

# COMP 4300 – Course Details

**Lecture times:** 3 hours / week.

**Lab times:** 90 minutes / alternating weeks.

## **Detailed Course Outline:**

1. Introduction and Overview of Applications Layer (1/2 week)
  - a. Overview of the foundations and application layer
2. Connection Principles and Data Link Layer (1 week)
  - a. Physical Layer and devices
3. Internetworking (3 weeks)
  - a. IP networks,
  - b. Switches, bridges, routers
4. Routing (2 1/2 Weeks)
  - a. Routing principles and protocols
  - b. Routing algorithms
5. Congestion Control (2 1/2 weeks)
  - a. Resource Allocation
  - b. TCP Congestion Control
  - c. Congestion Avoiding Mechanisms
  - d. Quality of Service
6. End-to-End Protocols and Data (2 1/2 weeks)
  - a. Communication between Processes
  - b. Unreliable (UDP) and Reliable (TCP) Protocols
  - c. Multimedia

**Required Textbook:** Larry L. Peterson and Bruce S. Davis, *Computer Networks: a systems approach*, 5ed, Morgan Kaufmann, 2012.