



ELEC 514 Design and Analysis of Computer Networks

Term – Fall 2017 (201709)

Instructor

Dr. Lin Cai
Phone: 8691
E-mail: cai@ece.uvic.ca

Office Hours

Days: M/Th (or by appointment)
Time: 1:00pm-2:30pm
Location: EOW317

Course Objectives

- The goal of the course is to introduce the fundamental concepts, mathematical tools and techniques related to network performance study, and how to apply them to solve practical problems in computer communication networks.

Learning Outcomes

- Understand fundamental probability theory, random process, finite-state Markov chains, queueing theory, and analyze network performance.

Syllabus

- Probability, random variables and distributions. Random number generation. Transient and steady-state analysis of Markov chains. Queueing theory and networks of queues. Performance analysis of Local Area Networks (LAN) and Wireless Local Area Networks (WLANs). Telecommunications traffic modeling. Markov modulated and self-similar traffic.

A-Section(s): A01 / CRN 11291, A02 / CRD 11292

Days: M/Th
Time: 14:30-15:50
Location: ELL062

Reference:

Title: Analysis of Computer and Communication Networks
Author: Gebali, Fayez
Publisher: Springer
Year: 2008

Assessment:

Assignments:	10%	Due Dates: Oct. 5, Oct. 19, Nov. 16, Nov. 27
Presentation:	10%	
Mid-term:	20%	Date: Oct. 19
Final Exam:	30%	
Project:	30%	

Note:

The final grade obtained from the above marking scheme for the purpose of GPA calculation will be based on the percentage-to-grade point conversion table as listed in the current Graduate Calendar.

<http://web.uvic.ca/calendar2017-09/grad/academic-regulations/grading.html>

Note to Students: Students who have issues with the conduct of the course should discuss them with the instructor first. If these discussions do not resolve the issue, then students should feel free to contact the Chair of the Department by email or the Chair's Secretary to set up an appointment.

Accommodation of Religious Observance: <http://web.uvic.ca/calendar2017-09/general/policies.html>

Policy on Inclusivity and Diversity: <http://web.uvic.ca/calendar2017-09/general/policies.html>

Standards of Professional Behaviour: You are advised to read the Faculty of Engineering document Standards for Professional Behaviour, which contains important information regarding conduct in courses, labs, and in the general use of facilities.

<http://www.uvic.ca/engineering/assets/docs/professional-behaviour.pdf>

Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult the entry in the current Graduate Calendar for the UVic policy on academic integrity.

<http://web.uvic.ca/calendar2017-09/grad/academic-regulations/academic-integrity.html#>

Equality: This course aims to provide equal opportunities and access for all students to enjoy the benefits and privileges of the class and its curriculum and to meet the syllabus requirements. Reasonable and appropriate accommodation will be made available to students with documented disabilities (physical, mental, learning) in order to give them the opportunity to successfully meet the essential requirements of the course. The accommodation will not alter academic standards or learning outcomes, although the student may be allowed to demonstrate knowledge and skills in a different way. It is not necessary for you to reveal your disability and/or confidential medical information to the course instructor. If you believe that you may require accommodation, the course instructor can provide you with information about confidential resources on campus that can assist you in arranging for appropriate accommodation. Alternatively, you may want to contact the Resource Centre for Students with a Disability located in the Campus Services Building. The University of Victoria is committed to promoting, providing, and protecting a positive, and supportive and safe learning and working environment for all its members.

Course Lecture Notes

Unless otherwise noted, all course materials supplied to students in this course have been prepared by the instructor and are intended for use in this course only. These materials are NOT to be re-circulated digitally, whether by email or by uploading or copying to websites, or to others not enrolled in this course. Violation of this policy may in some cases constitute a breach of academic integrity as defined in the UVic Calendar.