

## DISTRIBUTED ALGORITHMS FOR COMPUTER NETWORKS COURSE INFORMATION

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

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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:***

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: 30 % (The grades of the late homeworks will be decreased 3 points for each day. )

Written Homeworks: 30 % (Grading penalty is same with the coding homeworks)

Final Project: 40 %

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

### ***Attendance.***