

Math 458

Fall 2004

Course description

Course: Numerical Methods, 50492
Text: 'Introduction to Scientific Computing' (2nd ed.)
by C.F. Van Loan, Prentice, 1999
Instructor: Dr.W.Proskurowski
<http://math.usc.edu/~proskuro/teaching/math458>
Lecture: KAP 134, MWF 10-11
Office: DRB 220, Hours: MWF 2-3

Course Outline

Topic	Chapter	Section	No. of lectures
Tools of the trade	1	1-5	4
Polynomial interpolation	2	1-4	4
Piecewise polynomial interpolation	3	1-3	4
Numerical integration	4	1-4	4
Matrix computations	5	1-4	4
Linear systems	6	1-4	4
QR and Cholesky factorizations	7	1-4	4
Nonlinear equations	8	1-4	5
Initial value problem	9	1-3	4

Homework, quizzes and exams

There will be frequent homework, mostly computer homework in Matlab. There will be a quiz after the end of every third Chapter and a final exam (date according to the schedule of classes: Monday, December 13, 8:00-10:00). *There will be no make up quizzes.*

Grading

The distribution of points towards the final grade is:

Quizzes	30%
Homework	40%
Project	10%
Final exam	20%

The approximate range to pass the course with an A is $> 80\%$, B is 65% to 80%, C is 50% to 65%.