WIRELESS NETWORKING AND MOBILE COMPUTING
COMP 5304 (CSI 5169)
Fall 2014

A. **CONTACTS:** Office hrs

Week/Date	Lecture	Announcements	Information/Resources MSDNAA
Wk 01 Sep 10	Introduction Historical Communication	Project	PToT: Useful Probability
Wk 02 Sep 17	Media SINR/Protocol Signaling	Assignment A	Scholarship Applications NSERC OGS
Wk 03 Sep 24	Delay Capacity		Little's Law Gupta et al Yi et al
Wk 04 Oct 01	Throughput MAC		Peraki et al
Wk 05 Oct 08	MAC-Algorithms		Alonso et al Salonidis et al
Wk 06 Oct 15	Bluetooth Cellular	Assignment B Assignment B (Revised) Proj abstract (Part A) due Submit in class	Katzela et al: Survey Compass Routing...

Wk 07 Oct 22	ChannAllocation Geometric Locality		Routing with Guaranteed... UDG Heuristics... Li, Calinescu, Wan, Distributed Construction...
Wk Oct 27-31	Fall Break	Approved Projects	
Wk 08 Nov 05	Locality Lower Bounds (NT)	NT=Not in Test	KKM Routing Review
Wk 09 Nov 12	Route Discovery	Exam from 2008	Wu, Li, On Calculating Connected Dominating...
Wk 10 Nov 19	Localization Heuristics Local Spanners (p 1-31)	Sample Questions 1 Sample Questions 2	Jardosh, Belding-Royer, Almeroth, Suri, Towards Realistic...
Wk 11 Nov 26	Local to Global (NT) Directional Antennae (NT) RUDGs (NT)	NT=Not in Test	
Wk 12 Dec 03	Test (in class)		
Wk 13 Dec 10	Project Talks Giving presentations	Project (Part C) & Assignments due: Apr 08 What/How to Submit	

B. **CONTENTS OF LECTURES:** A significant amount of the course will be based on recent papers published only in journals and/or conference proceedings. You can download lecture notes in pdf format. Links are activated only when the lectures are ready.

C. **BRIEF COURSE DESCRIPTION:**
Computational aspects and applications of design and analysis of mobile and wireless networking. Topics include Physical, Link Layer, Media Access Control, Wireless, Mobile LANs, Ad-Hoc, Sensor Networks, Power Consumption Optimization, Routing, Searching, Service Discovery, Clustering, Multicasting, Localization, Mobile IP/TCP, File Systems, Mobility Models, Wireless Applications.
Prerequisites: COMP 3804, COMP 3203 or equivalent

D. **WHAT TO STUDY FOR THE TESTS:**
1. **Test:** Read everything covered in class. Make sure you understand concepts and methodologies.

E. **STUDENTS' REQUIREMENTS SCHEDULE**
1. **Homework.**
Assignments that will contribute 10% of the final grade.
2. **Project Paper.**
This will contribute 30% of the final grade 5% of which is for the in-class presentation).
    1. Prior to submitting the final project students must submit to instructor a one-page **paper abstract** of the proposed project/paper.
    2. The project should follow (guidelines for project/paper abstract preparation).
    3. Students must make an in-class presentation (during last week of class) and submit to instructor
        1. a **one-page paper copy** of the final project abstract (due 4th week of class),
        2. the presentation in electronic form (due prior to the

presentation),
3. the final project in paper form (due last day of class).

3. **In-class exam.**
   This will contribute 60% of the final grade. Duration of exam will be 150 min and you will be examined on the material of the entire semester.

F. **CONDITIONS FOR THE PROJECT/PAPER**
   1. The topic of the project/paper may be suggested by the student (subject to approval of instructor), must be relevant to the material covered in the course.
   2. The written presentation of the project/paper must have the quality of a journal publication. (See guidelines for project/paper preparation).
   3. In addition, students must make an oral presentation of their selected project/paper (**this is not the same as written project/paper**) in-class (usually in powerpoint).

G. **USEFUL TEXTBOOKS (Not Required):**
   - M. Barbeau and E. Kranakis, Principles of Ad Hoc Networking, Wiley, xx + 254 pages, 2007, ISBN: 978-0-470-03290-0, Hardcover, 2007.
     Table of Contents and Companion Web Site
   - D. P. Agrawal, Q.-A. Zeng, Introduction to Wireless and Mobile Systems, 2nd ed., Thompson, 2005. ISBN: 0-534-49303-3

H. Other Useful References