SYLLABUS
MATH 372:
ELEMENTARY PROBABILITY & STATISTICS
UNIVERSITY OF HAWAI'I AT MĀNOA
SUMMER 2019

Instructor information

- Name: Quinn Culver
- Email: quinn@math.hawaii.edu
- Office: Keller 301A
- Office hours: MW 2:30-4:30 PM
- Livesream office hours:
  - `https://www.twitch.tv/quinnculver`
  - Thursdays, 8-10 PM
  - Other times TBA, e.g. nights before exams

Course info, rules, & policies

- This course meets MWF 12:00-1:20 PM from June 3 to August 9 in Kuykendall (KUY) 305.
- All course information will be on Laulima:
  `https://laulima.hawaii.edu/portal/site/MAN.91762.201940`.
- We will use the textbooks below, each of which is free via the link.
  - *OpenIntro Statistics* by Diez et al.,
    `https://leanpub.com/openintro-statistics`
  - *Introduction to Probability* by Grinstead and Snell,
    `https://math.dartmouth.edu/~prob/prob/prob.pdf`
  - *Statistics for Calculus Students* by Kjos-Hanssen and Birns,
    `https://dspace.lib.hawaii.edu/handle/10790/4572`
- Calculators and/or computers (e.g. Wolfram Alpha) are permitted, sometimes necessary, when doing homework problems. No calculators will be allowed on exams.
- You are expected to read the textbook.
  - Some advice from Paul Halmos: "Don't just read it; fight it!"

Homework, Quizzes & Exams

- Homework
  - All HW will be posted on Laulima with a corresponding announcement.
  - HW will be assigned and due on Fridays, with one week between assignment and due dates.
  - Only *some* of the assigned HW problems, chosen by me but unknown to you, will be graded.
  - You can work together on homework, but please submit your own.
  - HW can be turned in late for 80% within one week of the due date and 70% within two weeks.

Date: Summer 2019.

- Quizzes
  - There will be a quiz every Monday.
  - Some quizzes might be open book and notes.
  - Some quizzes might ask you to state definitions (without the help of book or notes), theorems, formulas, etc.
- Exams
  - There will be two midterm exams, both of which are in class, and a cumulative final exam. Dates of the midterms are below.

Grades

- Grading is based on clarity and correctness.
- All scores will be recorded in the gradebook on Laulima.
- Your lowest quiz and lowest HW score will not be counted toward your final grade.
- Your final grade will be determined according the following percent breakdown:
  - HW 25%
  - Quizzes 10%
  - Midterm exam 1 20%
  - Midterm exam 2 20%
  - Final exam 25%
- The tentative letter grade breakdowns are:
  - A 90-100%
  - B: 80-89%
  - C: 70-79%
  - D: 60-69%
  - F: 0-59%

  These letter grade breakdowns might be adjusted. For example, if sufficiently few people have between 90% and 100%, the threshold for an A will be lowered. Thresholds will not be raised, however.
- Those on the boundary between any two letters might get a plus or a minus.

Schedule

The tentative plan is to cover the following topics on the following days.

Monday	June 3	Introduction and basic definitions
Wednesday	June 5	Introduction and basic definitions (continued) & probability via counting
Friday	June 7	Probability via counting (continued)
Monday	June 10	Probability via counting (continued)
Wednesday	June 12	Conditional probability & Independence
Friday	June 14	Conditional probability & Independence (continued)
Monday	June 17	Bayes' Theorem
Wednesday	June 19	Midterm exam 1
Friday	June 21	Discrete random variables
Monday	June 24	Discrete random variables (continued)
Wednesday	June 26	Important discrete distributions
Friday	June 28	Important discrete distributions (continued)
Monday	July 1	Continuous random variables
Wednesday	July 3	Continuous random variables (continued)
Friday	July 5	Important continuous distributions
Monday	July 8	Important continuous distributions (continued)
Wednesday	July 10	Chebyshevs Inequality and basic limit laws (SLLN, WLLN)
Friday	July 12	Midterm exam 2
Monday	July 15	Descriptive Statistics
Wednesday	July 17	Descriptive Statistics (continued)
Friday	July 19	Point and interval estimation
Monday	July 22	Point and interval estimation (continued)
Wednesday	July 24	Point and interval estimation (continued)
Friday	July 26	Maximum likelihood estimation
Monday	July 29	Hypothesis Testing
Wednesday	July 31	Hypothesis Testing (continued)
Friday	August 2	Hypothesis Testing (continued)
Monday	August 5	Regression
Wednesday	August 7	Review
Friday	August 9	Final Exam