

**Problem Set 3 (due March 5, 2012).
[100 points]**

Important Notes:

1. Can be done in teams of two students but each student has to report his contributions.
2. Late submissions will result in a 10% penalty per day (e.g., 2.5 days late result in 25% penalty).
3. You can use the Internet to get some help, but you should use your own words, examples, and code when answering the questions.

Wireless Sensor Networks

1. Get two TelosB wireless sensor nodes (motes) from the instructor.
2. Setup the development environment on a windows machine.
3. Implement, cross-compile, and deploy a simple LED blinking application (blink one of the LEDs at a slow rate).
4. For this step, you will use two motes (transmitter and receiver).
 - a. Write a program that runs on the transmitter. Every time the USER button is pushed, a packet is reliably sent to the receiver to toggle an LED.
 - b. Write a program that runs on the receiver. Every time the toggle packet is received, the LED is toggled.
 - c. Make sure that you take care of lost packets and duplicates.
5. Change the transmitter program such that it reads input from the usb port. Everytime it receives the character 't', it sends to toggle packet.