

CS 544: Computer Networks II: Network Services

Objectives

- This course presents a quantitative approach to analyzing Web services.
- Models for managing and planning the capacity of Web systems are developed and applied in practice.
- The course is driven by examples.

Prerequisites

- CS 542 or ECE 545

Syllabus

- Properties of Poisson and exponential distributions.
- Operational laws.
- Finite and infinite population models.
- Open and closed queueing networks.
- Mean Value Analysis for single and multiple-class systems.
- Client-server model.
- Protocol delay analysis.
- End-to-end network response time.
- Intranet modeling.
- Internet traffic.
- Heavy-tailed distributions.
- Web services availability analysis.

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