

**UNC Charlotte, Department of Electrical and Computer Engineering
ECGR 2181, Fall 2008, Homework #7
Due: 11/17/2008, at the beginning of class (100 points)**

Show all of your work!!!!

1. How long did this assignment take you? (Answer truthfully!) (5 points)
2. Consider a sequential logic circuit that has the following:
 - a) One eight-bit input “ascii”, representing some ASCII character.
 - b) One input select line that selects when the “ascii” signal is selected for loading
 - c) One input clock signal, positive edge triggered.
 - d) One eight-bit output that shows the ASCII value and also shows an incremented ASCII value with each clock.

Draw the block diagram of this circuit, referring to functional block instead of individual gates. Use busses where possible. (95 points)

Hint: Think of what devices you will need:

- a) What devices add?
- b) What devices store?
- c) What devices choose between two signals?
- d) What devices use clock signals?
- e) How can you use combinational as well as sequential circuit devices?