

Dept Number	CS 501	Course Title	Advanced Computer Architecture							
Semester Hours	3	Course Coordinator	Mehdi Zargham							
Catalog Description	Hardware and software elements of multiprocessors, multicomputers, pipeline and array machines, data flow architecture, and other state-of-the-art architectures. Design principles related to machine structures, interconnection networks, control software and hardware, data storage and access.									
Textbooks										
References										
Course Learning Outcomes										
Assessment of the Contribution to Program Outcomes										
Outcome →	1	2	3	4	5	6	7	8	9	10
Assessed →	X	X	X		X					
Prerequisites by Topic										
CS 401										

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Major Topics Covered in the Course		

1. Classification of parallel machines {3 classes}
2. Interconnection networks {8 classes}
3. Multiprocessor architectures {6 classes}
4. Multicomputer architectures {6 classes}
5. Array processors {3 classes}
6. Hybrid architectures {3 classes}
7. Parallelism detection and parallel compilers {3 classes}
8. Special purpose systems {4 classes}
9. State-of-the-art architectures {2 classes}
10. Future directions of parallel and distributed architectures {2 classes}