

ECE 697DS: Principles of Distributed Systems

Fall 2015

Syllabus

- Instructor: C. M. Krishna; KEB 309K.
- Office Hours: Tues, Thurs: 9:30-10:30 AM in KEB 309K.
- Text: Coulouris, Dollimore, Kindberg and Blair: *Distributed Systems*, Addison Wesley, 2012 (Fifth Edition). Additional material will be drawn from Leighton, *Parallel Architectures and Algorithms*, and from Hennessy and Patterson, *Computer Architecture: A Quantitative Approach*. The book by Leighton (now out of print) is on reserve in the university library.
- Tentative Topic List: Some topics may be dropped or others added based on how rapidly the course progresses. This list is not necessarily in the order in which topics will be covered.
 - Fine-grained algorithms on various topologies.
 - Multistage switching networks.
 - GPUs.
 - Hypervisors.
 - Coarse-grained systems: Multithreaded programs and remote method invocation.
 - Issues in distributed operating systems.
 - Time and global states.
 - Distributed file systems
 - Coordination and agreement algorithms.
 - Distributed databases.
 - Case study of the Google distributed system.
- Grading:
 - Two midterms, 25% each.
 - Final examination, 35%
 - Homework, 15%.