Indian Institute of Management Indore

सिद्धिमूलं प्रबन्धनम्
भा. प्र. सं. इन्दौर
IIM INDORE

INTEGRATED PROGRAMME IN MANAGEMENT (IPM)
TERM: VII

TITLE OF THE COURSE: STOCHASTIC PROCESSES-I
CREDITS: 4

COURSE DESCRIPTION

This course aims to introduce stochastic calculus using the Brownian motion to interested students. The course will comprise of motivation and definition of Brownian motion, its properties and Ito calculus based on it. It will be very useful for the students who want to understand underlying mathematical principles and applications of asset pricing. The knowledge of calculus, probability theory and linear algebra is a pre-requisite. The extent of coverage of the outline will depend on the pace of appreciation of the rigor imparted by the Instructors.

This course will form as a background for an advance course in Option pricing. It is recommended to interested students who wish to study finance and its mathematical aspects.

COURSE OBJECTIVES

1) Introduction to stochastic calculus.

2) In-depth treatment of Brownian motion and its calculus in perspective of its application in finance.

3) Ito integral using Brownian motion.

4) Black-Scholes-Merton equation.

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