Instructors:
Professor Ioannis Lambadaris, Room 4442 ME, 520-2600 ext.1974, Email: ioannis@sce.carleton.ca, http://www.sce.carleton.ca/faculty/lambadaris.html


Course Objectives:
To provide an introduction to telecommunication networks and computer communications. Emphasis will be given on principles of operation and advanced issues related to performance analysis. Some emerging technologies will be introduced and discussed time permitting.

Lectures: Tuesdays and Thursdays 7:30-9:00pm. Room ME 3165

Office Hours:
Tuesdays and Thursdays 3:30-5:00pm and immediately after the class. Otherwise by appointment.

Textbooks:

Additional References:
Prerequisites:
Undergraduate preparation in probability theory, including functions of a random variable.

Exams:
We will have three exams for this course:

The first exam will be in the area of elementary probability theory and stochastic processes. It will determine if your background fulfils the prerequisites for the course. It will be held on **Thursday January 27**.

The second in-class exam (midterm) will be held on **Thursday February 17** during normal class hours. Please note that the Spring Break starts during the following weekend. Please make sure that you will be able to attend the midterm (i.e. make proper travel arrangements if any!)

The third in-class exam will take place on **Tuesday April 5** (last day of classes) between 7:30-9:30pm.

Marking:
First Exam 20%
Second Exam 40%
Third Exam 40%

There is a possibility of a project for the course depending on the the class size and the availability of TA. If we have a project then I can give a maximum of 10% additive bonus for it.

- Due date for each assignment will be shown on the web and will be also announced in class. Solutions will be posted at the Broadband Networks Laboratory ME 4442. The assignments may be graded and may carry a weight towards **improving** your final grade. Details will be announced in class.
- Handouts, assignments etc. will usually be distributed in class on one occasion only. Most of the material will be on the web though.
Week by week outline:

Week:

1. Introduction to communication networks.
2. Overview of traditional and broadband networks.
3. Layered protocol architectures and related issues.
4. Queuing theory primer and math review.
5. Data Link protocols
6. Data Link Protocols (cont.) / Multiple Access techniques
7. Multiple access techniques and networks (IEEE 802.x standards).
8. Network Layer: Routing and Routing Algorithms
10. Transport Layer: Scheduling/Congestion and flow control.
11. Transport Layer: An Introduction to TCP
12. Special topics: Quality of service for broadband networks
13. Special topics: Introduction to optical networks (time permitting)