GEORGE MASON UNIVERSITY
ELECTRICAL AND COMPUTER ENGINEERING DEPARTMENT

Fall 2008

Course: ECE-301 Digital Electronics

Instructor: Dr. Peter W. Pachowicz
ECE Dept., S&T 2, Rm. 253

Office Hours: Wednesdays 1:00-2:45pm, and by an appointment

ECE-301 Laboratory and Experiment Guide.

Course Description: Introduces digital systems, circuits, and computers. Topics include binary systems and codes, digital logic gates and circuits, microelectronics and integrated circuits, coding and multiplexing, multivibrators, shift registers, counters, A/D converters, and elementary computer architecture. A laboratory is included in this course. (Not intended for those majoring in electrical or computer engineering.)

Topics Covered:

1. Introduction to the course material and course organization. Review of binary and hexadecimal number systems. Binary arithmetic. BCD code and arithmetic. Grey code. ASCII code. Error detection code.


12. Serial adder design. MPP principles.


**Grade:**

- Midterm exam: 30%
- Final exam: 35%
- Laboratory: 20%
- Homework: 15%

**Additional Requirements:**

1. All laboratories must be satisfactorily completed to receive a passing grade in the course.

2. Homework is due at the beginning of class on the date it is due. Late homework will not be accepted.

3. Students must appear for all exams on time. Students who appear late for exams may not be admitted to the exam.

4. Honor code policy is in place for the entire semester and all coursework, including homework assignments!!!
**Homeworks:**

Questions from the textbook. Deadlines will be announced during the class. Returned homework must show the progress in obtaining the result(s). Providing only the final answer without supporting calculations/designs will result in zero credit.

Homework #1: 1-3, 1-8, 1-14, 1-18, 1-23, 2-9, 2-14, 2-18, 2-20.
Homework #2: 3-7, 3-13, 3-17, 3-19, 3-21.
Homework #3: 4-4, 4-11, 4-21, 4-26, 4-31.
Homework #4: 5-6, 5-9, 5-16, 5-19, 5-20.

Recommended #1: 6-6, 6-7, 6-8, 6-15, 6-17, 6-18, 6-20.
Recommended #2: 7-1, 7-6, 7-7, 7-8.