

**DISTRIBUTED ALGORITHMS (ALSO DISTRIBUTED ALGORITHMS FOR COMPUTER NETWORKS)
COURSE INFORMATION**

Instructor: Assoc. Prof. Dr. Orhan Dagdeviren (www.orhandagdeviren.com)

Course Web Page: <http://netos.ube.ege.edu.tr/courses.html>

Time: Tuesday, 9:30-12:00 (Other course: Thursday, 18:00-20:30)

Assistant: Res. Ass. Can Umut Ileri (e-mail: canumutileri@gmail.com)

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 and analysis) and practical aspects (implementation) of the topics will be introduced.

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

Supplementary Materials (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 Construction
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 will be replaced with the grade of the complementary exam.

Attendance.