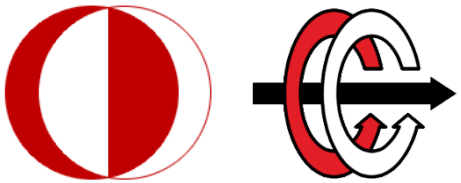


EE 444 Introduction to Computer Networks

Spring 2026

Administrative Details

- Instructor: Ece Güran Schmidt
- Email: eguran@metu.edu.tr
- Web page: http://users.metu.edu.tr/eguran/
- Schedule:
  - Tuesday, 10:40 - 12:30, Thursday, 11:40 - 12:30, EA306
- Teaching assistants:
  - Utkucan Doğan, E-mail: utkucan@metu.edu.tr
  - Tan Acar, E-mail: tacar@metu.edu.tr
- Computer networking is one of my research areas ☺
- You can check out my web page to see what I do in my research

Required

- **Prerequisite(s):**

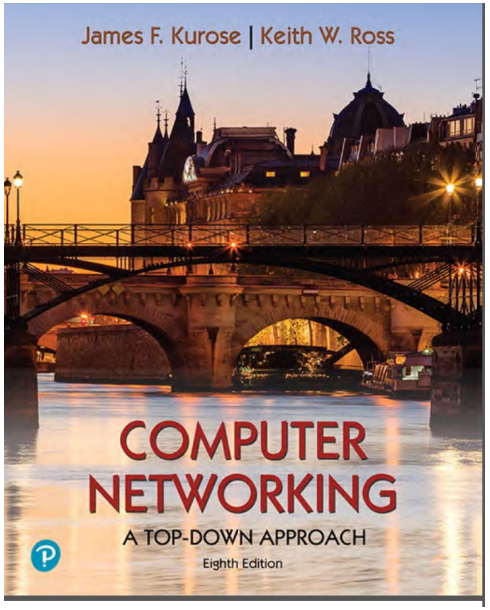
An introductory course on Probability Theory (EE230).

- **Background Requirement(s):**
- EE441 is strongly recommended. Possible other skills: Python, Matlab.

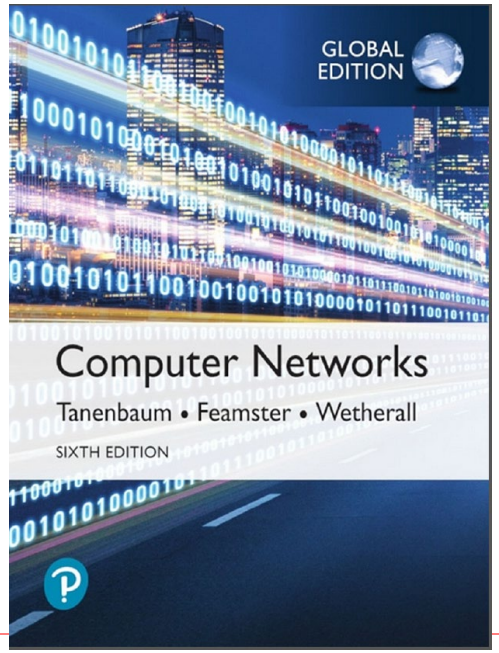
Text Books

Copyright notice: Lecture Note Slides are compiled from the teaching material of these books, previous lecture notes of EE444 and additional resources. Part of the slides are entirely created by Ece Schmidt.

James F. Kurose, Keith W. Ross, Computer Networking, 8/e, 2021.



Andrew Tanenbaum, Nick Feamster, David Wetherall, Computer Networks, 6/e, 2021.



Administrative Details

- **Follow**
  - https://odtuclass.metu.edu.tr/

  for lecture slides, all class material, and announcements
  - Your e123456@metu.edu.tr email
- Communication:
  - Preferred communication mean: E-MAIL
  - Send with subject **including** ee444 (no guarantee of reply otherwise)
  - Drop by my office anytime I will answer your questions if I am available

Course Objective (Why should you take this course?)

- Basic computer networking technologies
- Layered approach/ Modular design/ Interfaces
- Concepts of network performance
- Performances of some classical networking architectures

Course Outline (Tentative)

- Introduction to Computer Networking
- Basic Queuing Theory
- Application Layer
- Transport Layer
- Network Layer and Routing
- Data Link Layer
- Medium Access Control Sublayer
- Further subjects (we will decide what to talk about based on the time left at the end of the semester)

Grading

- 4 Short Exams: 50% (Equal Weight)
- Final exam: 35%
- Programming assignments: 15%. There will be a follow-up quiz for the last assignment
- 5% bonus for attendance >=80%.

Attendance beyond 5% Bonus

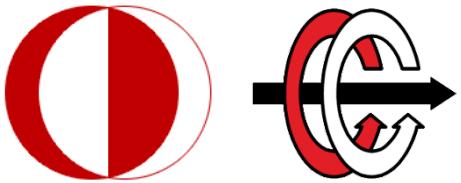
- What do you get if you attend:
  - Some explanations, examples, and problem-solving approaches are developed only during live lectures.
  - My experience and research outputs in this subject
- Problem solving
  - The discussions in the class may be reflected in the exams
  - Exams may include questions based on material explained or developed during lectures, including examples and reasoning that are not explicitly written on the slides.
  - New Problems solved in class addition to the posted ones. Their solutions will not be separately posted.
- Attendance is not mandatory; there is no penalty
  - Students can pass and get an AA the course without attending lectures; however, students who attend regularly typically perform better.
  - All exam questions are derived from topics officially covered in the course.

Homework

- Socket Programming:
  - Communication between two instances using TCP/UDP sockets
  - Python & Matlab
- Wireshark
  - Analysis of internet packets using a specialized program
- OMNeT++
  - Network simulator
  - https://doc.omnetpp.org/omnetpp/InstallGuide.pdf
  - https://docs.omnetpp.org/tutorials/tictoc/part1/

A note about plagiarism

- Copying work from any other resource (web page, your friend's report, older resources you have found,etc.) during preliminary work or sharing information or code files during sessions is considered cheating.
- Automated tools such as ChatGPT are allowed if the output is changed sufficiently to be different from other students; otherwise, it will count as plagiarism.
- All homeworks must be done individually unless said otherwise.



EE 444 Introduction to Computer Networks

Spring 2025