

**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.

**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:** 5.1,5.2,5.3,5.4,5.5.

**CHAPTER 6:** 6.1,6.2,6.3.

**Theorems, Lemmas and Notes:**

Theorems 2.1-2.6,3.1-3.20,4.1-4.6,5.1-5.5,6.1-6.2.

Lemmas 2.1,2.2,2.3,2.4.

Notes 2.1,2.2,2.3,2.4.

**Note:** About the **10 Tutorial Marks** we do as follows:

**Homework Assignments (2) + Computer Assignment (2) + quiz (6).**

**Note:** Homework, Computer Assignments and quiz 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. (3 weeks (10 hours))

**Chapter 3:** Systems of Linear Algebraic Equations. (3 weeks (10 hours))

**Chapter 4:** Polynomial Interpolation and Approximation. (2 weeks (7 hours))

**Chapter 5:** Numerical Differentiation and Numerical Integration. (2 weeks (7 hours))

**Chapter 6:** Numerical Solution of Ordinary Differential Equations. (1 week (4 hours))

**Computer Assignment:** Write computer program of the following method.

**Newton's Method for Nonlinear Equations. (Chapter 2).**

**First Quiz:** (10 Marks) Sunday(Monday): 22(23)-02-1444(18(19)-09-22)(Chapter 2) Time: 35 Minutes (Lecture time).

**Second Quiz:** (10 Marks) Sunday(Monday): 27(28)-03-1444(23(24)-10-22)(Chapter 3) Time: 35 Minutes (Lecture time).

**Midterm:** (30 Marks) Wednesday: 23-03-1444(19-10-22) Time: 7:00-9:00 PM.

**Final Exam:** (40 Marks) Thursday: 30-04-1444(24-11-22) Time: 1:00 - 4:00 PM.

<https://fac.ksu.edu.sa/rizwanbu>