

CSP 542: Internet Design and Analysis

Texts

- Eric Siegel, *Designing Quality-of-Service Solutions for the Enterprise*, John Wiley and Sons, ISBN 0471333131
- Reference: Raj Jain, *The Art of Computer Systems Performance Analysis*, John Wiley and Sons, ISBN 0471503363

Objectives

- This course examines the principles for network design.
- The design process is studied from requirements gathering to deployment.
- The student will gain experience in estimating application load, network sizing, component choice, and protocol choice.
- Internetworking between popular components and protocols will be studied.
- Analytical and simulation techniques are described and used to design several local- and wide-area networks.

Prerequisites

- CS 455

Syllabus

• Overview of the Design Process	3 hours
• Requirements Gathering	3 hours
• Applications	6 hours
• Infrastructure	3 hours
• LAN Technologies	3 hours
• WAN Technologies	3 hours
• Analytical Modeling Techniques	3 hours
• Simulation Modeling Techniques	3 hours
• Network Simulation Tools	6 hours
• Workload Selection and Characterization	6 hours
• Performance Metrics	3 hours
• Network Capacity Planning	3 hours
Total	45 hours

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