

Tentative Syllabus

1. Errors and Precision
2. Interpolation and Curve fitting
3. Numerical differentiation and integration
4. Solution to equations with one variable and one solution
5. Solution to a system of linear equations
6. Numerical solution to differential equations
 - a. Discretization
 - b. Linearization
 - c. Formation of system of linear equations

Grading Policy

1. 10 % Attendance – Randomly taken
2. 20 % Final Exam – Open formula sheet
3. 40 % Hackathons
4. 30 % Group Project – in groups of 5.
5. The project topics will be announced after the course drop date ends to avoid logistical problems

Textbooks

1. Advanced Engineering Mathematics Erwin Kreyszig
2. Numerical Methods for Engineers by Raymond Canale and Steven C. Chapra

You can pick up any textbook/reference material on computational physics and it will contain all the topics that we will discuss in the class