

Department of Mathematics and Statistics

MTH308 Numerical Analysis and Scientific Computing I 3-0-1-0 [10]

Course Contents

- Introduction to scientific computing
- Systems of linear equations
- Nonlinear equations
- Eigenvalue problems
- Approximation and interpolation
- Numerical differentiation and integration

Instructor: S Ghorai email: sghorai@iitk.ac.in

Classroom: L16-MW, L5-T

LAB: CC-02 Linux Lab, 301

TIME: Lecture: MW 09:00 T 17:10 Lab: F 09:00

Course Organization:

All Notices for the course will be sent by email to the course email MTH308B@iitk.ac.in. Laboratory materials will be posted in <http://home.iitk.ac.in/~sghorai/TEACHING/MTH308B.html>

Exams and quizzes: There will be two quizzes, one mid-semester and an end-semester examinations.

Grading policy: Quiz-15%, Lab assignments*-10%, Midsem-30%, Endsem-45%

Appearance in the end-semester examination is mandatory.

Attendance: Attendance will be taken in the classes. Students are expected to attend all the classes.

References:

- Scientific Computing - An Introductory Survey, Michael Heath
- An Introduction to Numerical Analysis, Kendall E. Atkinson
- Elementary Numerical Analysis: An Algorithmic Approach, S. D. Conte & C. de Boor
- Introduction to Numerical Analysis, J. Stoer, R. Bulirsch

** Students are expected to complete all the assignments as far as possible. During Lab hours, you must show your lab work to one of the TAs who will check the accuracy of the code and output. You should write the code by yourself but you may take help from others about the algorithm. For each lab assignment, make a separate folder (e.g. LAB1 for the first assignment) which will contain only the concerned files related to the lab.*