The course continues with topics discussed in ECE 511. Since the main computing system of GMU is a Sun Microsystems Sun Fire V890, the main examples in this course will be Sun Microsystems chips.

COURSE OUTLINE:
1. Introduction: development of microprocessor families. Week 1, 1/20
2. Quantitative analysis of Pipelining. Week 2, 1/27
3. Multithreading. Week 3, 2/3
4. Quantitative analysis of multicore processors. Week 4, 2/10
5. Instruction Level Parallelism (ILP). Week 5, 2/17
6. SPARC Architecture. Advanced Sun Microsystems chips. The UltraSPARC generations I - IV. Week 7, 3/3
7. The Sun Microsystems Multicore chips T1, T2, Victoria. Week 8, 3/17
8. The Sun Microsystems multiprocessors Sun FIRE V490, V890. Week 9, 3/24
10. Intel - Hewlett Packard (HP) IA-64 architecture. The Itanium realization of IA-64. Student presentations. Week 12,14, 4/14, 28.

REFERENCES:
4. Sun Microsystems Website material.

Student Evaluation:
Midterm 1: W Feb. 24,2010 (35%). Week 6
Midterm 2: W April 21,2010 (35%). Week 13
Term papers will be presented. A paper copy should be submitted on due date. An electronic copy to be e-mailed to dtabak@gmu.edu. Students working full time should notify their employers about the above dates. If the work schedule clashes with the course time, the course should not be taken.