Midterm 2 Topics

- 4 major topics:
  - Interrupts.
  - Schedulers & semaphores.
  - Output compare & input capture.
  - Serial communication.

Interrupts

- Why use them? Pros/cons? Alternatives?
- Interrupt process.
- What are the qualities of a good interrupt service routine (ISR)?
- Types of interrupt configurations (wired-or/pollled, etc.).
Schedulers & semaphores

- Schedulers.
  - Types.
  - Statistics (waiting time, turnaround time, etc.).
  - Preemptive vs. Non-preemptive.
  - Blocking support.
- Semaphores
  - `wait()`
  - `signal()`
  - Use in mutual exclusion.
  - Deadlock and starvation.

Output compare & input capture

- Rituals.
- Use in period and frequency measurement.
- Pulse width modulation.

Serial communication

- Network communication configurations (half-duplex, full-duplex, ring, etc.).
- SPI vs. SCI.
- Ensuring correct data (parity, collision detection, etc.).