EE 413/513
Design Project #1
Due: April 20, 2001

Rules:
1. You may share sources of information, e.g., webpages, manuals, etc.
2. You may NOT share block diagram nor circuit design. Laboratory measurements should also be performed INDIVIDUALLY without partners. Carefully guard your design, because violation may result in zero grade for BOTH parties.
3. Partial credit will be given.

Pick one of the following design projects. Develop a block diagram and implement it with IC or discrete components. You need to build a working circuit from components and perform laboratory measurements to confirm the operation. Block diagram alone will only receive partial credit.

Design and build a circuit performing parity check and longitudinal redundancy check as discussed in the textbook, 12.5.2.

Design and build a circuit performing cyclic redundancy check as discussed in the lecture and briefly in the textbook, 12.5.6.

Design and build a modulator/driver circuit which will modulate a LED with NRZ-I modulation.

Design and build an encoder which performs 4B/5B encoding.

You may use creative ideas in generating the digital data, e.g., manually, from the serial port of a computer, or from the data acquisition board in the laboratory. The latter will require programming.