

## **COURSE SYLLABUS**

**Course Number: COMP6390/6396**

**Course Title: 3G AND 4G WIRELESS**

**Credit Hours: 3**

**Prerequisites: none**

**Corequisite: COMP6360 or ELEC6110**

### **I. Course Content/Objectives:**

1. Objectives: At the conclusion of this course the student will have an understanding of the technical, business, and regulatory issues affecting third and fourth generation (3G and 4G) wireless telecommunications systems.

### **2. Tentative Schedule and Outline of Course Content.**

Overview, 1 class

Review of 1G, 2G (AMPS, TDMA, GSM, CDMA) systems, 3 classes

Principles of Code Division Multiple Access, 3 classes

Wideband CDMA physical layer, 5 classes

Modulation Techniques and Spread Spectrum, 3 classes

Spreading Codes, 2 classes

Channel Coding, 2 classes

Wideband CDMA protocol stack, 3 classes

Network, 2 classes

Network planning, 4 classes

Network management, 3 classes,

3G services, 3 classes

3G applications, 3 classes

The future: 4G, 4 classes

Case Study Project presentations, 4 classes

### **3. Textbook or assigned readings**

*Introduction to 3G Mobile Communications*, Juha Korhonen, Artech House Publishers, 2001.

II. Grading and Evaluation Procedures:

Case Project 40%

Homework 25%

Final exam 35%

Grading scale:

90-100 A

80-89 B

70-79 C

60-69 D

59 and lower F

III. Statement related to policies on unannounced quizzes and class attendance and participation.

There will be no unannounced quizzes and attendance will not affect the grade.

**Accommodation Statement:** Students who need special accommodations should make an appointment to discuss the Accommodation Memo during my office hours as soon as possible. If scheduled office hours conflict with classes, please arrange an alternate appointment time. If you do not have an Accommodation Memo, but need special accommodations, contact the Program for Students with Disabilities in 1244 Haley Center (844-2096 V/TTY).

**Justification for Graduate Credit:** This is an advanced course that builds on earlier (also advanced) courses in second-generation wireless networks as well as advanced undergraduate courses in computer and communication networks.

11/6/01