ADVANCED DISTRIBUTED ALGORITHMS COURSE INFORMATION

Instructor: Assoc. Prof. Dr. Orhan Dagdeviren (www.orhandagdeviren.com)
Course Web Page: http://akademik.ube.ege.edu.tr/netos/courses.php
Time: Friday, 14:30-17:00
Assistant: Res. Ass. Mustafa Tosun, e-mails: ce.mustafatosun@gmail.com,mustafa.tosun@ege.edu.tr
Office hours: By appointment through e-mail.

Aim and Content:

- This course aims to study distributed algorithm design, analysis and implementations.
- Both theoretical (algorithm design an analysis) and practical aspects (implementation) of the topics will be introduced.

Course Book:

1- Distributed Graph Algorithms for Computer Networks, Kayhan Erciyes, Springer, 2013.
2- Principles of Distributed Computing, Roger Wattenhofer, ETH Zurich, 2016.

List of Topics:

Part I: From Course Book 1

1. Self-Stabilization
2. Vertex Coloring
3. Maximal Independent Sets
4. Dominating Sets
5. Matching
6. Vertex Cover

Part II: From Course Book 2

7. Vertex Coloring (revisited) and Tree Algorithms (revisited)
8. Leader Election and Distributed Sorting
9. Shared Memory and Shared Objects
10. Maximal Independent Set (revisited) and Locality Lower Bounds

Tentative Grading:

Presentations: 30 %
Project: 30 %
Programming Homeworks: 20 % (3-4 homeworks)
Written Homeworks: 20 % (5-6 homeworks)

Attendance.