

- Numerical representation and round-off error
 - signed integers (32-bit)
 - o floating point IEEE 754 standard
 - 32-bit, 64-bit.
 - k-digit chopping.
 - k-digit rounding.
- Error Analysis
 - o absolute error, relative error.
 - \circ $\;$ number of significant digits.
- Analysis of algorithms
 - Definition of algorithms
 - \circ Big Oh and Little Oh notation O(f(n)), o(g(n).
 - Rate of convergence.
- Equations of one variable
 - existence of solution to problem f(p) = 0.
 - bisection method
 - conditions for convergence
 - rate of convergence
 - different types of stopping criteria
 - o fixed-point iteration
 - conditions for convergence
 - rate of convergence
 - stable and unstable fixed points
 - Newton's method
 - o Error Analysis
 - Rates of Convergence.
- Interpolation Methods
 - Interpolation and Data Approximation
 - Lagrange Polynomial Interpolation
 - Neville's Method