Cs/Ma 321 - 001 Numerical Methods – Fall 1997

Time and Place: 11-11:50 am MWF. CB 337.

Teacher: Carl Eberhart, 756 POT, 257-1258, carl@ms.uky.edu

Office Hours: 1-3 MWF, or by appointment. Or use email.

Textbook: Numerical Mathematics and Computing, by Ward Cheney and David Kincaid, Third Edition, Brooks/Cole Publishing Co.

Brief Syllabus: Numerical Methods are a lot more fun to study now than 20 years ago . Tools such as Maple are available which make it possible to test out an idea for a numerical method very quickly and easily. For this reason too, more numerical methods are incorporated into first and second year math courses, so the subject is a little bit familiar. In this course, we will extend our knowledge of numerical methods significantly, by studying algorithms in numerical differentiation, root finding, quadrature, interpolation with polynomials and splines, least squares approximation, and if time permits, some numerical methods in differential equations.

Homework: To be successful in this course, you will find it necessary to read and work problems outside of class on a regular basis. Homework assignments will be discussed in class and taken up periodically for marking. (20 % of grade)

Projects: There will be two Maple projects during the semester. These will be prepared on Maple worksheets which you will email to me. (20% of grade)

Exams: We will have two midterms (15 % each) and a final (30 %).

Grades: Your homework, project, and exam grades will be converted to a percentage P and an overall grade assigned as follows: $90 \leq P$ A, $80 \leq P < 90$ B, $70 \leq P < 80$ C, $60 \leq P < 70$ D, $P < 60$ E.

Calendar

$$\begin{bmatrix}
Aug & & 27\ W & 29 & & & & \\
Sept & & 3\ W & 5 & 8 & 10 & 12 & \\
 & 15 & 17 & 19 & 22 & 24 & 26 & Exam\ 1\ 9/26 \\
 & 29 & & & & & & \\
Oct & & 1\ W & 3 & 6 & 8 & 10 & Proj\ 1\ 10/3 \\
 & 13 & 15 & 17 & 20 & 22 & 24 & \\
 & 27 & 29 & 31 & & & & Exam\ 2\ 10/31 \\
Nov & 3\ M & 5 & 7 & 10 & 12 & 14 & \\
 & 17 & 19 & 21 & 24 & 26 & & Proj\ 2\ 11/24 \\
Dec & 1\ M & 3 & 5 & 8 & 10 & 12 & Final\ 12/?
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