

# MATH 4070/5090, Probability and Mathematical Statistics I

## Fall 2025

**Instructor:**

JS Lee

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**Class Web Page:**

- [https://faculty.uml.edu/jongsoo\\_lee/4070F25.html](https://faculty.uml.edu/jongsoo_lee/4070F25.html)

Be sure to check often for announcements, homework assignments and other course material.

**Class Time and Location:**

Tu 6:30-9:20 PM

Olsen 408

**Office hours:**

TuTh 8:00-9:30 AM

Or by appointment

**Text:**

Ross, *A First Course in Probability*, Pearson.

We will cover chapters 1 to 8 of Ross. There may be other resources, such as notes and additional reading material, to be determined; this will be especially relevant for the 5090 (graduate) students. They will be provided as needed.

**Prerequisites:**

Calculus III (and Discrete Structures I for undergraduate students)

**Overview:**

This course provides a rigorous introduction to probability for students with background in calculus. Here is the official course description.

Addresses the topics of probability, random variables, discrete and continuous densities, expectation and variance, special distributions (binomial, Poisson, normal, etc.), moment generating functions, joint and conditional distributions, transformations of variables, sampling, and the central limit theorem.

This course also prepares the students for the subsequent courses in mathematical statistics (MATH 4860/5880) and stochastic processes (MATH 5840), as well as the Actuarial Exam P.

**Homework:**

Homework will be assigned weekly (unless otherwise announced) and **must be turned in at or before the beginning of class on the due date**. You may work with fellow students on the homework problems, but please write up the homework solutions on your own and show all your work.

**Quiz and Exams:**

There will be two quizzes, two exams, and a final exam, all in-class:

Quiz 1:	Tuesday, October 7
Exam 1:	Tuesday, October 21
Quiz 2:	Tuesday, November 18
Exam 2:	Tuesday, December 2
Final Exam:	TBD

All quiz/exams are closed-book, but you may bring a limited amount of notes.

**Course Policy:**

Attending every class is required, and the students are responsible for everything said in class. Excused absences require valid justification, and make-up works are at the discretion of the instructor. Late homework will be subject to penalty unless the student has obtained a prior approval (not accepted at all if more than a few days late or unexcused).

***After submission, homework grades will be made available to students only by visiting the instructor and discussing the work.***

**Academic Integrity:**

Academic dishonesty is prohibited in all programs of the University and sanctions may be imposed on any student who commits an act of academic dishonesty. Details on UML policy can be found at

- [www.uml.edu/catalog/undergraduate/policies/academic-policies/academic-integrity.aspx](http://www.uml.edu/catalog/undergraduate/policies/academic-policies/academic-integrity.aspx) (Undergraduate)
- [www.uml.edu/Catalog/Graduate/Policies/Academic-Integrity.aspx](http://www.uml.edu/Catalog/Graduate/Policies/Academic-Integrity.aspx) (Graduate)

**Course Grade (approximate):**

- 40% Homework and class participation
- 5% Quiz 1
- 5% Quiz 2
- 15% Exam 1
- 15% Exam 2
- 20% Final Exam