

DISTRIBUTED SYSTEMS COURSE INFORMATION

Course Name: UBI 545 Distributed Systems

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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.
- “Distributed Algorithms” course is the unofficial prerequisite course for this lesson.

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. Self-Stabilization
2. Vertex Coloring
3. Maximum Independent Sets
4. Dominating Sets
5. Matchings
6. Vertex Cover

Tentative Grading:

First Project Presentation: 15 %

Second Project Presentation: 20 %

Final Project Presentation: 25 %

Homeworks (at least 6 homeworks): 40 %

If a student requests, the grade of the project presentations will be replaced with the grade of the complementary exam (Complementary exam will be re-presentation of the final project).

Attendance.