University of Victoria
Electrical & Computer Engineering

CENG 461/ELEC 514 Design & Analysis of Computer Networks

Term - SPRING 2015 (201501)

Instructor

Dr. Lin Cai
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Office Hours

Days: MR (or by appointment)
Time: 13:00-14:30
Location: EOW317

Lectures

A-Section(s): CENG461: A01 / A02, CRN 20381/20382; ELEC514: A01, CRN 21121
Days: MR
Time: 10:00-11:20
Location: CLE A205

Optional Text: Title: Analysis of Computer and Communication Networks

Author: Gebali, Fayez
Publisher: Springer
Year: 2008

Assessment for CENG461 / ELEC514:

Assignments	10% / 10%	
Mid-term	30% / 20%	Date: Feb. 19, 2015
Final	60% / 40%	
Project	N/A / 30%	

Note: Failure to complete all laboratory requirements will result in a grade of N being awarded for the course.

Due Dates for Assignments: Feb. 5, Feb. 26, Mar. 19, Apr. 2

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The final grade obtained from the above marking scheme will be based on the following percentage-to-grade point conversion:

Passing Grades	Grade Point Value	Percentage for Instructor Use Only	
A+ A A-	9 8 7	90 – 100 85 – 89 80 – 84	
B+ B B-	6 5 4	77 – 79 73 – 76 70 – 72	
C+ C	3 2	65 – 69 60 – 64	
D	1	50 – 59	
Failing Grades	**Grade Point Value**	**Percentage for Instructor Use Only**	**Description**
E	0	0 - 49	Fail, *Conditional supplemental exam. (For undergraduate courses only)
F	0	0 – 49	Fail, no supplemental.
N	0	0 – 49	Did not write examination, Lab or otherwise complete course requirements by the end of term or session; no supplemental exam.

**Assignment of E grade will be at the discretion of the Course Instructor.*

The rules for supplemental examinations are found on page 80 of the current 2014/15 Undergraduate Calendar.

Term in which E Grade Was Obtained	Application Deadline for Supplemental Exam	Supplemental Exam Date
First term of Winter Session (Sept – Dec)	February 28 in the following term	First week of following May
Second term of Winter Session (Jan – Apr)	June 30 in the following term	First week of following September
Summer Session (May – Aug)	October 31 in the following term	First week of following January

Deferred exams will normally be written at the start of the student's next academic term; i.e., approximately 4 months following the deferral of the exam.

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Course Description

1. 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.

2. Learning Outcomes: Understand fundamental probability theory, random process, finite-state Markov chains, queueing theory, and analyze network performance using the math tools taught.

3. Syllabus: Probability, random variables and distributions. Random number generation. Transient and steady-state analysis of Markov chains. Queuing 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. Interconnection networks and their modeling.

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 ECE Chair by email or the ECE Chair's Secretary eceasst@uvic.ca to set up an appointment.

Accommodation of Religious Observance

See http://web.uvic.ca/calendar2014/GI/GUPo.html

Policy on Inclusivity and Diversity

See http://web.uvic.ca/calendar2014/GI/GUPo.html

Standards of Professional Behaviour

You are advised to read the Faculty of Engineering document Standards for Professional Behaviour at http://www.uvic.ca/engineering/assets/docs/professional-behaviour.pdf which contains important information regarding conduct in courses, labs, and in the general use of facilities.

Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult

http://web.uvic.ca/calendar2014/FACS/UnIn/UARe/PoAcI.html for the UVic policy on academic integrity.