



UNIVERSITY OF
LINCOLN

SCHOOL OF MATHEMATICS
AND PHYSICS

MTH1005

PROBABILITY AND STATISTICS

Semester B
2024
Lecture 1

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Teaching Method



WEEKLY MEETINGS CONSISTING OF

- 1 2hours LESSON
- 1 PRACTICAL SESSION (exercises)
- 1 LABORATORY SESSION

Assessment

Assessment		Portfolio
Type	Contribution	
1 in-class test (midterm)	20%	
Four Weekly assignment on BB	20%	
1 Final Exam	60%	

The coursework assignments are used for a continuous assessment throughout the module delivery, in conjunction with problem-solving practical classes under supervision of members of staff.

It will consist in questions and exercises covering the part of the program until the week before the test.

WHAT ARE YOU GOING TO STUDY?



- The expected value and variance of well-known distributions (binomial, Poisson, geometric, exponential and normal distributions).
- Primary statistical concepts including independence and conditional probability and apply them to practical problems.
- Apply confidence intervals for hypothesis testing and perform single sample procedures.
- Basic properties of Markov chains and use them in simple examples.
- How to analyse data using Python.

WHAT ARE YOU GOING TO STUDY?



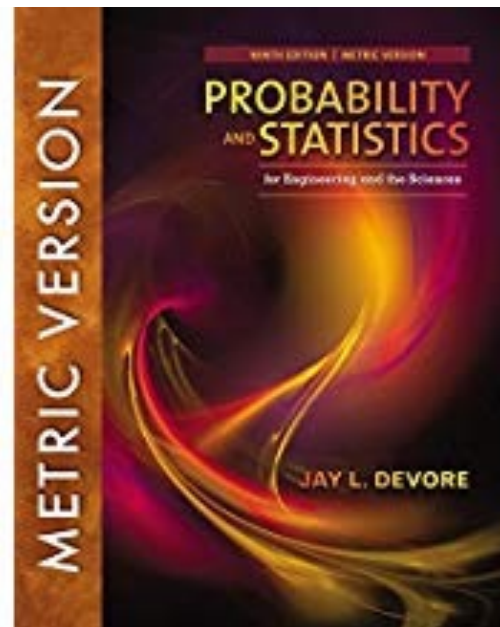
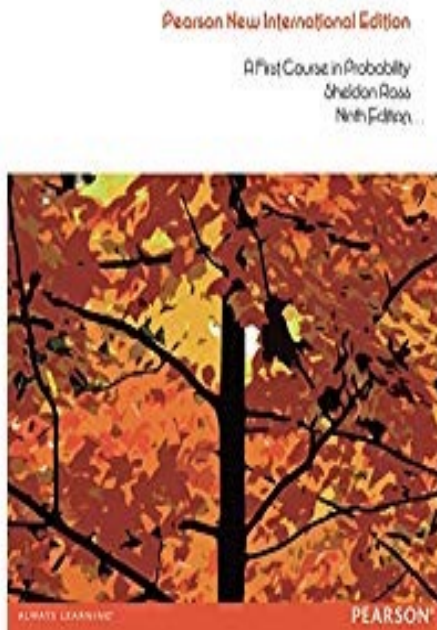
The basic content of the module will include:

- Probability spaces; combinatorial probability.
- Conditional probability; Bayes' theorem; independent events.
- Discrete and continuous random variables; distribution function; density function. Expectation and variance.
- Covariance and correlation; conditional distributions and conditional expectation. Medians, quantiles and statistical tables.
- Binomial, Geometric, Poisson, Normal and Exponential distributions.
- Populations and samples, random sampling, probability models for data.
- Confidence intervals; single sample procedures for a Normal mean and variance, the population proportion.
- Hypothesis testing: introductory ideas and concepts.
- Markov chains and random walks.

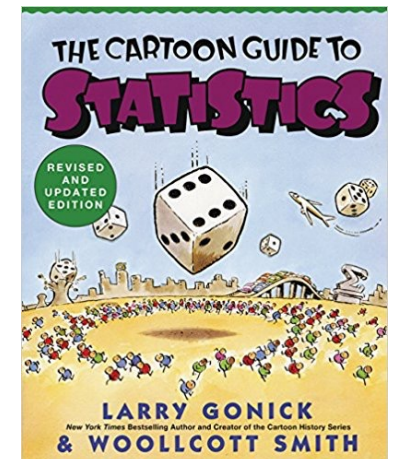
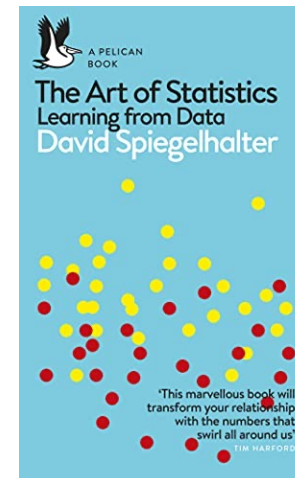
TEXTBOOK AND MODULE MATERIAL

- The recommended textbooks are listed on the blackboard of the module.
- Copy of lecture slides, notes and practical exercises will be uploaded on the Blackboard site.

Textbooks

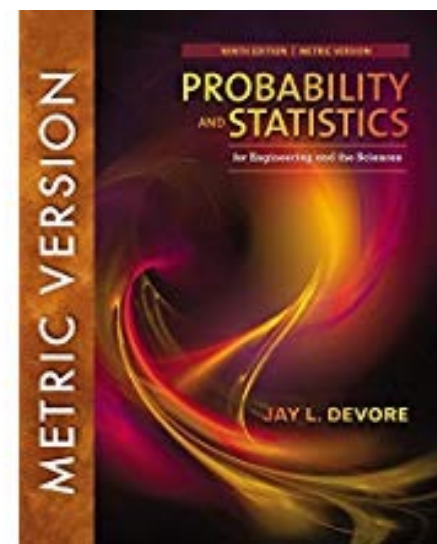


Recommended general readings



CENGAGE WebASSIGN Tool

Textbook+ Exercises by Jay L. Devore



Assessments



Probability And Statistics, 2324

webassign.com

MyView - Human Resources https://client...ent/index.html University of...ement System Worktribe

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CURRENT COURSE
Probability And Statistics, 2223, Spring

My Assignments
No Current Assignments

Communication
No current forums

Grades
Your final grade has not yet been posted

My Class Insights
Make the most of your time.

- ✓ Target the topics you need to study.
- ✓ See which topics you know.
- ✓ Ace your exam.

[View My Class Insights](#)

Announcements

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