COURSE DESCRIPTION

Department and Course Number	**CS 430**	Course Coordinator	**Hyatt**
Course Title	**Computer Systems**	Total Credits	**3**

Current Catalog Description
Introduction to computer architecture, including memory subsystems, direct-mapped and set-associative cache and multi-level cache subsystems, direct-access devices including RAID and SCSI disk drives, processor pipelining including super-scalar and vector machines, parallel architectures including SMP, NUMA and distributed memory systems, Interrupt mechanisms, and future microprocessor design issues.

Textbook
Computer Architecture: A Quantitative Approach, 3rd ed., by John L. Hennessy & David A. Patterson, Morgan Kaufmann, 2003.

References
None

Course Goals
To give students knowledge of how and why the processors of today have the features / modes they have. Students will learn of the many trade-off decisions made when designing an architecture, and why those decisions were made and what they were based on.

Prerequisites by Topic
Computer Organization & Assembly Language Programming (with grade of "C" or better)

Major Topics Covered in the Course
Fundamentals of design, instruction set principles, instruction-level parallelism and pipelining, memory hierarchy, multiprocessors, storage systems, cluster computing.

Laboratory projects (specify number of weeks on each)
None

Estimate CSAB Category Content

	CORE	ADVANCED		CORE	ADVANCED
Data Structures	_____	_____	Computer Organization and Architecture		40

Algorithms and Software Design			Concepts of Programming Languages		

Oral and Written Communications

None

Social and Ethical Issues

None

Theoretical Content

None

Problem Analysis

None

Solution Design

None