

DISTRIBUTED ALGORITHMS COURSE INFORMATION

Instructor: Assoc. Prof. Dr. Orhan Dagdeviren (<http://www.ube.ege.edu.tr/~dagdeviren/>)

Course Web Page: <http://www.ube.ege.edu.tr/~dagdeviren/html/teaching.html>

Time: Tuesday, 9:15-12:00

Assistant: Res. Ass. Dr. Murat Kurt (e-mail:murat.kurt@ege.edu.tr, web page:

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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 Erciyes, 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 (The tentative plan is one topic for each week):

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:

Coding Homeworks: 20 % (The grades of the late homeworks will be decreased 3 points for each day.)

Written Homeworks: 20 % (Grading penalty is same with the coding homeworks)

Final: 40 %

Project: 20 %

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

Attendance.