Syllabus for Math 809, Spring 2007

Numerical Solution of Partial Differential Equations III

Please read this syllabus carefully. You will be responsible for all the information given here, and for any modifications to it that may be announced in class. Updated information and handouts can be accessed at my website: http://www.math.ohio-state.edu/~kao/

Instructor: Chiu-Yen Kao

Textbook: Numerical Methods for Conservation Laws. Randall J. LeVeque. Birkhäuser

Lecture: MWF 12:30pm @ CL109

Topics: derivation of conservation laws; weak solutions; viscosity solution; entropy condition; Riemann problem; numerical schemes: Godunov, Lax_Friedrich, Lax-Wendroff, ENO,…etc.

Office Hours: MWF 1:30pm-2:30am @ MW 410 and by appointment

E-mails: kao@math.ohio-state.edu

Tentative Schedule: We will basically follow the flow of the textbook but discuss theories and numerical approaches simultaneously.

Grading: Class participation (10%), homework (60%) and final project (30%)

Class Participation: You are expected to attend all lectures, and are responsible for all information given out during them. Excessive absences without any medical reasons will result in points lost from your class participation grade. Activities such as sleeping, reading, listening to headsets, browsing the web, conversing with other students, and so on do not constitute class participation. Students engaging in such behavior during the lecture will be counted as absent.

Homework: I encourage students to discuss HW with each other. However, you should still write your own answers. No late HW will be accepted. Source codes for numerical HWs need to be also submitted electronically to kao@math.ohio-state.edu. I will check randomly whether the source code does provide the correct solution in the written solutions you hand in. The title for the e-mail need to be "809HW#-your name".

Final Project: Final project will be given in the sixth week and is due in the tenth week. The project includes reading papers and reproducing numerical results shown in the paper.

***Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Please contact the Office for Disability Services at 614-292-3307 in room 150 Pomerene Hall to coordinate reasonable accommodations for students with documented disabilities. http://www.ods.ohio-state.edu**

***It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term ``academic misconduct'' includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee. For additional information, see the Code of Student Conduct http://studentaffairs.osu.edu/resource_csc.asp.**