

EEC172 Midterm Study Guide Winter 2015

Midterm date: **Wednesday, February 18, 12:10 – 1:00 pm**

Midterm format: **Closed notes, closed book, closed calculator (no electronic devices)**

Material coverage: All lectures through February 11 (no I2C). Labs through Lab 3. All example programs covered in class.

Format:

Short answers

Writing and/or analyzing small program fragments

Topics:

GPIO – interfacing switches, LEDs using polling or interrupts

SysTick – using SysTick timer to measure delays using interrupts or reading the counter

General Purpose Timers – using timer to measure delays using interrupts or reading counter

SPI – understand transmission waveforms based on SPO and SPH, OLED interface, polling

UART – understand transmission waveform, baud rate, parity, interrupts, polling

XBee – transparent mode, AT command mode, API mode, addressing, UART interface, basic operation

Interrupts – critical section, tail-chaining, nested interrupts, volatile keyword, guidelines for performance, communication using global variables, vector table

Writing or analyzing small programs using polling or interrupts.

TivaWare APIs: understand what the functions used in example programs do and how to use them.

Note: A page with TivaWare API prototypes and parameter options will be provided. You should understand how these API functions work, but you do not need to memorize the constant definitions used for parameters.