At the completion of the course, **Introduction to Embedded Systems**, students will be expected to:

1) Have the skills and conceptual understanding needed to design and implement embedded systems that integrate computation with the physical world.

2) Know how to create and analyze formal, mathematical models of embedded systems, including finite-state machines, differential equations, dataflow models, and hybrid automata.

3) Be able to reliably implement an embedded system design using programming languages and tools on microcontroller-based hardware platforms while interfacing to sensors, actuators, and communication networks.

4) Be familiar with how to design and implement concurrent, real-time systems that can be heterogeneous and distributed, while ensuring fault-tolerance, safety, and security.