

METU
FACULTY OF ENGINEERING
Department of Engineering Sciences

Course Code and Title: ES 510 Numerical Solution of Ordinary Differential Equations
(3-0) 3

References:

- Rao, S. S., Applied Numerical Methods for Engineers and Scientists, Prentice-Hall, 2002
 - Chapra, S. C. and Canale, R. P., Numerical Methods for Engineers, McGraw-Hill, 5th Ed., 2006
 - Chapra, S. C., Applied Numerical Methods with MATLAB for Engineers and Scientists, McGraw-Hill, 2005.
 - Moler C. B. , Numerical Computing with MATLAB, SIAM, 2004
 - Cheney, W. and Kincaid, D., Numerical Methods and Computing, Brooks – Cole, 1999.
 - Nakamura, S., Applied Numerical Methods in C, Prentice-Hall, 1993.
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Course Outline*

1. Introduction to numerical computing, approximations, errors.
2. Methods of solving system of linear equations
3. Methods of solving system of nonlinear equations
4. Approximation of functions and interpolation:
5. Numerical solution of ordinary differential equations:

* Details are pending

Computer Usage: Students are required to use MATLAB software to solve assigned homework problems.
