

**ECE 4623/5623**  
**Homework #4 (Due: 11/16/2017)**  
**Serial Communication**

1. Build a UART transmitter and receiver in the FPGA.
2. Verify that you can send bytes bidirectionally between a computer and the FPGA.
3. Build a FIFO in the FPGA to receive bytes from the computer. Make the FIFO with an 8-bit input and a 16-bit output.
4. Connect your computer from HW#3 to the FIFO output with a state machine.
5. You should now be able to control your 9-instruction computer with a terminal rather than the switches and a button.