MATH446/OR481 Syllabus

Instructor: Tyrus Berry

Office: 4452 Exploratory Hall

Hours: Tuesdays 12:00pm-1:30pm, Wednesdays 10:30am-12:00pm

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LA: Aneesh Malhotra

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LA Hours: Mondays 1:30pm-4:30pm in Fenwick (room posted to blackboard Mondays),

Thursdays 12:00pm-1:00pm in LA offices, 4th floor of Exploratory

Prerequisites: MATH 203 and CS 112

Text: *Numerical Analysis*, by T. Sauer, SECOND EDITION, Pearson 2012

Text Website: Useful Matlab files are available at http://wps.aw.com/aw_sauer_numerical_2/

Grading: Two exams and a final exam will account for 60% of the final grade; the remainder will depend on homework projects to be submitted to Blackboard.

Course Goals: Design and implementation of algorithms for the solution of scientific and engineering problems. Emphasis will be placed on the written and graphical presentation of solutions.

Course Content: The course will cover the following topics

- Floating point arithmetic
- The solution of nonlinear equations in one variable
- The solution of systems of linear equations
- The solution of nonlinear systems
- Interpolation and polynomial approximation
- Curve-fitting; cubic and Bezier splines
- Least squares problems