

**School of Undergraduate Studies**

**Ambedkar University Delhi**

**Course Outline**

**Time Slot-**\_\_\_\_\_

**Course Code:** SUS1EC107

**Title:** Mathematical Methods for Economics

**Type of Course:** Discipline (Economics)

**Cohort for which it is compulsory:** BA Honours Economics

**Cohort for which it is elective:** All other Majors

**No of Credits:** 4

**Semester and Year Offered:** IV

**Course Coordinator and Team:** TBA

**Email of course coordinator:**

**Pre-requisites:** Microeconomics II

**Aim:** This course shall provide a basic training to students in the mathematical techniques commonly used in economic analysis along with some of their applications.

**Brief description of modules/ Main modules:**

Review of Sets, Logic and Methods of Proof.

Review of two and three dimensional coordinate systems.

Linear Algebra: Systems of linear equations, matrices and determinants, vector spaces and vector operations.

The calculus of one variable: limit and continuity in functions; derivatives; analysis of curves; local and global optimization; ordinary differential equations; indefinite and definite integrals; polynomial approximations and Taylor series.

Multivariable calculus: partial differentiation and total differentials; tangent planes and linear approximations; constrained and unconstrained optimization; convex functions and sets.

**Assessment Details with weights:**

**Reading List:**

Alpha C. Chiang and Kevin Wainwright – Fundamental Methods of Mathematical Economics, 4<sup>th</sup> Edition, McGraw-Hill, 2005.

Carl P. Simon and Lawrence P. Blume - Mathematics for Economists, W.W. Norton, 1994.

**ADDITIONAL REFERENCE:**