Course Information

Description: Introduction to wireless sensor networks, networks, topology, routing, graph theory, hardware components, layered network architecture. Advanced topics will cover coverage and connectivity, localization and tracking, sensor network platforms, etc.

Instructor: Dr. Rastko R. Selmic, Email: rselmic@latech.edu, Web: http://www.latech.edu/~rselmic/Courses/
Tel: 318-257-4641, Office: Tech Pointe 208B.

This term we will be using Piazza for class discussion. The system is highly catered to getting you help fast and efficiently from classmates and myself. Rather than emailing questions, I encourage you to post your questions on Piazza.

Find our class page at: https://piazza.com/latech/spring2014/elen567/home

Class Hours: TR, 2:00 pm – 3:50 pm, NH 120

Office Hours: MTWRF 8:00am – 10:00am or by appointment

Prerequisites: Graduate standing


Grading:
- Homework: 10%
- Class assignments: 40%
- Project: 50%

Scale used: A = 100-90%, B = 89-80%, C = 79-70%, D = 69-60%, F = below 60%.

Projects and Presentations: Class assignments will be given in class. Assignments will require students to research, collect, read, and present papers related to topics discussed in class. Students will have different assignments.

Projects will require students to work on analysis, simulation, or implementation, and prepare a final project report. The topics of the project will be selected in coordination with instructor.

Other Policy:

a. Class attendance is governed by the university regulations published each year in the university bulletin (page 26).

b. In the event of the appeal, student is responsible for keeping all original graded
materials (exams, homework, and projects).
c. Students with disabilities needing testing or classroom accommodations based on a
disability are encouraged to discuss those needs with instructor as soon as possible.
Please check www.latech.edu/ods for assistance.
d. In accordance with the Academic Honor Code, students pledge the following: “Being
a student of higher standards, I pledge to embody the principles of academic
integrity.”
e. Emergency Notification System (ENS): All Louisiana Tech students are strongly
encouraged to enroll and update their contact information in the Emergency
Notification System. It takes just a few seconds to ensure you’re able to receive
important text and voice alerts in the event of a campus emergency. For more

Course Topics:
1. Introduction
   o Sensor Networks
   o Wireless Sensor Networks
   o Applications
2. Background
   o Networks
   o Topology
   o Routing
   o Security
   o Graph Theory
   o Sensors
   Hardware Components
   - Microcontrollers
   - Memory
   - Radio
   - Antenna
   - Sensors
   
   Layered Network Architecture
   - Physical Layer
   - Data Link Layer
   - Network Layer
5. Coverage and Connectivity
6. Localization and Tracking
7. Quality of Service
8. Sensor Network Platforms