

CENG 222

Probability and Statistics

Course Information



Nesli Erdoğan & Burak Galip Aslan

Contact info

Lecturers:

- Nesli ERDOĞMUŞ, PhD - neslierdogmus@iyte.edu.tr
- Burak Galip ASLAN, PhD - burakaslan@iyte.edu.tr

Assistants:

- Samet TENKEKİ - samettenekici@iyte.edu.tr
- GüliZ AKKAYA - gulizakkaya@iyte.edu.tr
- Ertuğrul DEMİR - ertugruldemir@iyte.edu.tr

Teams code: **8do89nv**

Teams General should be your first choice of channel in communication.

Class and office hours

Class hours: Thursday 13:30 - 17:15

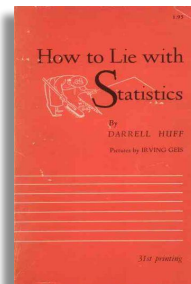
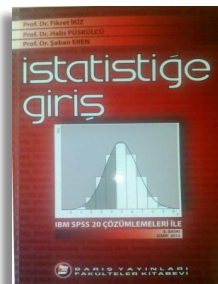
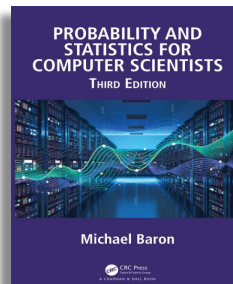
Office hours:

- Nesli ERDOĞMUŞ: Friday 15:30-17:30
- Burak Galip ASLAN: Thursday 09:30-11:30
- Samet TENKECİ: Wednesday 11:30-12:30
- Güliz AKKAYA: Thursday 16:15-17:15
- Ertuğrul DEMİR:

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Textbook and other references

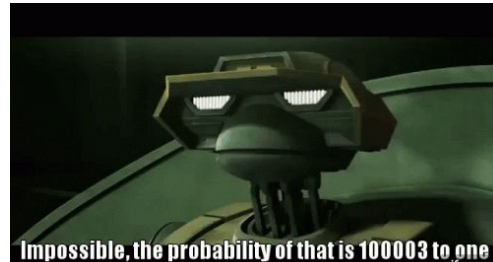
- **Probability and Statistics for Computer Scientists, 3rd Edition (2019) CRC Press [Michael Baron]**
- İstatistiğe Giriş, 8.Baskı (2012) Barış Yayınları [Prof.Dr. Fikret İkiz, Prof.Dr. Halis Püskülcü, Prof.Dr. Şaban Eren]
- How to Lie with Statistics (1954) W.W. Norton & Company Inc. [Darrell Huff]



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Course information

- Probability
- Discrete random variables
- Continuous distributions
- Computer simulations and Monte Carlo
- Introduction to Statistics
- Statistical Inference



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Main topics

Probability

- Events and their probabilities
- Rules of probability and combinatorics
- Conditional probability and independence

Discrete random variables

- Distribution of random variables and vectors
- Expectation and variance
- Families of discrete distributions

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Main topics

Continuous distributions

- Probability density
- Uniform, exponential, normal distributions
- Central limit theorem

Computer simulations and Monte Carlo

- Introduction
- Simulation of random variables
- Solving problems by Monte Carlo methods

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Main topics

Introduction to statistics

- Population, sample parameters, statistics
- Descriptive statistics
- Graphical statistics

Statistical inference

- Parameter estimation
- Confidence intervals
- Hypothesis testing

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Tentative overview and grading

Weeks	Date	Topics	
1	02/22/2024	Ch1. & course Introduction	
2	02/29/2024	2.1 → 2.3	
3	03/07/2024	2.4 & 3.1 & 3.2	
4	03/14/2024	3.3 & 3.4 & 4.1	
5	03/21/2024	4.2 & 4.3	
6	03/28/2024	Quiz & Recitation	→ 05%
7	04/04/2024	Midterm	→ 35%
8	04/11/2024	Ramazan	
9	04/18/2024	5.1 & 5.2 / HW1	→ 10%
10	04/25/2024	8.1 → 8.3	
11	05/02/2024	9.1	
12	05/09/2024	9.2 / HW2	→ 10%
13	05/16/2024	Springfest	
14	05/23/2024	9.4	
15	05/30/2024	Quiz & Recitation	→ 05%
16	06/06/2024	-	
17	06/13/2024	Final	→ 35%
Grades	06/26/2024		