

CS 254 - Computer Networks

Course Syllabus

Spring, 2014
Dr. Steven K. Andrianoff

Time and Place

Lecture:	TTh	8:30 – 9:45 a.m.	Walsh 204
Lab	Thurs	2:30 – 4:30 p.m.	Walsh 101

Instructor

Dr. Andrianoff (andrianoff@sbu.edu)

Office: Walsh 113

Phone: 375-2053

Office hours: Mon 1:30 – 2:30 p.m.

Tues 1:00 – 2:00 p.m.

Wed 11:30 – 12:30

Thur 1:00 – 2:00 p.m.

Fri 1:30 – 3:00 p.m.

(Other times by appointment)

Course web page <http://www.cs.sbu.edu/andrianoff/CS254>

In general, announcements, readings, and assignments for CS 254 will be given in class AND published on the course web page. Students are expected to check that page regularly for news, and are nonetheless responsible for any assignment announced in either manner.

Textbook

Douglas E. Comer, *Computer Networks and Internets with Internet Applications*, 5th ed., Pearson/Prentice-Hall, 2009, ISBN 978-0-13-606127-4

Catalog Description

A study of computer networks based on the OSI model of a layered network architecture. The TCP/IP protocol suite is used to illustrate network protocols. The course includes an overview of local area networks, routing algorithms, and network applications. The course consists of three lecture hours and one two-hour laboratory per week. The laboratory component provides experience in network programming using sockets. 4 credits.

Prerequisites

CS 132 – Computer Science II

Course Objectives

1. To understand the underlying principles in the design of a layered network architecture.
2. To be able to identify the general characteristics of local area networks (LANs) and wide area networks (WANs).
3. To be exposed to the TCP/IP protocol stack as an example of a layered network architecture and the St. Bonaventure campus network as an example of a local area network system.
4. To be familiar with Internet applications including the World Wide Web, electronic mail, file transfer protocol (ftp), and the Domain Name System (DNS).

Topical outline

1. Introductory material and Internet Applications (Chapters 1-4)
2. Data communications and network hardware (Chapters 5-12)
3. Packet switching and network technologies (Chapters 13-19)
4. Internetworking (Chapters 20-27)
5. Other network concepts and technologies (Chapters 28-32)

Course Policies

Grades

Grades will be based on:

1. Homework & laboratory assignments 40%
2. Quizzes (8) 30%
3. Final exam (comprehensive) 30%

Homework assignments

Written homework problems will be periodically assigned, collected, and graded. A 10% per day penalty will be assessed for late assignments up to the time the graded work is returned by the instructor. No late assignments will be permitted after the graded work is returned.

Laboratory assignments

There are two types of laboratory experiences. Some of the labs will involve experimenting with network configuration and performance analysis tools. Other labs will require network programming in Java. Many of the laboratory assignments will involve using the LINUX operating system. Each lab assignment will require a write-up that is written using a word processor. Late lab assignments will be penalized 10% per day late.

Quizzes

Approximately eight quizzes will be given. Only the five highest quiz scores will be kept. There is generally no make-ups for missed quizzes.

Final exam

The final exam is comprehensive and is scheduled for Friday, May 2 at 1:10 p.m.

Attendance policy

There is no attendance requirement, however students are expected to attend all of the classes and will be responsible for all assignments. Attendance will be monitored. More than two absences (one week of classes) is considered excessive.

Absences from class, excused or not, do not exempt the student from completing the assigned work. If you miss a class it is your responsibility to determine the assignment and complete the work on time.

Academic integrity policy

Academic dishonesty is inconsistent with the moral character expected of students in a university committed to the spiritual and intellectual growth of the whole person. It also subverts the academic process by distorting all measurements. It is a serious matter and will be dealt with accordingly. A list of unacceptable practices, penalties to be assigned, and procedures to be followed in prosecuting cases of alleged academic dishonesty may be found in the Student Handbook.

Students are expected to read and abide by the department's *Academic Practices and Policies*, a copy of which will be distributed with the course syllabus. Unless other instructions are explicitly stated all graded work will be subject to the policy

"Individual Project With Limited Collaboration: In particular, you may discuss the assignment and concepts related to the assignment with the following persons, in addition to an instructor in this course: any St. Bonaventure University instructor, any student enrolled in CS 254, and any other person specifically approved by your instructor. You may use the following materials produced by other students: NONE."

In addition, if you do collaborate with anyone other than the instructor, there must be a note to that effect at the top of the work you turn in.

Academic dishonesty in any form will not be tolerated. Typically the first offense will result in a zero on the assignment. Repeated offenses will likely result in a failing grade for the course. Any offense deemed punishable will also be referred to the Dean of Arts and Sciences.

Services for Students with Disabilities

Students with disabilities who believe that they may need accommodations in this class are encouraged to contact the Disability Support Services Office, Doyle Room 26, at 375-2065 as soon as possible to better ensure that such accommodations are implemented in a timely fashion.

Computer Science Department Goals and Objectives addressed in this course:**Goal 1: Discipline Specific Learning**

Students will be able to understand and apply the theoretical tools of computer science to standard problems from the field.

Objectives:

1. Students will learn core concepts of the discipline as determined by a nationally recognized professional computer science education organization.
4. Students will describe the design principles used in the construction of particular software systems.
6. Students will develop software solutions in at least three different application areas, such as database systems, user interfaces, graphics, computer networks, operating systems, robotics, etc.

Goal 2: Reasoning and Inquiry Skills

Students will be able to read, write, and analyze program fragments and complete programs.

Objectives:

1. Students will write complete programs to solve small problems typical of the field.
2. Students will enhance existing (larger) programs to add capabilities and/or improve the quality of code.