

# Homework 1

*Due: 27 September 2007, 11:59 PM*

## Problem 1

Section 2, problems 3, 4, and 20

## Problem 2

Section 3, problems 2, 4, 12, and 13.

## Problem 3

You have now learned about TCP and UDP at a high level. TCP is a reliable stream-based protocol, but this reliability carries with it some overhead. UDP, conversely, is an unreliable protocol but it has minimal overhead, aside from routing the packets to their destinations.

Suppose you have been tasked with designing a system to be used for telesurgery. What kind of network transport protocol would you use? The network infrastructure from the tele-surgeon to the patient is good, but not perfect. Assume that there is a nonzero probability that packets will be lost during the course of a surgery, but that this probability is small (0.05 per cent). What are the concerns you would have over such a system?