CMPE 443 PRINCIPLES OF EMBEDDED SYSTEMS DESIGN

LAB #006 "ADC and Timer Capture"

1) Preparation for Using Keil and QEMU *(10 minutes)*

This part will not be graded. It will enable you to get ready for the prelab.

You have already generated the **.axf** file from the Keil in PRELAB #6. You can directly use this file on the QEMU environment.

- Open the Keil.
- Open the project you did on the PRELAB #6.
- Open Qemu Environment.

Observe that everything works as it did in the PRELAB #6.

2) ADC and Timer Capture *(40 minutes) - 6 pts*

This part will be graded.

The ADC pin and the Timer Capture pin for the lab will be randomly generated on the quiz.

You will use that pin for ADC and Timer Capture. Also the threshold value for the ADC is randomly generated.

We will add an additional 1 LED to the system. So there will be four LEDS. You will turn on the LED4 if the ADC Value = Motor RPM ∓ 5.

You will submit two files: 6 *pts*

LAB<exp num>_<StudentID1>.axf (This will be generated **.axf** file)

LAB<exp num>_<StudentID1>.zip (This will be **source files of project**, **not the whole project**)