

# Embedded Systems

## ELEC3042

Lecture: Debugging

# Bugs

What is a bug? What do we mean when we talk about a bug in our system?

- Hardware Bugs
- Software Bugs

# Hardware Bugs

- Broken Hardware
  - How to tell?
- Misconfigured Hardware
  - How to tell?

# Software Bugs

- Errors in logic
  - How to tell?
- Errors in coding
  - How to tell?

# Errors in our Logic

- We need to track States in our system
  - tracking variables
  - tracking states
- We need to be able to know WHAT state our system is currently in
  - On chip debugging
  - Emulation
  - Using PINs to signal state
  - Printing out Current State/Variables