

# **EECE.3170: Microprocessor Systems Design I**

Fall 2016

## Lecture 7: Key Questions September 19, 2016

1. Describe the x86 flags.
2. Describe the operation of the ADD, ADC, and INC instructions.
3. Describe the operation of the SUB, SBB, DEC, and NEG instructions.

4. Given the following initial state:

- $AX = 0x1234$
- $BL = 0xAB$
- Memory location  $SUM = 0x00CD$

Show the results of each step of the following instruction sequence. Be sure to track the carry flag throughout the sequence:

```
ADD AX, [SUM]
ADC BL, 0x05
NEG BL
SUB AX, 0x12
INC WORD PTR [SUM]
```