THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Design of Mobile Internet-of-Things

ECE 4567

Credit Hours:
4.00

Course Levels:
Undergraduate (1000-5000 level)

Course Components:
Lecture
Lab

Course Description:
This course focuses on theoretical and practical insights into design of Internet of Things architectures and mobile platforms. Concepts covered in this course include general IoT architectures, sensor, processing, and communication resources, device and cloud connectivity, mobility support. Practical aspects will be studied with lab assignments and the semester-long group projects.

Prerequisites and Co-requisites:
Prereq: 2560, 3020, and 3027.

Course Goals / Objectives:
- Master embedded system architectures, input/output, processing, and communication routines
- Become competent in practical design principles of IoT systems
- Become familiar with algorithm design for embedded systems, algorithmic techniques, data acquisition, and on-board processing

Course Topics:
- IoT Architectures
- IoT Applications
- IoT Devices and Sensors
- IoT Connectivity
- Local and Distributed Processing in IoT Systems
- Cloud Processing and Storage for IoT
- Analytics and Machine Learning for IoT
- Mobile IoT Systems
- IoT Security
- Localization in IoT
- Vehicular IoT Systems
- 2 Midterm Exams

Designation:
Elective