Graduate Courses in Systems Engineering

SE 5402 Architecture of IoT

What’s Exciting About this Course? Applying the knowledge of systems engineering principles, processes, and methods to design embedded and networked systems. Understanding the constraints, requirements, architectures of hardware and software in cyber-physical systems.

Course Description. This course is designed to provide students and professional engineers with a thorough understanding of the design, development, validation and evaluation of IoT systems, especially in industrial domains with stringent timing and performance requirements. The student will develop skills in specifying the requirements for the target IoT systems, selecting the appropriate hardware and software platforms, and validating and evaluating the system performance. Special emphasis will be placed on the semester-based industrial projects that will be designed from selected industrial domains to address real-life problems.

Course Outcomes

- Develop several hardware, software, and network architectures for a given embedded system.
- Evaluate the cost, power, and performance tradeoffs associated with each architecture.


Course Objectives and Links to Overall Program Goals

Students can design, develop, and integrate embedded and networked systems into complex cyberphysical systems. With the emergence of the Internet of Things, this course prepares engineers to design systems that satisfy stakeholder needs, while considering the complexity of new interfaces and interactions.