Numerical Methods for Ordinary Differential Equations

Spring 2012, Math 6646

Class information

- Class: MWF 1:05 - 1:55PM
- Class homepage: http://people.math.gatech.edu/~kang/6646
- Instructor : Sung Ha Kang
    - Email: kang at math.gatech.edu
    - Office hours: WF 2PM - 3PM or my appointment

Course information

- the course outline: http://www.math.gatech.edu/course/math/6646
- Prerequisites: Math 2403 and Math 4640
- Course Description: Analysis and implementation of numerical methods for initial and two point boundary value problems for ordinary differential equations

Some References

1. (not required) Main Textbook: Computer Methods for Ordinary Differential Equations and Differential-Algebraic Equations by Uri M. Ascher and Linda R. Petzold, SIAM
2. (reference) Numerical Methods for Ordinary Differential Systems: The initial Value Problem by J.D. Lambert, Wiley
3. (reference) A first Course in the Numerical Analysis of Differential equations by Iserles, Cambridge Texts
4. (reference) Numerical Mathematics by Quarteroni, Sacco and Saleri, Springer
5. (reference) Introduction to Numerical Analysis by Stoer, Bulirsch, Springer

Course Grade

- Homework (50%) : Students are strongly encouraged to solve all the homework problems, but only computer homework will be collected (two page limit per question).

- Exams (50%): There will be two exams (one exam and a Final) during the semester which will be based on the homework/lecture materials. No make up exams are allowed. In case of serious illness, doctor's note is required. For excused absences, your adviser's notice is required or the website link showing your participation at the conference, no later than two weeks prior to the date of the exams.

  HONOR CODE: All students are expected to comply with the Georgia Tech Honor code. Please review the student code of conduct.