

## Tentative Course Calendar

Fall Semester 2004		
Week	Th	Homework
W1	9/2	
W2	9/9	HW1out
W3	9/16	
W4	9/23	HW1in,HW2out
W5	9/30	
W6	10/7	HW2in,HW3out
W7	10/14	
W8	10/21	HW3in,HW4out
W9	10/28	
W10	11/4	
W11	11/11	HW4in,HW5out
W12	11/18	HW6out
W13	11/25	No Class
W14	12/2	HW5in
W15	12/9	HW6in
W16	12/13	This is a Monday

The following describes a tentative list of topics that is intended to be covered in class.

### Topics to be covered

- T1 : Introduction; Flynn's Taxonomy ; Networks  
Amdahl's Law; Gustaffson's Law; Brent's Principle
- T2 : PRAM; types of PRAMS (EREW, CRCW etc), Parallel Min/Max/Sum,  
Broadcasting, Matrix Multiplication, Parallel Prefix and parallel addition.
- T3 : Logical Operations, Symmetry Breaking, Lower bounds for maximum finding
- T4 : Hypercube, Butterfly and FFT.
- T5 : Sorting networks, odd-even merge-sort, odd-even transposition sort,  
bitonic sorting.
- T6 : Routing on Fixed Connection networks
- T7 : Architecture Independent Parallel Algorithm Design: The BSP and the LogP models
- T8 : Parallel Algorithm Design on the BSP: Introduction
- T9 : Parallel programming: Using RMA and BSplib
- T10: Parallel programming: LAM-MPI and MPI-2
- T11: PC Cluster Programming: An overview
- T12: Deterministic Parallel Sorting
- T13: Randomized Parallel Sorting
- T14: Matrix Operations: LU decomposition
- T15: Randomized Selection