MTH 372-W1: Probability I
K. Schilling

Fall 2021

Catalog course description:
Prerequisite: MTH 222 with a grade of C (2.0) or better. (3)
Random experiments, sample spaces, probabilities of events; independence and conditional probability; discrete and continuous random variables, distribution and density functions; expectation, variance, and standard deviation; special distributions and moment generating functions; analysis of joint distributions. Not offered every semester; see https://intranet.umflint.edu/mathematics/ . Graded ABCDE

Our class meets TR 4:00-5:15pm, synchronously (i.e., together) on-line using Blackboard Collaborate Ultra. (The link to Collaborate Ultra is in upper left hand corner of our Blackboard site, directly under the name of the course.) I will record all of our class meetings except on exam days, so you can watch the class repeatedly at your convenience.

Our text is *Probability; Lectures ;and Labs* by Mark Huber, available as a free pdf download from

https://www.markhuberdatascience.org/probability-textbook.

We will cover Chapters 1-25 and 28-31, and some of the labs in section II. A calculator will be useful for computations. We will also make use of the open-source statistical programming language R, which is available as a free download.

Office hours

My email address is ksch@umich.edu

I will stay on line after class for at least 10 minutes every day, during which time we can briefly discuss the course or we can set up a longer meeting at another time. Since the Collaborate Ultra "Course Room" is open all day every day, we can meet electronically in groups of any size at your convenience (or you can meet classmates without me). Just let me know when you would like to meet.

We can also correspond by email. I will respond to your email as quickly as I can, by the end of the day it arrives and usually much sooner.

Homework

There will be weekly homework assignments found in the Course Content section of Blackboard, which you are to submit via Blackboard. Answers to problems are not sufficient – you must submit solutions. Unsupported answers will earn little or no credit.

It is essential that you keep up with the homework assignments. It is impossible to learn mathematics passively; the only way to learn the material is by solving problems. In other words,

Mathematics is not a spectator sport.

Exams and Grades

A midterm exam is tentatively scheduled for Wednesday 10/13. Our final exam is scheduled for Tuesday 12/14.

Grades will be based on homework assignments (60%), class participation (10%), and the midterm and final exams (@ 15%).

The course

The approximate schedule will be

Probability and probability distributions	1 week
Random variables	2 weeks
Conditional probability	1 week
Distributions of random variables	1 week
Expected value	1 week
Joint distributions	2 weeks
Moment generating function	1 week
Normal random variables and the Central Limit Theorem	1 week
Important distributions	2 weeks

Disability Statement:

The University of Michigan-Flint strives to make learning experiences as accessible as possible and complies with Section 504 of the Rehabilitation Act of 1973 and the American with Disabilities Act. The university provides individuals with disabilities reasonable accommodations to participate in educational programs, activities, and services. Students with disabilities requiring accommodations to participate in class activities or meet course requirements must self-identify with Disability and Accessibility Support Services as early as possible at (810) 762-3456 or dassflint@umich.edu. The office is located in 264 University Center, inside the CAPS Office. Once your eligibility for an accommodation has been determined you will be issued an Accommodation Letter. Please present this letter to each faculty member in each class at the beginning of the term, or at least two weeks prior to the need for the accommodation (test, project, etc.).

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`http://catalog.umflint.edu/content.php?catoid=28&navoid=3045#Student_Rights_and_Responsibilities`