

**Math 582A – Topics in Numerical Analysis**

**Spring 2006**

**Monday and Wednesday, 17:30-18:45, JR217**

**Instructor:** Dr. Rabia Djellouli

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**Office Hours:** Monday, Wednesday, 11:15–12:15, or by appointment.

**Textbook:** **No text book is required.** However, the following books are suggested for reading.

- An Introduction to Numerical Analysis, by Kendal E. Atkinson, 1989.
- Numerical Analysis, By David Kincaid and Ward Cheney, 2002.
- Numerical Analysis, By Richard L. Burden and J. Douglas Faires, 2001

**Topics Covered:** This course will be based on the following four cornerstones

- Fourier Series (review).
- Trigonometric interpolation and Fast Fourier Transform (FFT).
- Numerical Differentiation and Integration.
- Numerical Methods for Ordinary Differential Equations (ODE's).

**Exams:** There will be three in-class tests (Tentative Schedule: February 27th, March 27th, and May 1st) and a comprehensive exam (Monday, May 22nd, 2006, 17:30 – 19:30).

All exams are closed book. The lowest midterm score will be dropped. There will be no make up exams.

**Homework:** The due date for the Homeworks will be specified on the day of the assignment. You can work in groups, but you must turn in your own write-up. Your lowest two homework scores will be dropped. No late homework is accepted.

- Quizzes:** Quizzes may be introduced to help the class to keep-up.
- Programming:** There will be one programming assignment. You can use your preferred programming language. You can work in groups, but you must turn in your own write-up.
- Grading Scheme:**
- 100 points – homeworks + quizzes
  - 100 points – programming assignment
  - 100 points – each midterm
  - 200 points – Final exam
  - 600 points – Total Score
- 95% guarantees an *A*, 90% an *A*<sup>-</sup>, 85% a *B*<sup>+</sup>, 80% a *B*, 75% a *B*<sup>-</sup>  
70% a *C*<sup>+</sup>, 65% a *C*, 60% a *C*<sup>-</sup>, and 55% a *D*.
- Religious Conflicts:** Students who have conflict between religious observance dates and course examinations or assignments, please contact me before February 20th, 2005.
- Class regulations:** Attendance is an essential part of this course. Attendance means on time attendance and not leaving the class room before the end of the lecture. Cell phones and pagers must be turned off.
- All these informations are subject to change**