CIS 668	**Parallel Algorithms and Architectures**	Dr. D. Nassimi
Sect: 102	**Course Syllabus**	Spring 2004
	Monday 6-9 pm, FAC 405	

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Course Description: Architectures and algorithms for parallel computers.
Interconnection networks, data routing algorithms, and various communication operations. Design of communication-efficient parallel algorithms for a variety of problems, including: prefix computation, matrix problems, parallel sorting, sorting networks, and graph algorithms.

Prereq: CIS 610 (algorithms)
CIS 650 (architectures).

Textbook: Ananth Grama, Anshul Gupta, George Karypis, and Vipin Kumar,
Introduction to Parallel Computing, Second Edition, Pearson Education, Addison Wesley 2003.
ISBN: 0-201-64865-2

Additional Reference Books

1. Michael Quinn, *Parallel Programming in C with MPI and OpenMP*, McGraw-Hill, 2004. (ISBN 0-07-282256-2)
2. F.T. Leighton, *Parallel Algorithms and Architectures: Arrays, Trees, Hypercubes*, Morgan Kaufmann Publishers, 1992. (ISBN 1-55860-117-1)
3. Joseph JaJa, *An Introduction to Parallel Algorithms*, Addison-Wesley, 1992. (ISBN 0-201-54856-9)
4. Russ Miller and Quentin Stout, *Parallel Algorithms for Regular Architectures: Meshes and Pyramids*, MIT Press, 1996. (ISBN 0-262-13233-8)
5. Selim G. Akl, *Parallel Computation: Models and Methods*, Prentice Hall, 1997. (ISBN 0-13-147034-5)

Evaluation (tentative):

Homeworks	75%
Final (Take-Home)	25%