Western Illinois University  
School of Computer Science  
CS 556 Advanced Computer Network, Fall 2014

**Instructor:** Kim, Yeongkwun, Ph.D.  
**E-mail:** Y-Kim2@wiu.edu  
**Office:** Stipes 447 F (phone: 298-1351)  
**Office Hours:**  
Tue: 1:00 PM – 2:00 PM  
Wed: 10:00 AM – Noon  
Th: 10:00 AM – 11:00 AM  
or by appointment

**URL:** http://faculty.wiu.edu/Y-Kim2/  
**Lecture Hour:** T/Th 11:00 AM – 12:15 PM

**Textbooks:**  

**References:**  
- Mobile Communications (2nd Ed.) by Jochen Schiller, Addison Wesley  
- Wireless Communications and Networks by William Stallings, Prentice Hall  
- IETF RFCs: www.ietf.org  
- ETSI Standards: www.etsi.org  
- ITU-R Recommendations: www.itu.org  
- 3GPP & 3GPP2

**Course Objectives**

Provide the student with an overall perspective of mobile communications by covering signals, signal propagation, multiplexing techniques, modulation, spread spectrum and mobile communication protocol stacks especially, mobile network layer and mobile transport layer. Also will this course introduce wireless mobile communication systems such as GSM and UMTS. Provide also mobility issues in several applications that students can have right vision for the mobility properties in the wireless communications. As a current hot topic, multimedia networking applications also expose to students. Also improve technical writing and oral discussion skills.

**Method of Instruction:** Lecture and seminar

**Method of Evaluation**

- **Homework Assignments:** 30 points  
- **Exam #1:** Sept. 30 (tentative) 20 points  
- **Exam #2:** Oct. 28 (tentative) 20 points  
- **Final Exam:** 20 points  
- **Research project:** 10 points

**Letter grade:**

- A: ≥ 90  
- B: ≥ 80  
- C: ≥ 70  
- D: ≥ 60  
- F: < 60
Note 1: Point ranges for letter grades will be based on a number of factors, including absolute and relative performance. Instructor reserves the right to lower the scale if performance warrants it.

Note 2: Written homework should be clearly TYPED. For written homework, you must write up your own solutions and may neither read nor copy other student’s solutions.

Note 3: All assignments are due at the first 5 minutes of the class. Late assignments will be given 20 % penalty BUT WILL NOT be accepted after 24 hours of the due. No excuse PRINT problem! No email submission allowed!

Note 4: No Make-up Exam will be given without documented proof of serious hardship. Student must contact the instructor immediately to arrange new schedule.

Note 5: One or two pop quiz may be administered during the semester.

Note 6: The topics for the research project and due date will be announced later.

Note 7: Class attendance is FULLY student responsibility.
- Active class participation is expected
- You may ask anytime
- You are expected to attend all classes

Major Topics To Be Discussed
- Wireless transmission
  - Radio Frequencies
  - Signal and signal propagation
  - Multiplexing techniques
  - Modulation techniques
  - Spread spectrum
- Medium Access Control
- Telecommunications Systems
- Wireless LAN
- Protocol suite
- Mobility support
- Multimedia Networking

Academic Integrity:
All work submitted for credit must be your own. You may discuss your assignments with classmates, with instructors to get ideas or a critique of your ideas, but the ideas and words you submit must be your own. Unless explicitly stated otherwise, collaboration is considered cheating and will be dealt with accordingly.

Remarks:

- The contents on this syllabus can be changed with advance notification.
- Student Rights and Responsibilities – Refer to the following WEB site http://www.wiu.edu/provost/student/