

MATH 6620
ANALYSIS OF NUMERICAL METHODS
Spring Semester, 2009

Time and Place: MWF 11:50-12:40, 218 LCB
Instructor: Professor Aaron Fogelson
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Course Web Site: http://www.math.utah.edu/~fogelson/6620_s09
Office Hours: By appointment
Texts: Randall J. LeVeque, Finite Difference Methods for Ordinary and Partial
Differential Equations, SIAM, 2008
Other references: K.W. Morton and D.F. Mayers, Numerical Solution of Partial Differential Equations
Arieh Iserles, A First Course in the Numerical Analysis of Differential Equations.

The Course. In 6620, we will briefly discuss methods for finding eigenvalues and eigenvectors; look briefly at basic interpolation and numerical methods for evaluating integrals; and focus primarily on numerical methods for solving differential equations.

Homework. Homework will be assigned and collected, and will consist mostly of theoretical analyses and computational experimentation. The latter should be done using MATLAB.

Homework Writeups: A new requirement this term is that homework be indisputably **neat** and that answers be **expressed in complete sentences**. The best way to ensure that I will regard your homework as 'neat' is to typeset it with LaTeX. There are links to online tutorials and other information for LaTeX at:

<http://www.tex.ac.uk/cgi-bin/texfaq2html?label=man-latex>

or at

<http://www.math.hmc.edu/computing/support/tex/online/>

Additional information about LaTeX (including introductions to its use) can be found at websites obtained by typing 'LaTeX tutorial' into a search engine. I have also posted on the course website, the LaTeX file I used for typesetting one of last term's homework answers and instructions on how to process the file to end up with a typeset pdf document. There are also good books about LaTeX; especially recommended are books by Leslie Lamport. You do not have to use LaTeX, but if you turn in hand-written work, it will be up to me to decide whether it is 'neat' and therefore whether I will grade it. Whether you typeset your homework or not, the new requirement will likely require you spend extra time on your homework and you should take this into account in planning when to do your work.

The main reason for this change is that it is important that you learn to organize your mathematical thoughts and to present them clearly. Knowing LaTeX will be very useful when you begin to writeup research projects and results either for papers or for oral presentations or posters.

ADA Statement The Americans with Disabilities Act requires that reasonable accommodations be provided for students with physical, sensory, cognitive, systemic, learning and psychiatric disabilities. Please contact me at the beginning of the quarter to discuss any such accommodations for the course.