Derivative Pricing

Overview

Financial Mathematics continues a rich engineering tradition whereby the strengths of the faculty in research, education and leadership are applied to expand knowledge and apply new knowledge for the benefit of humanity by addressing the complex problems of modern society. Understanding and navigating today's rapidly evolving world-wide economic and financial landscape presents one of society's most challenging modern problems. A derivative is a security with a price that is dependent upon or derived from one or more underlying assets. The derivative itself is a contract between two or more parties based upon the asset(s). Its value is determined by fluctuations in the underlying asset(s) which include stocks, bonds, commodities, interest rates and market. This course will provide more general ideas and in-depth introduction on several advanced topics in Financial Mathematics and computing.

The objectives of the course are:

i) To bring closer to the students vast applications of Financial Mathematics to modern methods for analysis.
ii) To provide an introduction to the financial derivatives using sophisticated analytical and computational tools.
iii) To expose the participants to different option pricing models, their valuations and related portfolio optimization.
iv) To learn some simulation techniques.

Participants will gain some advance knowledge on these topics through lectures and tutorials with hands-on experiments. Also case studies and assignments will be shared to stimulate research motivation of participants.

Course Schedule	**April 24-30, 2019** **Number of participants for the course will be limited to fifty.**
You Should Attend If…	▪ You are a Ph.D. scholar or a student have enrolled for one of the following degree programme: MBA/BBA/M.Com/B.Com/MA/BA/M.Tech/B.Tech/MSc/BSc. ▪ You are an executive/business analyst/financial analyst/banker/scientist/faculty member Some quantitative background in Mathematics or Statistics or Economics may be an advantage.
Fees	**One-time GIAN Registration:** Please visit http://www.gian.iitkgp.ac.in/GREGN/index and register by paying **Rs 500/-** (those who have already been paid for any GIAN course, need not pay again). The participation fees for taking the course is as follows: **Participants from abroad:** **US $ 125** **Industry/Research Organizations:** **Rs. 2000** **Academic Institutions:** **a) Faculty:** **Rs. 2000** **b) Ph.D. Scholar:** **Rs. 1500** **c) UG/PG Student:** **Rs. 1000** The above fees include all instructional materials, use of computer facilities for tutorials and assignments, 24 hour free internet facility. The participants will be provided accommodation on payment basis.

The Faculty

Dr. Kailash C. Patidar is currently working as a Senior Professor and Head of the Department of Mathematics, University of the Western Cape, South Africa. He received his PhD (Mathematics) in 2002 from Indian Institute of Technology (IIT) Kanpur, India. He visited universities of Tuebingen (Germany) and Pretoria (South Africa) for his post-doctoral studies. He received a C2 Rating (established researcher) from the South African National Research Foundation for the period 2010-2015 and again for 2016-2021. His research involves mathematical methods and scientific computing for application problems that arise from the interactions between natural and life sciences as well as those from the engineering domain. He has published a number of research papers in journals of international repute. He is a reviewer of several peer reviewed journals. Some of his important research publications in the field of computational finance are listed on https://www.uwc.ac.za/Biography/Pages/01Prof.-Kailash-Patidar.aspx

Dr. Gajendra K. Vishwakarma is currently working as an Assistant Professor in the Department of Applied Mathematics, Indian Institute of Technology (Indian School of Mines) Dhanbad, India. He obtained his PhD (Statistics) in 2007 from Vikram University Ujjain, India. He worked in both theoretical as well as applied statistics and has got several years of academic and industrial research experience. Further details about his academic and research credentials can be seen on https://www.iitism.ac.in/index.php/Faculty_members

Course registration fee can be paid either by NEFT (Account holder name: The Registrar, Indian Institute of Technology (ISM) Dhanbad: Account No.0986101009746; IFSC Code: CNRB0000986; Bank: CANARA BANK; Branch Name: Saraidhela Dhanbad) or by sending a demand draft in favour of "Registrar, IIT(ISM) Dhanbad" payable at Dhanbad – 826004 on or before April 15, 2019. The registration fee is non-refundable. For further clarification, please contact the course co-ordinator.

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Course ID: 171058K02

Number of Credits: 02

Course Co-ordinator

Dr. Gajendra K. Vishwakarma
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http://www.iitism.ac.in
http://www.gian.iitkgp.ac.in

REGISTRATION FORM

GIAN COURSE: Derivative Pricing [Course ID: 171058K02]

(April 24-30, 2019)

1. **GIAN Portal Application Number:** _____
2. **Full Name:** _____
3. **Category (Industry/Academic/Student):** _____
4. **Organization:** _____
5. **Address:** _____

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   _____
6. **E-mail ID:** _____
7. **Mobile No.:** _____
8. **Name of the Degree Programme:** _____
9. **Fee Detail:** Payable to "Registrar, IIT(ISM) Dhanbad", CANARA BANK , Saraidhela, Dhanbad

   i) Transaction No. (e-transfer/RTGS/NEFT):_____Date:_____Amount:_____

   ii) Demand Draft No. (If paid by Demand Draft): _____Date:_____Amount:_____
10. **Accommodation Required:** Yes/No: _____

Place :_____

Date : _____ **Signature of the Applicant:** _____

Welcome to

Department of Applied Mathematics, Indian Institute of Technology (ISM) Dhanbad, India