

CAM - Calculus & Matrices

28/01/2025 - Lecture 1

- Course Code - MAS1001
- 4 parts -> 1 for calculus and 1 for matrices
- In calculus, there are **three parts**, Integral Calculus, Differential Calculus, Vector Calculus

(i) Differential Calculus

- Curvature
- Asymptotes
- Partial Differentiation
- Total Derivatives / Ordinary Derivative
- Taylor's Theorem
- Maxima and Minima

(ii) Integral Calculus

- Double and Triple integrals (Multiple integrals)
- Change of order of integration
- Change of variables
- Application of multiple integrals

(iii) Vector Calculus

- Differentiation of vectors & their physical meaning
- Line and Surface integrals

(iv) Matrix Algebra

- Rank
- Inverse of the matrices
- Solution of linear simultaneous equation
- Eigen values and Eigen vectors of a matrix
- Caley - Hamilton theorem