

King Saud University Mathematics Department
MATH-254 (NUMERICAL METHODS) Second Semester (1438-39 H)
TEXTBOOK: Introduction to Numerical Analysis using MATLAB
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Note: The Contents of the course will be covered by the following sections:

CHAPTER 1: 1.2,1.3.

CHAPTER 2: 2.1,2.2,2.3,2.4,2.5,2.6,2.7,2.8.

CHAPTER 3: 3.1,3.2,3.3,3.4,3.5,3.6,3.7.

CHAPTER 4: 4.1,4.2,4.3.

CHAPTER 5: 5.1,5.2,5.3,5.5,5.6.

CHAPTER 6: 6.1,6.2,6.3,6.4.

Theorems and Lemmas without Proofs:

Theorems 2.1,2.2,3.1,3.2,3.7,3.8,3.14,3.18,3.20,3.21,3.22,4.1,4.2,4.3,4.4,5.1,5.2,5.3,5.4,5.5,6.1.

Lemmas 2.1,2.2,2.3,2.4.

Note: About the 10 Marks we do as follows:

Two Quizzes (3+3) + Computer Assignments (2) + Class Attendance (2).

Note: Quizzes, Computer Assignments and Class Attendance should be taken in the tutorial classes.

NAMES OF CHAPTERS OF THE COURSE

Chapter 1: Introduction to Numerical Methods.

Chapter 2: Solution of Nonlinear Equations.

Chapter 3: Systems of Linear Algebraic Equations.

Chapter 4: Polynomial Interpolation and Approximation.

Chapter 5: Numerical Differentiation and Numerical Integration.

Chapter 6: Numerical Solution of Ordinary Differential Equations.

Computer Assignment: Write computer program of the following method.

Simple Gauss-Elimination method for Linear Systems. (Chapter 3).

Dates of Midterm and Final Examinations will be take place as follows:

First Mterm: (25 Marks)Wednesday: 26-6-1439(14-3-2018) Time:7:00-8:30 PM.

Second Mterm: (25 Marks)Wednesday: 25-7-1439(11-4-2017) Time:7:00-8:30 PM.

Final Exam: (40 Marks)Monday: 21-08-1439(07-05-2018) Time:1:00-4:00 PM.

<http://faculty.ksu.edu.sa/rizwanbutt/default.aspx>