

# Fall 2011 Course syllabus: Math 767

-Course title: Fast Numerical Algorithms

-Textbook: None. We will be going over original research papers.  
A useful reference for background material is:

**Numerical Recipes: The Art of Scientific Computing**

Third Edition (2007), 1256 pp, Cambridge University Press

ISBN-10: 0521880688

Course topics: The course covers state-of-the-art, analysis based fast numerical algorithms. Topics include the fast Fourier transform (FFT), fast multipole method, particle mesh Ewald method, FFT for nonuniformly spaced data, fast Gauss transform, and fast time integration methods (especially for stiff differential equations).

Grading policy: 100% of the grade will be based on programming projects.

IMPORTANT DATES	
FIRST DAY OF SEMESTER	September 1, 2011
Common Exam I	
LAST DAY TO WITHDRAW	November 3, 2011
Common Exam II	
LAST DAY OF CLASSES	December 12, 2011
FINAL EXAM PERIOD	December 14-20, 2011

## **Important Departmental and University Policies**

- [Academic Integrity Code is Strictly Enforced](#)
- [Prerequisites Requirements are Enforced](#)
- [Exam Policies \(No Make Up Exams and More\)](#)
- [Cell Phone and Pager Use Prohibited in Class](#)
- [Complete DMS Course Policies \(math.njit.edu/students/undergraduate/policies\\_math\)](http://math.njit.edu/students/undergraduate/policies_math)

Prepared by Prof. Michael Siegel, July 14, 2011

