YEDITEPE UNIVERSITY
Department of Computer Engineering

CSE 524
Performance Evaluation of Computer Systems

Course Information
Fall 2016

Instructor: Asst. Prof. Dr. Esin Onbaşoğlu

Course description:
The aim of this course is to provide an introduction to the methods and techniques of performance analysis of computer systems. The course prepares students to effectively solve computer performance analysis problems related to measuring performance of computer systems, planning the capacity, predicting the future performance under different configurations, designing new applications that meet performance requirements, comparison of computer systems, and hands-on experiments on modern hardware/software systems.

Grading:
- Assignments 30%
- Midterm 30%
- Final Exam 40%

Textbook:

Reference books:
- Computer Architecture, J.L. Hennessy, D.A. Patterson, Morgan & Kaufmann

Course materials: COADSYS

Course outline:
1. Introduction
2. Hardware and software aspects of computer systems
3. Performance measurement tools and techniques
4. Performance metrics
5. Benchmarking
6. Statistical analysis of performance experiments
7. Design of experiments
8. Processor Performance
   - ALU
   - Pipelining
   - Optimizing program performance
9. Memory Hierarchy
   - Cache performance
   - Optimizing program performance
10. Performance of multiprocessor systems
11. Simulation
12. Queueing Theory