

DISTRIBUTED ALGORITHMS COURSE INFORMATION

Course Name: Distributed Algorithms (see web page: Teaching Link from my personal web page www.orhandagdeviren.com)

Instructor: Assist. Prof. Dr. Orhan Dagdeviren (see web page for instructor information)

Assistant: Res. Ass. Murat Kurt (e-mail:murat.kurt@ege.edu.tr, web page: <http://ube.ege.edu.tr/~kurt/>)

Aim and Content:

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

Course Book: Distributed Graph Algorithms for Computer Networks, Kayhan Erciyas, Springer, 2013.

Supplementary Metarials (Not Full List):

1. Gerard Tel, Introduction to Distributed Algorithms (2nd ed.), Cambridge University Press, 2000.
2. Nancy Lynch, Distributed Algorithms, MIT Press, 1997.

List of Topics:

1. Introduction to Distributed Algorithms
2. Graphs
3. The Computational Model
4. Spanning Tree Construcion
5. Graph Traversals
6. Minimum Spanning Trees
7. Routing
8. Self-Stabilization
9. Vertex Coloring
10. Maximum Independent Sets
11. Dominating Sets
12. Matchings
13. Vertex Cover

Tentative Grading:

Midterm: 30 %

Homeworks (5 homeworks): 30 %

Final Project: 40 %

If a student requests, average grade of the midterm and homeworks will be replaced with the grade of the complementary exam.

Attendance.