ECE 445    Computer Organization

Summer 2010    M W   16:30 – 19:10    Eng. Room 4457

Prof. Daniel Tabak, Eng. Rm. 3707,    dtabak@gmu.edu

Office Hours: M W 15:30 - 16:30

Prerequisite: ECE 331 (grade C or better)

COURSE OUTLINE:

1. Introduction to Digital Computers. [Ch.1] Week 1, 06/7
2. Instruction formats and addressing modes. The MIPS system. [Ch.2] Week 1,2 06/9,14
3. Computer Arithmetic. [Ch.3] Week 2,3 06/16,21
4. Computer control: hardwired and microprogrammed. [Ch.5] Week 3,4 06/23,28
5. Pipelining. RISC design approach. [Ch.6] Week 5,6 07/7,12
6. The memory hierarchy. Cache. Virtual Memory. [Ch.7] Week 6,7 07/14,19
7. Input/Output (I/O). [Ch.8] Week 7 07/21
8. Introduction to Instruction Level Parallelism (ILP). Superscalar and Superpipelined computing. Week 8 07/26

MAIN TEXT:

GRADING:
Project 1: due W June 23, 2010 (10%)
Project 2: due W July 14, 2010 (15%)
Homework: (10%) 
Midterm: W June 30, 2010 (30%) open material
Final examination: W July 28, 2010, 16:30 (35%) open material
Projects and homework will be managed and graded by the TA. Midterm and Final will be graded by Prof. Tabak. Late projects will not be accepted. Failure to show up at a scheduled examination, means, by the ECE Dept. regulations, a zero grade. Homework will be due at the beginning of the class on the day it is
due. Students who work should carefully check their work schedule. If it coincides in any way with the class schedule, the course should not be taken.

TA for projects and homework:
Mr. Panasayya Yalla, pyalla@gmu.edu
Office hours: W 12:00 - 14:00 Eng. Rm. 3224
Hands on session Eng. Rm. 3208 W June 9, 2010 12:00 – 15:30