ECE 7260 – Broadband Communication Networks
COURSE OUTLINE – FALL 2014

COURSE OBJECTIVE:

This course provides introductory overview on broadband communication networks. The course contents covers major aspects of communication networks, such as network design, performance evaluation, protocols and technologies. The emphasis of this course focuses on network modeling and network optimization such that required transmission performance can be guaranteed with efficient usage of network resources.

PRE-REQUISITES:

Undergraduate level Probability Theory and Random Processes

CONTACT HOURS:

3 Hours/week, 1 Lecture/week

COURSE CONTENT:

1. Introduction to Communication Networks
2. Traffic Modeling
3. Routing in Communication Networks
4. Call Admission Control
5. Access Control
6. Flow and Congestion Control
7. End-to-end Network Performance
8. Stochastic Bounds and Effective Capacity
9. Mobility Management in Wireless Networks

TEXTBOOK:


EVALUATION:

Your final course grade is determined by your performance in assignments, term test, and a final examination. The weighting of each of these components is as follows:

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<tr>
<th>COMPONENT</th>
<th>NO</th>
<th>VALUE %</th>
<th>TOTAL VALUE</th>
<th>DETAILS / ADDITIONAL INFO</th>
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ECE ####, Section ####
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April 3, 2014
<table>
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<tr>
<th>Group Seminars</th>
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<tr>
<td>Project</td>
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<tr>
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<td><strong>TOTAL</strong></td>
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**INSTRUCTOR INFO:**
Name: Jun Cai  
Office: E1-554  
Tel: 204-4746419  
Email: jun.cai@umanitoba.ca

**Office Hours:** By appointment

**VOLUNTARY WITHDRAW:**
Wednesday, Nov. 12, 2014

**REQUIREMENTS/REGULATIONS**
- **Student Responsibilities:** It is the responsibility of each student to contact the instructor if he/she is uncertain about his/her standing in the course and about his or her potential for receiving a failing grade. Students should also familiarize themselves with Sections 4 and 6 of the Regulations dealing with incomplete term work, deferred examinations, and attendance and withdrawal.
  - **Lectures:** Attendance at lectures is essential for successful completion of this course. Students must satisfy each evaluation component in the course.

**ACADEMIC INTEGRITY:**
Students are expected to conduct themselves in accordance with the highest ethical standards of the Profession of Engineering and evince academic integrity in all their pursuits and activities at the university. As such, in accordance with the General Academic Regulations and Requirements of the University of Manitoba, Section 7.1, students are reminded that plagiarism* or any other form of cheating is subject to serious academic penalty (e.g. suspension or expulsion from the faculty or university) regardless of media
  - examinations
  - assignments
  - laboratory reports
  - term exams

A student found guilty of contributing to cheating in examinations or term assignments is also subject to serious academic penalty

*Plagiarism: to steal and pass off (the ideas or words of another) as one's own; use (another's production) without crediting the source