

Course Syllabus  
Fall 2025  
CS-SE-STAT 3341.001

Probability and Statistics in Computer Science and Software Engineering

**Time and location:** 11:30 am to 12:45 pm Monday and Wednesday ECSS 2.410

Instructor Dr. Huizhen Guo <a href="mailto:Huizhen.guo@utdallas.edu">Huizhen.guo@utdallas.edu</a> (please include the course # and section # when emailing) FN3.118B (Do not use the entrance of FN3.118. The office has its own entrance from the corridor) Office Hours: Tue and Thur 11:00 am – 12:00 pm	Grader
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**Course Material**

- Probability and Statistics for Computer Scientists, 2ed, Michael Baron. ISBN: 978-1-4398-7590-2. Free e-book is available: UT Dallas library webpage > Databases > click letter “O” > click O’Reilly Online Learning > login > searching the textbook.

**Required Supplies**

- SCANTRONS, form F-1712-PAR-L (one for each exam; you will also need a no.2 pencil and a good eraser)

**Homework**

There will be 12 Homework sets which will be posted on eLearning and completed outside class. Students may submit a hard copy in the class or scan their work into a PDF file and submit through the link within eLearning. Google Drive is a free and good phone/tablet App that can be used to scan your homework.

**Participation Quizzes**

There will be 12 open book participation quizzes. The quiz average will be obtained by dropping the two lowest scores and averaging the remaining ones.

**Exams**

There will be 3 examinations. The exam 3 is the final exam and is not comprehensive.

**Grade Distribution**

15% Homework  
10% Quizzes  
25% Exam 1  
25% Exam 2  
25% Exam 3

A+: [97, ∞) A: [93, 97) A-: [90, 93)  
B+: [87, 90) B: [83, 87) B-: [80, 83)  
C+: [77, 80) C: [73, 77) C-: [70, 73)  
D+ [67, 70) D: [63, 67) D-: [60, 63)  
F: [0, 60)

To keep grading fair, no rounding and no honoring special requests.

## Tentative Course Calendar

Week	Monday		Wednesday	
1	8/25	Syllabus Ch 2 Probability	8/27	Ch 2 Probability quiz 1
2	9/01	Labor Day	9/03	Chapter 2 HW 1 (ch 2) due
3	9/08	Ch 2 Probability quiz 2	9/10	Ch 2
4	9/15	Ch 2 HW 2 (ch2) due	9/17	Ch 2/Ch 3 quiz 3
5	9/22	Ch 3 Discrete Probability HW 3 (ch 2) due	9/24	Ch 3 Discrete Probability quiz 4
6	9/29	Ch4 Continuous probability HW 4 (ch 3) due	10/01	Exam 1 ch 2, ch 3 HW 1 - 4, quiz 1 - 4
7	10/06	Ch 4	10/08	Ch 4 quiz 5
8	10/13	Ch4 HW5 (ch4, general, Gamma) due	10/15	Ch 6 Stochastic Process quiz 6
9	10/20	Ch 6 HW 6 (ch 4, normal, CLT) due	10/22	Ch 6 quiz 7
10	10/27	Ch 6 HW 7 (ch 6) due	10/29	Ch 8 Descriptive Stat quiz 8
11	11/03	Ch 8 HW 8 (ch 6) due	11/05	Exam2 ch 4, ch 6 HW 5 - 8 participation quiz 5 - 8
12	11/10	Ch 9 Inferential stat Quiz 9	11/12	Ch 9 HW 9 (ch 8, ch 9.1) due
13	11/17	Ch 9 quiz 10	11/19	Ch 9 HW 10 (ch 9 due)
14	11/24	Fall Break	11/26	Thanksgiving Holiday
15	12/01	Ch 9 quiz 11	12/03	Ch 11 Regression HW 11 (ch 9) due
16	12/08	Ch 11 Participation quiz 12	12/10	HW 12 (ch 11) due
17	Exam 3			

## **List of Topics**

Ch2 Probability (classic)

Ch.3 Discrete Random Variables and Their Distributions

Ch.4 Continuous Distributions

Ch.6 Stochastic Processes

Ch.8 Introduction to Statistics (descriptive statistics)

Ch.9 Statistical Inference I (point estimate, interval estimate, hypothesis tests)

Ch.11 Regression

## **Instructor Policies**

- For any questions or concerns about the course, including the requirements, the topics, the problems, and so on, please visit and/or email the instructor.

## **Classroom Policies**

- Silence devices and do not have side conversations.
- Do not leave class early, except for emergencies.
- In general, be polite and courteous to everyone.

## **Grading Policies**

- There are no make-ups or individual extensions of any homework for any reason.
- There are no make-ups or retakes of any participation quizzes.
- There are no make-ups or retakes of exams. However, in the event of an emergency, notify the instructor as soon as possible (by email or in person or both).
- To treat all students fairly, please do not request special projects, extra credit, rounded scores, or any other special treatment. These requests will be ignored.

## **Learning Objectives**

- Learn the basic probability rules and concepts, how to apply them, and when they don't apply
- Understand probability distributions and use them to answer probability questions
- Relate calculus to probability and use calculus to solve some probability problems
- Learn the basics of Markov chains and how to use matrices for finite-state chains
- Have an introduction to classical statistical inference (confidence intervals, hypothesis tests) and to how calculus may be used (parameter estimation)

## **UTDallas Syllabus for General Policies and Procedures:**

The information contained in the following link constitutes the university's policies and procedures segment of the course syllabus.

<https://go.utdallas.edu/syllabus-policies>