

BLM6110 Parallel and Distributed Computing (3 + 0)

Instructor: Dr. Mehmet Aktaş
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Office Hours: By appointment (please e-mail me for times)

Text Books:

- 1) Building Parallel Programs: SMPs, Clusters & Java, Alan Kaminsky, First Edition, 2009.**
- 2) Distributed Systems, Tanenbaum et al., Second Edition, 2014.**

Course Description: This course teaches the craft of designing and coding, building, parallel programs, namely programs that employ multiple processors running all at once to solve a computational problem in less time than on one processor, to solve a large problem in the same time, or both. This course will also teach the fundamentals of a distributed system that is a collection of independent computers that appears to its users as a single coherent system.

Lecture hours: Wednesday 09:00 – 12:00 (D-011)

Course Outline (tentative):

1. Course Introduction
2. Parallel Computing (Text Book I – Chapter 1)
3. Parallel Computers (Text Book I – Chapter 2)
4. Parallel Programming with Java (Text Book I – Chapter 3-4)
5. Shared Memory Multiprocessor Parallel Computing (Text Book I – Chapter 6)
6. Distributed System Architectures (Text Book II – Chapter 2)
7. Distributed System Processes (Text Book II – Chapter 3)
8. Distributed System Communication (Text Book II – Chapter 4)
9. Naming (Text Book II – Chapter 5)
10. Consistency and Replication (Text Book II – Chapter 7)
11. Fault Tolerance (Text Book II – Chapter 8)

Grading :

Attendance: 5%

Midterm: 20%

Programming Assignment(s): 15%

Term Project: 20%

Final Exam: 40%

Academic Integrity: Cheating and disruptive talking in class will not be tolerated. Any kind of cheating and plagiarism will be severely penalized. On the other hand, asking and responding to questions in class is strongly encouraged.