

FSU CURRICULUM FILE SYLLABUS

DATE APPROVED _____ (COMPLETED AT UNIV LEVEL)

COURSE PREFIX/NUMBER

REPEAT CODE

COURSE TITLE

PRE OR COREQUISITES

COURSE OBJECTIVES: (Do NOT use course description)

At the end of the course, the student should be able to:

Calculate architecture performance measures.

Apply basic code transformations by hand to increase instruction-level parallelism.

Detect dependences and hazards for a sequence of instructions.

Determine the cycle when each instruction will go through each stage of an out-of-order pipeline.

Determine for a sequence of instruction references whether or not each instruction will hit in a branch target buffer.

Determine for a sequence of branches the prediction that will be made in a branch prediction buffer.

For various memory hierarchy optimizations list the likely impact on miss rate, miss penalty, and hit time for cache performance.

OBJECTIVES SHOULD BE BROADLY STATED TO ALLOW FACULTY DIFFERENCES AND ALLOW CHANGES IN MODE OF DELIVERY. ENOUGH DETAIL SHOULD BE GIVEN TO DISTINGUISH FROM OTHER COURSES IN ASSIGNMENT OF A SUS COURSE NUMBER. COMMITTEE APPROVALS ARE REQUIRED FOR A CHANGE IN OBJECTIVES.

GIVE BRIEF OUTLINE OF TOPICS TO BE COVERED (NO DATES):

Fundamentals of Computer Design.
Instruction-Level Parallelism and Its Exploitation.
Limits on Instruction-Level Parallelism.
Multiprocessors and Thread-Level Parallelism.
Memory Hierarchy Design.
Storage Systems.

EVALUATION CRITERIA. CHECK ONE (CHANGE IN EVALUATION CRITERIA REQUIRES THE DEPARTMENT TO SUBMIT A NEW SYLLABUS FOR THE FILE)

EXAMS ONLY (THE NUMBER AND WEIGHT OF EACH TO BE REFLECTED ON THE STUDENT SYLLABUS)

EXAMS AND OTHER (SUCH AS LAB REPORTS OR ASSIGNMENTS, TERM PAPER OR WRITTEN PROJECT, ORAL PRESENTATION; THE WEIGHT OF EACH TO BE REFLECTED ON THE STUDENT SYLLABUS.)

NO EXAMS - ONLY ASSIGNMENTS (TO BE DESCRIBED CLEARLY ON THE STUDENT SYLLABUS)