

consumer behaviour, marketing mix management, marketing planning, strategic planning and development of business plans. It adopts a case study approach to relate students with the real world situation.

MFFM 7010 Topics in Probability Theory and Stochastic Processes (3,3,0)

Topics from conditional expectations, Markov chains, Markov processes, Brownian motion, and martingales, and their applications to stochastic calculus.

MFFM 7020 Derivatives I (3,3,0) (E)

An introduction to the theory and practice of pricing and hedging of derivative securities. Coverage of equity and index, foreign currency, commodity, and interest-rate derivatives. Basic mathematical concepts and the institutional structure of derivative markets are discussed.

MFFM 7030 Computational Finance (3,3,0)

Basic numerical methods, (floating-point arithmetic, numerical linear algebra, solutions of non-linear equations, interpolation, curve fitting, splines, differentiation, integration, Monte-Carlo methods, ordinary differential equations) numerical solutions of PDEs (finite-difference methods for parabolic PDEs, stability, convergence, applications to Black-Scholes equations, free-boundary problems, applications to pricing American options) and probabilistic methods (random variables, generation, Monte-Carlo simulation, binomial tree models, stochastic differential equations).

MFFM 7040 Time Series Analysis (3,3,0)

Covers various kinds of time series models, including ARIMA, GARCH, unit roots and co-integration, and vector autoregressive models. Students will gain hands-on experience with all models learned in this course.

MFFM 7050 Mathematical Finance (3,3,0)

Topics from replication of trading strategies, arbitrage, completeness, martingale representation theorem, fundamental theorem of finance, stochastic differential equations, and Black-Scholes formula of option pricing.

MFFM 7060 Derivatives II (3,3,0)

Coverage of exotic options, discrete and continuous pricing models, and pricing techniques. Develops the economic foundations of the theory of derivatives and a mathematical toolkit to analyse standard instruments and “dissect” exotic ones.

MFFM 7070 Quantitative Methods (3,3,0) (E)

Statistical concepts and simulation methods are introduced. Use statistics and simulation software as a computational aid to carry out the computation. The students will learn how to organize and analyse data with the guidance of statistical concepts and methods. This module also introduces the ideas on how to choose appropriate statistical and simulation methods to deal with the finance problems of interest.

MFFM 7080 Fixed Income Markets (3,3,0) (E)

Provides a quantitative approach to fixed income instrument use. Covers the mathematics of bond pricing, term structure analysis, and pricing of credit risk. Trees and Monte Carlo methods of valuation are presented.

MFFM 7090 Foundations of Finance (3,3,0) (E)

Study of financial decision-making processes within a firm. Emphasis on applications and strategic planning in investment, financing, dividend, and working capital decisions. The course also covers market microstructure, including participants, exchange structure, trading platforms, and liquidity and volatility issues related to exchange and off-exchange trading.

MFFM 7100 Risk Management (3,3,0) (E)

Risk managers have to determine which risk a firm is exposed to, and must choose which risk to keep, which to shed, and which to hedge. The emphasis of this course is on state-of-the-art risk management practices. This course will introduce the different risk sources which are quantified and managed by financial institutions. Topics covered will include market risk, credit risk and operational risk. Special attention is also paid to the various products in the financial markets with emphasis on their valuations and models. The course will also cover some case studies that help to understand the financial crisis.

MFFM 7110 Financial Data Modelling (3,3,0) (E)

Study of financial tools in swaps and volatility trading using nonlinear instruments and engineering convexity. The course also covers event correlation and correlation trading strategies.

MFFM 7120 Corporate Finance (3,3,0) (E)

The course provides an introduction to security analysis and portfolio management. The focus is placed on the financial theory and analytical tools for making investment decisions. The course covers a broad range of topics including the financial markets and instruments, portfolio theory and asset allocation, the capital asset pricing model, multifactor pricing model and their applications, market efficiency and behavioural finance, stock valuation techniques, performance evaluation and portfolio management.

MFFM 7130 Legal, Regulatory and Ethical Aspects of Financial Engineering (3,3,0) (E)

Coverage of the legal, regulatory and compliance aspects of derivative use and the current legal standing of derivatives and regulatory issues associated with derivatives. The issues of risk measurement, risk oversight, and transparency of derivatives markets and disclosure issues are covered.

MGNT 7080 Managing People in the Public Sector (3,3,0)

Public personnel management is widely recognized as a critical element of democratic society and effective public administration of a given city. Today, government and non-profit organizations are confronted with tighter budgets with limited funding and keener competition in the labour market. Recent changes in information technology, communication patterns, social issues, and demographic compositions have resulted in an increasingly use of privatization of some services such as outsourcing, franchise agreements, vouchers, and contracting. This course introduces to students, in addition to all relevant HRM issues and functions, major organizational behaviour theories and concepts.

MGNT 7090 Strategic Management and Business Policy (3,3,0)

Strategic Management is a big picture course that builds upon diverse business fields such as management, economics, marketing, finance, and accounting, among others. This course deals with an organization's overall postures from both inside and outside. It provides students with an integrative learning experience by applying what they have learned in their separate functional courses. The purpose is to help students develop strategic management knowledge and skills, gain experience in using the tools for strategic analysis, and apply the concepts to the real world situation. The case analysis is used extensively, and the focus is on how media companies and obtain a sustainable competitive advantage.

MGNT 7110 Board Structure, Process and Leadership (4,4,0) (E)

Company directors perform two major functions. The first is to make strategic decisions, such as setting their firm's long-term strategy and making investment and finance decisions. The second is the monitoring function, such as appointment of