Syllabus: Low-Power Internet-of-Things Systems

Outline
1. Low-power IoT system architectures: nodes, hubs, cloud.
2. Event-driven systems: event timing models, system capacity.
4. Mixed-signal interfaces for signal conditioning and detection.
5. Hardware/digital/analog design of embedded sensing devices.
7. Low-power embedded software analysis, optimization.
8. Networking for IoT. Edge networks such as Zigbee, Bluetooth Low Energy, WiFi. Internet backhaul.
11. Safety and security of IoT systems: methodologies.
12. Safety and security of IoT systems: design techniques.
13. Design studies of IoT systems. Examples may include manufacturing, medical, vehicles.

Grading
- Four in-class tests totaling 20%.
- Course project 40%.
- Final exam 40%.

Rules for in-class quizzes and final exams: open book, open notes (both paper and electronic); closed Internet.

Disability Accommodation
You can request accommodations through our public New Student Accommodation Request Form. We will begin reviewing new student requests June 22; we recommend students attend FASET and register for their courses prior to their initial intake appointment. In the meantime, please review the documentation guidelines of your disability diagnosis information; when you submit your Accommodations Request, you will need to upload your documentation, so please make sure it meets the University System of Georgia's guidelines.

Honor Code
Academic Integrity: Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. For information on Georgia Tech's Academic Honor Code, please visit http://www.catalog.gatech.edu/policies/honor-code/ or http://www.catalog.gatech.edu/rules/18/. Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Student-Faculty Expectations Agreement: At Georgia Tech we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. See http://www.catalog.gatech.edu/rules/22/ for an articulation of some basic expectation that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and
cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Institute Absence Policy