



Scientific Computing

A company incubated at IITM Incubation Cell



About Scientific Computing:

- Scientific Computing is the collection of tools & techniques required to solve mathematical models of problems in Science and Engineering, using computer.
- This set of mathematical theories and techniques is called Numerical Analysis, and constitutes a major part of Scientific Computing.
- These tools are now integral part of engineering analysis and research.



Course Details:

Duration: 36 hours & Project

Schedule: Sunday (10:00 am - 5:00 pm)

Starting Date: 5th February 2017

Venue: Udvavisk Technologies Pvt. Ltd, Velachery, Chennai



Modules:

- Introduction to Scientific Computing
- Modelling , Computers and Error analysis
- Roots of Equations
- System of linear algebraic equation
- Curve fitting and interpolation
- Numerical differentiation and integration
- Ordinary differential equations
- Partial differential equations

Areas of Applications:

All the above numerical techniques will be used to solve equations from the following application areas.

- Applied Mechanics & Thermodynamics
- Fluid Flow & Aerodynamics
- Heat and Mass transfer
- Material Modelling
- System dynamics and Vibration

Programming Tools:

The following programming tools will be used for solving the various equations using numerical algorithms.

- Python
- NumPy
- SciPy
- Sage Mathematics
- Octave/ Scilab



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