball

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Lecture: Mon/Tues/Wed/Thurs, 11:30am – 2:30pm in AT2020
Office Hours: Mondays and Wednesdays: 10:15am – 11:15am in RB2006
Email Communication: When sending emails regarding the course, include course number, your name, and keywords in the subject line. For example, "Subject: Math 4030, John Smith, formula for standard deviation".

Textbook: OpenStax: Introductory to Statistics –
https://openstax.org/details/books/introductory-statistics

Performance Evaluation: Your final grades are calculated from your Assignments, MidTerm Exam and Final Exam marks.

Assignments	MidTerm	Final Exam
10%	30%	60%

Lectures:
1. Will be conducted in-person.
2. It is strongly recommended that you attend all the lectures to maximum probability of success. Students who miss lectures are responsible for obtaining the notes from a classmate.
3. Handouts for the lectures are available on the D2L to assist you in taking notes.

Assignments: There will be short assignments given at the end of every lecture (via WebWork). The due dates are included at the end of the Course Outline (all are due at 11:59pm). Late assignments will not be accepted.

MidTerm: The MidTerm will be held Friday, June 2nd from 11:30am – 1:00pm in our classroom.

Final Exams: The three-hour final exam will be held on Tuesday, June 13th, from 11:30am – 2:30pm in a classroom to be determined.

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 seek these accommodations. If a student has a disability or chronic condition and may need accommodation to fully participate in this class, he/she should contact the Student Accessibility Services located at SC0003 or by phone: 343-8047.

Tentative Schedule (Subject to Change):

#	Date	Lectures
1	Tues. May 23	**Chapter 1-2**: Definitions, Dot Diagram, Bar Charts, Pareto Chart, Frequency Distribution/Table, Histogram, Stem-and-Leaf Display, Measures of Central Tendency, Measures of Variation.
2	Wed. May 24	**Chapter 2-3**: Measure of Positions, Outliers, Boxplots, Sample Space and Events, Operations of Events, Mutual Exclusivity, Definition of Probability, Counting and Some Elementary Theorems
3	Thur. May 25	**Chapter 3-4**: Conditional probability, Bayes' Theorem, Random variables.
4	Mon. May 29	**Chapter 4**: Binomial Distribution, Hypergeometric distribution, Mean and variance of a probability distribution
5	Tues. May 30	**Chapter 4**: Poisson distribution, Poisson approximate Binomial Distribution, Geometric and negative binomial distribution, Multinomial Distribution, Chebyshev Theorem
6	Wed. May 31	**Chapter 4-5**: Expectation, Continuous Distribution Intro, Normal distribution;
7	Thur. June 1	**Chapter 5**: Normal approximation to binomial Uniform distribution, Log-Normal distribution, Gamma distribution, Beta distribution, Weibull distribution, Discrete Joint distribution.
MT	Fri. June 2	**MidTerm Exam**, 11:30am – 1:00pm
8	Mon. June 5	**Chapter 5-6**: Continuous Joint distribution, Sample Distribution of mean and variance
9	Tues. June 6	**Chapter 7**: Inference Concerning Means, confidence intervals, Hypotheses concerning one mean, relation between tests and confidence interval
10	Wed. June 7	**Chapter 8-9**: comparing two means, matched pairs comparison, Tests concerning variances and proportions
11	Thur. June 8	**Chapter 10**: Inferences Concerning Proportions, Confidence intervals, Hypothesis concerning one and two Proportions, review of chapters 7-10.
12	Mon. June 12	**Chapter 11**: Least square method, Simple Linear Regression, Correlation
E	Tues. June 13	**Final Exam**, 11:30am – 2:30pm

Assignment Due Dates

Assign	Due	Assign	Due	Assign	Due
#1	Mon, May 29th	#5	Mon, June 5th	#9	Mon, June 12th
#2	Mon, May 29th	#6	Mon, June 5th	#10	Mon, June 12th
#3	Mon, May 29th	#7	Mon, June 5th	#11	Mon, June 12th
#4	Mon, June 5th	#8	Mon, June 12th	#12	Practice