

UNC Charlotte, Department of Electrical and Computer Engineering
ECGR 4101/5101, Spring 2010, Homework #7

You will need to refer to the M16 Software Manual, the M16 Hardware Manual and M16 C Language Programming Manual to complete this assignment. They are available online through the documentation contained in the SKP16C26 directories link on the course home page.

1. (1 point) How long did this homework take you?
2. (12 points) For the requirements given in Lab 3, write the 'C' code to calibrate and sense light using **interrupts**. Provide all details about setting up the interrupts, the control registers and the header files used.
3. (2 points) Consider a byte of data transmitted at 9600 baud with 8 data bits, 1 parity bit, 1 start bit and one stop bit, system clock of 12 Mhz. How long does the entire message (byte with overhead) take to transmit? Show your work.
4. (2 points) Repeat Question 3, but with a system clock of 24Mhz. Show your work.
5. (3 points) Which of the following operations are considered interrupts
 - a. button press
 - b. timer expiration
 - c. divide by zero
 - d. data transfer
 - e. scrolling through a document
 - f. mouse click