Overview
Scope of the Course
Important Issues
Course Organization
Overview

Computer Networks
- Different Network Architectures
- Different Applications
- Applications Share Resources (Transmission Capacity)
- New Network Architectures/Applications

Implications
- Computer Networks are Hard to Understand/Design
- Computer Networks keep Evolving
Scope

- How to Use Computer Networks?
  - Applications
  - CSC 309 Programming on the Web
- How do Today’s Computer Networks Work?
  - Existing Protocols
- Why do Computer Networks Work the Way they Work?
  - Fundamental Concepts
A Computer Network

Switch / Router

Terminal / Host / End-System
Important Question

- Routing
- Addressing
- Reliable Data Transfer
- Congestion Control
How to Address these Questions?

- Not only One Solution
- Cook-book Knowledge isn’t Very Useful
- Conceptual Understanding is Important
  - Mathematical Modeling
Probability Theory
- Industry (New Products/Technology)
- Graduate Studies (Research)
Outline

- Introduction
  - Layered Network Architecture
- Reliable Data Transfer
  - TCP
- Delay Performance Modeling/Analysis
  - Case study: Internet Telephony
- Multiple-Access Protocols
  - WiFi
- Routing
  - IP
- Congestion Control
  - TCP
Organization

- Lectures
  - Concepts
- Tutorials
  - Examples
- Assignments
  - Study and Practice
How to be Successful

Do and Understand
  • Assignments
  • Tutorials
Course Material

- Text Book:

- Lecture Notes
Assignments

- 5 Assignments
- 2 weeks to complete
- Due Mondays 10AM in Tutorial (NO EXCEPTIONS!)
- Your own work

BE ORGANIZED!
Grade

- Assignments: 25%
- Midterm: 25%
- Final: 50%
Introduction

Course Web Page

www.cs.toronto.edu/~marbach/csc358_S19_1.html

- Tutorials
  - First Tutorial on Monday!
- Assignments
- Lecture Slides
- Lecture Notes
- Reading Assignments
- News
  - Course Organization