

## ADVANCED DISTRIBUTED ALGORITHMS COURSE INFORMATION

**Instructor:** Assoc. Prof. Dr. Orhan Dagdeviren( e-mails:orhan.dagdeviren@ege.edu.tr, orhandagdeviren@gmail.com web page: <http://ube.ege.edu.tr/~dagdeviren> )

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

**Time:** Friday, 9:30-12:00

**Assistant:** Res. Ass. Can Umut Ileri (emails:can.umut.ileri@ege.edu.tr,canumutileri@gmail.com)

**Aim and Content:** We will cover self-stabilization.

**Course Book:** Self-Stabilization, Shlomi Dolev, MIT Press, 2000.

### List of Topics:

1. Introduction
2. Definitions, Techniques, and Paradigms
3. Motivating Self-Stabilization
4. Self-Stabilizing Algorithms for Model Conversions
5. Stabilizers
6. Convergence in the Presence of Faults
7. Local Stabilization
8. Self-Stabilizing Computing

### Tentative Grading:

Homeworks: 50 %

Project: 50 %

### ***Supplementary Materials (Not Full List):***

1. Kayhan Erciyes, Distributed Graph Algorithms for Computer Networks, 2014 Springer-Verlag, Berlin, Heidelberg.
2. Distributed Systems: An Algorithmic Approach (Second Edition), Sukumar Ghosh, Chapman & Hall/CRC Computer and Information Science Series, 2013.
3. Sebastien Tixeuil. Self-stabilizing Algorithms. Algorithms and theory of computation handbook, Chapman & Hall/CRC, pp.26.1-26.45, 2009.