Math / CS 243B,  Advanced Topics in Numerical Analysis (Advanced Numerical Linear Algebra), Fall 2013

**Days and times:** MW 6-7:15pm, MH 323

**Prerequisite:** Math 143C or Math 143M; and instructor consent

**Instructor:** Plamen Koev

**Office:** MH 312, **Tel:** 924-5175  **email:** koev@math.sjsu.edu  **web:** www.math.sjsu.edu/~koev/

**Office hours:** MW 4:30-6pm or by appointment

**Text:** *Numerical Linear Algebra* by Lloyd Trefethen and David Bau, SIAM Press, 1997

**Suggested References:**

General Text / Reference Books

Books on Specialized Topics related to the course

Also note that Trefethen and Bau is a popular text book for graduate numerical analysis courses and you will find material on the web relating to the text. For example, http://persson.berkeley.edu/18.335/ has a complete set of slides for lectures from the T+B text as well as other material

**Computing in the course:** We will use MATLAB – you can access it in the labs (see me or the main math office for access codes) or make your own arrangements.

**Learning Objectives:** To understand the commonly used algorithms for the topics listed above. To be able to compare these algorithms in terms of efficiency, accuracy and reliability. To understand the derivations of the algorithms and the major theoretical results related to the algorithms, including their proofs. To develop the skills required to investigate a specific topic in depth and present the results of the investigation orally and in writing.

**Requirements:** Two midterms (25% each), homework (25%) , final project (25%)

**Curve:** 93/90/87/83/80/77/73/70/67/63/60 A/A-/B+/B/B-/C+/C/C-/D+/D/D-

**Make-up exams and quizzes:** None except under very unusual circumstances and then only if you contact me before the exam. Make-up exams will be more difficult.

**Cheating:** Don’t. On homework assignments you may discuss the assignments with other students but don’t copy their work. Also you can find solutions to some of the homework problems from Trefethen and Bau’s text on the web. Doing homework problems by yourself or as part of a study group is the educational (and fun!) part of the homework. I much prefer that you work in this manner. If you or your study group gets help with a solution from the web cite the source!!

**Additional information / requirements** please see [http://www.math.sjsu.edu/math/courses/mathgs.htm](http://www.math.sjsu.edu/math/courses/mathgs.htm)