King Saud University   Mathematics Department
Math-254 (NUMERICAL METHODS) Second Semester (1442 H)
TEXTBOOK: Introduction to Numerical Analysis using MATLAB
AUTHOR: Rizwan Butt

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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.
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. (4 weeks (12 hours))
Chapter 3:   Systems of Linear Algebraic Equations. (4 weeks (12 hours))
Chapter 4:   Polynomial Interpolation and Approximation. (3 weeks (9 hours))
Chapter 5:   Numerical Differentiation and Numerical Integration. (3 weeks (9 hours))
Chapter 6:   Numerical Solution of Ordinary Differential Equations. (1week (3 hours))

Computer Assignment: Write computer program of the following method.
LU-Decomposition Method (Dollittle's Method) for Linear System of Equations.
(Chapter 3).

First Short Test: (10 Marks)Tuesday: 11-07-1442(23-02-21)   Time:8:0-9:00 PM.
Second Short Test: (10 Marks)   **In Thirteen week**
Only One Midterm: (30 Marks)Tuesday: 10-08-1442(23-03-21)   Time:7:0-9:00 PM.
Final Exam: (40 Marks)Monday: 14-09-1442(26-04-21)   Time:1:0 - 4:00 PM.

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