California State University, Long Beach
Department of Mathematics and Statistics

Syllabus for the Numerical Analysis Comprehensive Examination

1. Topics

   (a) Numerical solution of ordinary differential equations

   (b) Numerical integration

   (c) Numerical solution of a nonlinear equation in one unknown

   (d) Numerical solution of systems of equations

   (e) Interpolation and approximation

2. References

   (a) *An Introduction to Numerical Analysis*, Kendal Atkinson, Wiley, 1978, Ch. 2–8. (QA 297 A84)

   (b) *Numerical Methods*, Germund Dahlquist and Ake Bjorck, Prentice-Hall, 1974, Ch. 4–8. (QA 297 D3313 1974)

   (c) *Analysis of Numerical Methods*, Eugene Isaacson and Herbert B. Keller, Wiley, 1966. Ch. 2, 3, 5–8. (QA 297 18)

   (d) *A First Course in Numerical Analysis*, 2nd Ed., Anthony Ralston and Philip Rabinowitz, McGraw-Hill, 1978, Ch. 3–9. (QA 297 R3 1978)

   (e) *Introduction to Numerical Analysis*, J. Stoer and R. Bulirsch, Springer-Verlag, 1980, Ch. 2–5, 7, 8. (QA 297 S8213)

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