NUMERICAL ANALYSIS I: 16 weeks Syllabus

Week	Topics
1	Introduction, Errors
2	Taylor's Theorm, Floating Point Representations
3	Loss of Significance, Nonlinear Equations Solver I
4	Nonlinear Equations Solver II, Project #1
5	Polynomial Interpolation, Divided Differences
6	Errors in Polynomial Interpolation
7	Numerical Differentiation, Project #2
8	**Mid-term Exam.**
9	Numerical Integration: Romberg Algorithm, Simpson's Rule
10	Numerical Integration: Gaussian Quadrature
11	Linear System Solver: GE/LU Factorization, Pivoting
12	Matrix Norm, Condition Number, Sensitivity of LE
13	Tridiagonal and Banded LE Solver, Project #3
14	Classical Iterative LE Solver I
15	Classical Iterative LE Solver II
16	**Final Exam.**