Ambedkar University Delhi

Course Outline

Monsoon Semester (July-December 2017)

School: Undergraduate Studies

Programme with title: BA (Honours)

Semester to which offered: (I/ III/ V) V semester

Course Title: Mathematical Finance

Credits: 4 Credits

Course Code (new): SUS1MA536

Course Code (old): M14(v)

Type of Course:	Compulsory	No	Cohort	BA (H) Mathematics
	Elective	yes	Cohort	BA (H) All program

For SUS only (Mark an X for as many as appropriate):

1. Foundation (Compulsory)
2. Foundation (Elective)
3. Discipline (Compulsory)
4. Discipline (Elective)   X
5. Elective   X

Course Coordinator and Team: Balchand Prajapati (CC) and Y (Adjunct Faculty)

Email of course coordinator: balchand@aud.ac.in

Pre-requisites: Mathematics of the 10 + 2 level

Aim: The main motive of this course is to give students a basic introduction to finance and the applications of mathematics to it. In the digital era with algorithmic trading and mathematical modeling being used to understand stock market behavior and understand large dynamic data, this introductory course in Mathematical finance is well placed to prepare students interested in understanding and choosing a career in the world of mathematical finance.

Brief description of modules/ Main modules:

1. Basic Concepts of Mathematical Finance,

2. Deterministic Cash Flows,

3. Random Cash Flows ,

4. Forwards and Futures,

5. Stock Price Models,

6. Options,

7. The Black-Scholes Model.

Refererences:

Main References:

1. The Calculus of Finance by Amber Habib, Universities Press, 2011.

2. Investment Science by David Luenberger, Oxford University Press (Indian Edition), 1997.

Additional References:

1. An Elementary Introduction to Mathematical Finance 2nd edition by Sheldon Ross, Cambridge

University Press (Indian Edition), 2005.

2. Mathematics for Finance by M Capinski and T Zastawniak, Springer (International Edition), 2003.

3. Mathematics for economics and finance, Methods and Modelling, Martin Anthony and Norman Biggs, Cambridge University Press, 2012.

Tentative Assessment schedule with details of weightage:

S.No	Assessment	Date/period in which Assessment will take place	Weightage
1	Class test	End August	10%
2	Mid Semester Exam	End September/ early October	25%
3	Tut/ Home Assignments	Throughout the semester	15%
4	Lab Test/Presentation/ Viva	End October/ early November	15%
5	End Semester Exam	As per AUD Academic Calendar	35%