



Masters

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CUHK Business School
Master's Programs

Study Plan
and
Course Catalog
2024-25

Master of Accountancy (MAcc)

Study Plan:

Year 1	
Term 1	3-4 required courses
	1-2 elective courses
Term 2	3-4 required courses
	1-2 elective courses
Term 3	3-4 elective courses
Summer Term	Optional / 1-2 elective courses

Course List:

*please click the course code to view the course description

Required courses (21 units):		Unit
ACCT5110	Advanced Financial Accounting and Reporting	3
ACCT5120	Cost and Management Accounting	3
ACCT5130	Auditing and Professional Practice	3
ACCT5140	Introductory Accounting Data Analytics	3
ACCT5150	Business and Company Law	3
ACCT5160	Taxation and Tax Planning	3
FINA5010	Financial Management	3
Elective courses (any 15 units of courses from the following):		
ACCT6001	Accounting Field Study	3
ACCT6040	Python Essentials for Accounting Analytics	3
ACCT6110	Financial Accounting Theory	3
ACCT6111	Business Valuation and Analysis	3
ACCT6112	Comparative Financial Reporting	3
ACCT6120	Management Control Systems	3
ACCT6121	Advances in Strategic Management Accounting	3
ACCT6130	Assurance Services and Information Technology	3
ACCT6131	Fraud Examination and Forensic Investigation	3
ACCT6140	Accounting Information Systems and Internal Control	3
ACCT6141 #	Accounting Data Analytics and Business Intelligence	3
ACCT6142	Predictive Analysis in Accounting and Quantamental Investing	3
ACCT6143	Blockchain Technology and the Future of Accounting Industry	3
ACCT6160	Taxation in China	3
ACCT6161	International Taxation Planning and Management	3
ACCT6170	Corporate Governance: A Global Perspective	3
ACCT6171	Applied Corporate Governance for Capital Markets	3
ACCT6173	ESG and Accounting	3
ACCT6180	Accounting and Management Planning for Enterprises	3
ACCT6181	Financial Instruments and Hedge Accounting	3
ACCT6199	Independent Study in Accounting	3
FINA6122	Financial Markets and Instruments	3
Total:		36

Compulsory course for Accounting Analytics concentration.

MSc in Business Analytics (MSc BA)

Study Plan:

Year 1	
Term 1	2 required courses
	1-2 elective courses
Term 2	2 required courses
	1-2 elective courses
Term 3	1 required courses
	1-2 elective courses
Summer Term	Optional / 1 elective course

Course List:

*please click the course code to view the course description

Required courses (15 units):		Unit
DOTE5110	Statistical Analysis	3
DOTE6620	Decision Models and Applications	3
DOTE6650	Data Mining for Managers	3
DOTE6652	Risk and Operations Analytics	3
DOTE6756	Business Intelligence Techniques and Applications	3
Elective courses (any 15 units of courses from the following):		
DOTE5210	Strategic Information Systems	3
DOTE6100	Managing Service Operations	3
DOTE6651	Economic Analytics	3
DOTE6653	Web Analytics and Intelligence	3
DOTE6654	Business Process Analysis and Simulation	3
DOTE6680	Selected Topics of Information and Technology Management	3
DOTE6682	Fintech and Its Applications	3
DOTE6688	Technology Startup-From Idea to Reality	3
DOTE6690	Selected Topics of Business Analytics	3
DOTE6696	Advanced Business Analytics Practicum	3
DOTE6697	Data Visualization and Business Communication	3
DOTE6698	Artificial Intelligence for Business	3
DOTE6720	Business Forecasting	3
DOTE6730	Project Management	3
DOTE6751	Database and Big Data Management	3
DOTE6790	Technology Field Study	3
DOTE6930	Supply Chain and Logistics Management	3
MKTG6027	Marketing Engineering	3
Total:		30

MSc in Finance (MSc FIN)

Study Plan:

Year 1	
Term 1	3 required courses
	3 credits of elective
Term 2	3 required courses
	3 credits of elective
Term 3	2 required course
	9 credits of elective
Summer Term	Optional / 1 elective course

Course List:

*please click the course code to view the course description

Required courses (24 units):		Unit
ACCT5111	Corporate Financial Reporting	3
FINA6092	Advanced Financial Management	3
FINA6112	Investment and Portfolio Analysis	3
FINA6132	Derivatives Markets	3
FINA6203	Python in Finance	3
FINA6282	Economics for Finance Practice	3
FINA6292	Capital Markets	3
FINA6532	Quantitative Methods in Finance	3
Elective courses (any 12 units of courses from the following):		
FINA6067	Corporate Fund-Raising Initiatives in the Chinese Equity Markets	3
FINA6152	Fixed-income Securities Analysis	3
FINA6172	Mergers & Acquisitions	3
FINA6192	Cases in Corporate Finance & Investment Practices	3
FINA6204	Frontier Topics in Finance	3
FINA6205	Frontier Issues in Finance	1.5
FINA6212	Financial Policy	3
FINA6220	Current Issues in Finance	1.5
FINA6221	Selected Issues in Finance	1.5
FINA6222	Selected Topics in Finance	3
FINA6225	China Finance	3
FINA6229	Machine Learning in Finance	1.5
FINA6230	Venture Capital & Private Equity	3
FINA6250	Fundamentals of Derivatives Trading Strategies	3
FINA6342	Advanced Management of Financial Institutions: Financial Information System Management	3
FINA6352	Credit & Financing: Flow, Structured and Risk Management	3
FINA6362	Foreign Exchange in Theory and Practice	3
FINA6372	Behavioral Finance	3
FINA6522	Law and the Securities Markets	3
FINA6533	Finance Field Study	3
FINA6542	Quantitative Risk Management	3
FINA6552	Bank and Insurance Capital	3
FINA6572	Mathematical Financial Modeling and Structured Solutions	3
FINA6582	Computational Finance	3
FINA6592	Financial Econometrics	3
Total:		36

MSc in Information and Technology Management (MSc ITM)

Study Plan:

Year 1	
Term 1	3 required courses ^a
	1 elective course
Term 2	2 required courses
	2 elective courses
Term 3	1 required course
	1 elective course
Summer Term	Optional / 1 elective course

Course List:

*please click the course code to view the course description

Required courses (18 units):		Unit
DOTE5110	Statistical Analysis	3
DOTE5210	Strategic Information Systems	3
DOTE6730	Project Management	3
DOTE6751	Database and Big Data Management	3
DOTE6752	Information Systems Analysis and Auditing	3
DOTE6756	Business Intelligence Techniques and Applications	3
Elective courses (any 12 units of courses from the following):		
DOTE6100	Managing Service Operations	3
DOTE6620	Decision Models and Applications	3
DOTE6652	Risk and Operations Analytics	3
DOTE6653	Web Analytics and Intelligence	3
DOTE6654	Business Process Analysis and Simulation	3
DOTE6680	Selected Topics of Information and Technology Management	3
DOTE6682	Fintech and Its Applications	3
DOTE6683	Blockchain and Its Applications	3
DOTE6686	Advanced Information Systems Practicum	3
DOTE6687	Data Communication and Networking	3
DOTE6688	Technology Startup-From Idea to Reality	3
DOTE6689	IT Law for Executives	3
DOTE6698	Artificial Intelligence for Business	3
DOTE6780	Mobile and Web Applications Development	3
DOTE6788	Cyber Security	3
DOTE6790	Technology Field Study	3
DOTE6930	Supply Chain and Logistics Management	3
DOTE6940	Enterprise Resource Planning	3
Total:		30

MSc in Information Science and Technology Management (MSc ISTM)

Study Plan:

Year 1	
Term 1	4 required courses
Term 2	2 required courses
	1-3 elective courses
Term 3	1 required course
	2-4 elective courses

Course List:

*please click the course code to view the course description

Required courses (12 units):		Unit
DOTE5110	Statistical Analysis	3
DOTE5210	Strategic Information Systems	3
IEMS5731	Software Design and Development	3
IEMS5732	Data Communications and Networking	3
Optional Core Courses (9 units):		
DOTE6730	Project Management	3
DOTE6751	Database and Big Data Management	3
DOTE6756	Business Intelligence Techniques and Applications	3
IEMS5710	Cryptography, Information Security and Privacy	3
IEMS5726	Data Science in Practice	3
IEMS5727	Internet of Things and Smart Applications	3
Elective courses (any 9 units of courses from the following):		
DOTE6680	Selected Topics of Information and Technology Management	3
DOTE6682	Fintech and Its Applications	3
DOTE6683	Blockchain and Its Application	3
DOTE6686	Advanced Information Systems Practicum	3
DOTE6940	Enterprise Resource Planning	3
IEMS5709	Emerging Topics in Information Engineering	3
IEMS5717	Emerging Communication Technologies	3
IEMS5719	Technology Strategy	3
IEMS5723	Social Media Analytics	3
IEMS5910	Advanced Research and Development Project I	3
Total:		30

MSc in Management (MiM)

Study Plan:

Year 1	
Term 1	5 required courses
Term 2	4 required courses
	1-3 elective courses
Term 3	2 required courses
	2-4 elective courses

Course List:

*please click the course code to view the course description

Required courses (21 units):		Unit
ACCT5112	Financial and Managerial Accounting	1.5
DOTE5310	Global Supply Chain Management	1.5
DOTE5510	Quantitative Analysis for Decision Making	1.5
FINA5011	Corporate Finance	1.5
MGNT5501	Corporate Governance and Corporate Social Responsibility	1.5
MGNT5503	Creating Global Advantages	1.5
MGNT5504	Managerial Communication Skills	1.5
MGNT5505	Managing People and Organization	3
MGNT5506	Strategic Management for Competitive Advantage	3
MGNT5507	MiM Capstone	3
MKTG5019	Strategic Consumer Insights	1.5
Elective courses (any 9 units of courses from the following):		
DOTE6040	Business Analytics and Digital Innovation	3
FINA5012	Fundamentals of Sustainable Finance	1.5
FINA6020	FinTech Analytics	1.5
MGNT5531	Business Model Canvas for Digital Economy	1.5
MGNT5532	Emerging Technology and Business Innovation	1.5
MGNT5533	Entrepreneurship and Strategic Renewal	1.5
MGNT5534	Executive Challenge for Innovation	3
MGNT5535	New Venture Management	3
MGNT5536	Independent Study Project	3
MGNT5537	Management Consulting	1.5
MGNT5561	MiM Selected Topics	3
MGNT5581	MiM Contemporary Topics	1.5
MKTG6017	Strategic Brand Management	3
MKTG6033	Digital Marketing	3
MKTG6038	Special Topics in Business Negotiation	1.5
Total:		30

MSc in Real Estate (MSc RE)

Study Plan:

Year 1	
Term 1	3 required courses
Term 2	4 required courses
Term 3	3 elective courses

Course List:

*please click the course code to view the course description

Required courses (21 units):		Unit
HTMG5001	Real Estate Finance	3
HTMG5002	Property Development and Investment	3
HTMG5007	Strategy and Competitive Advantage	3
HTMG5017	Real Estate Valuation	3
HTMG5024	Real Estate Economics	3
HTMG5026	Capstone Research Project	3
HTMG5027	Real Estate Financial Reporting and Analysis	3
Elective courses (any 9 units of courses from the following):		
DOTE5110	Statistical Analysis	3
HTMG5003	Services Management	3
HTMG5005	Chain Development and Management	3
HTMG5014	Revenue Management	3
HTMG5015	Global Asset Allocation	3
HTMG5018	Facilities Development and Management	3
HTMG5019	Executive Speaker Series and Industry Consulting Studies	3
HTMG5020	Retail Management	3
HTMG5021	Shopping Mall Development and Management	3
HTMG5022	Revitalisation of Historic Buildings	3
HTMG5023	Land Conversion Process and Development Control	3
HTMG5025	Planning and Executing Real Estate and Hospitality Projects	3
HTMG5028	Managing Risk in Real Estate: Banking Practices	3
HTMG5029	Selected Topics in Real Estate	3
HTMG5030	Real Estate Field Study	3
HTMG5031	PropTech: Emerging Trends and Opportunities	3
Total:		30

MSc in Marketing (MSc MKT)

Study Plan:

Year 1	
Pre-term	1 required course
Term 1	3 required courses
Term 2	3 required courses (concentration required)
	2 elective course
Term 3	1 required course (concentration required)
	2 elective courses

Course List:

*please click the course code to view the course description

Pre-term (3 units):				
MKTG5011	Marketing Management			3
Required courses (9 units):				
MKTG5012	Marketing Research			3
MKTG5013	Buyer Behaviour			3
MKTG6033	Digital Marketing			3
Concentration required courses (12 units):				
Managerial Marketing Concentration		Big Data Marketing Concentration		Unit
MKTG5014	Managing Service Excellence	MKTG6013	Customer Analytics	3
MKTG6012	Integrated Marketing Communication	MKTG6029	Social Media Analytics	3
MKTG6014	Global Marketing Management	MKTG6035	Marketing Analytics	3
MKTG6017	Strategic Brand Management	MKTG6037	Machine Learning in Marketing	3
Elective courses (any 12 units of courses from the following):				
MKTG6030	Practicum in Managerial Marketing	MKTG6031	Practicum in Big Data Marketing	3
MKTG5015	Organizational Marketing			3
MKTG5018	Big Data Strategy			3
MKTG6011	Strategic Marketing			3
MKTG6015	Salesmanship and Sales Management			3
MKTG6019	E-Marketing			3
MKTG6020	Special Topics in Marketing			3
MKTG6021	Business Negotiation			3
MKTG6026	Behavioral Decision Making			3
MKTG6027	Marketing Engineering			3
MKTG6036	Pricing Analytics			3
Total:				36

Course Catalog

ACCT - Accountancy

ACCT5110 Advanced Financial Accounting and Reporting 3 units

This course deals with advanced aspects of financial accounting. Topics covered include the financial reporting environment in Hong Kong, fair value accounting, intangible assets, contingent liabilities, deferred income taxes, accounting for post-retirement benefits, equity and cost methods of accounting for long-term investments, business combinations (purchase and pooling), consolidation of parent/subsidiary financial statements, and interpretation of financial statements. Students will be required to critically evaluate various accounting valuation, reporting and disclosure issues.

ACCT5111 Corporate Financial Reporting 3 units

This course provides a graduate-level overview of the principles and concepts that underlie corporate financial reporting and the economic consequences of accounting choices. The course focus is on developing the skills required to interpret the information contained in financial statements and its use in decision-making rather than on the skills required to prepare financial statements. Topics include the use of accounting information in evaluating firm performance, and corporate reporting policies.

ACCT5112 Financial and Managerial Accounting 1.5 units

The overall goal of this course is to provide students with the knowledge to understand, evaluate, and act on financial and non-financial information used in managing contemporary organizations. It considers two distinct perspectives of users of accounting information: external and internal users. In particular, the course introduces basic concepts of financial and managerial accounting and presents commonly-used analytical tools and techniques to help with decision-making. Such decisions cover a broad range of user objectives such as investing, lending, assessing competitiveness, pricing of products, costing, inventory management, performance measurement, etc.

ACCT5120 Cost and Management Accounting 3 units

This course introduces the students to the basic concepts, techniques and application of cost and management accounting. Topics include cost concepts, cost behaviour, costing systems, cost determination and allocation, standard costing and variance analysis, relevant costs, and budgetary planning and performance evaluation. Methods and techniques of cost management in the service sector and in the advanced manufacturing environment are discussed. Accounting implications for management planning, control, and decision-making will be emphasized. Throughout this course, students will be expected to actively participate in class seminars case discussions.

ACCT5130 Auditing and Professional Practice 3 units

This course will provide an examination of the economic theory of auditing, the role and responsibilities of auditors, the concepts, and techniques employed by auditors, and auditing procedures for balance sheet and profit and loss items. Other topics include auditing and the public accounting profession, internal control, audit planning, financial statement audits' reporting on auditing financial statements, professional ethics and auditor's legal liability, accepting and planning the audit, evidential matter/working papers, internal controls, and system auditing. Other topics of current interest available in the literature will also be discussed.

ACCT5140 Introductory Accounting Data Analytics 3 units

This course is designed to prepare students with the necessary tools and skills they need to successfully perform data analytics. The course requires students to have basic financial and managerial accounting knowledge. Students will learn about using data analytics to ask and answer accounting and business questions, preparing data for analysis, performing different types of data analysis using data analysis tools such as Excel and Tableau. Finally, students will learn how to communicate the analysis results effectively using different types of visualizations. Hands-on computer laboratory sessions will form an integral part of this course.

ACCT5150 Business and Company Law 3 units

This course introduces students to the institutions, doctrine and methodology of the law in the business and corporation contents. After a discussion of the legal system of Hong Kong SAR, the first part of the course examines selected subjects in contract, tort of negligence, employment, and sales of goods. The second part of the course will focus on company law, such as formation of companies, the effects of incorporations, the division of powers and obligations among various organs of the company, its relationship with outsiders, financing and dividend issues, and options available to companies in financial difficulties.

ACCT5160 Taxation and Tax Planning 3 units

This course covers the basic elements and statutes of Hong Kong taxation system, including salaries tax, property tax, profits tax, personal assessment, depreciation allowances, and tax administration. After this basic knowledge, the course will introduce advanced concepts of tax planning, problem solving with practical examples and the inter-relationships between different types of taxes. Local tax cases will be discussed extensively.

ACCT6001 Accounting Field Study 3 units

The course is designed to expose students to a wide spectrum of global accounting related issues in a non-local business environment. Students will take a week-long residential programme in various countries or regions. Course learning activities include lectures at universities, case projects, seminars and discussions with local accounting professionals and/or government officials, and site visits to enterprises.

ACCT6040 Python Essentials for Accounting Analytics 3 units

This course introduces basic Python programming techniques for accounting data analytics. It guides students through Python programming logic, data processing, and graphical visualization in an accounting and finance context. The focus is on Python's fundamental aspects, including syntax, control structures, and handling complex, unstructured data in practical situations. Students will learn effective data handling with Python to support decision-making and business analysis.

ACCT6110 Financial Accounting Theory 3 units

This course establishes a framework for evaluating accounting choices and categorizing the strength of authority for particular accounting treatments. This is accomplished by exposing the students to empirical accounting research and by creating an awareness of the endogenous factors affecting accounting decisions. Major themes are the integration of cash flow and accrual based measures of income from a theoretical perspective and the synthesis of accounting choice questions based on the asset valuation versus income measurement dichotomy. The end result will be a deeper understanding of both the structure and the process of accounting policy-making.

ACCT6111 Business Valuation and Analysis **3 units**

This course introduces a framework for business valuation analysis using corporate disclosure and financial statement data. The framework identifies four key components of valuation: business strategy analysis, accounting analysis, financial analysis, and prospective analysis. Employing a case methodology, applications of this framework in a variety of decision-making contexts including securities analysis, credit analysis, and merger and acquisition decisions are examined.

ACCT6112 Comparative Financial Reporting **3 units**

This course examines the evolution of accounting under different political and economic systems and explores current theory and research on the impact of local institutional features on financial reporting and disclosure practices. In so doing, it provides participants with a conceptual framework for analyzing the economic causes and consequences of differences in reporting and disclosure practices and their impact on international commerce, finance, and investment. The course includes discussion of recent and proposed changes in reporting standards with a focus on the local and Mainland reporting environment.

ACCT6120 Management Control Systems **3 units**

Designed properly, management control systems serve to influence and structure employee behavior in ways that increase the likelihood that organizational objectives are achieved or exceeded. This course provides an advanced-level examination of the alternative control mechanisms available to organizations, theories underlying their use, and their intended and often unintended effects on behavior. Particular attention is directed to the critical decisions underlying the design of effective accounting based control systems including choice of responsibility structure, performance measures, performance standards, and incentive systems, and to emerging issues in corporate governance.

ACCT6121 Advances in Strategic Management Accounting **3 units**

This is an advanced course in management accounting examining the role of management accounting systems in strategy formation and implementation and as a potential source of sustainable competitive advantage. The course blends current research with practical exposure to the issues involved in the design and implementation of these systems. Topics include cost of capacity, activity-based management systems for operational and strategic control and contemporary approaches to performance coordination and evaluation in a decentralized environment.

ACCT6130 Assurance Services and Information Technology **3 units**

This course examines Hong Kong legal environment and discusses how it will affect audit risk, audit planning, internal controls, analytical procedures, and substantive tests. Building on this foundation, this course then focuses on information technology and examines its impacts on financial reporting systems. Specifically, we emphasize on how auditors can leverage information technology and use Computer-Assisted Audit Tools and Techniques (CAAT) to attest clients' financial statements.

ACCT6131 Fraud Examination and Forensic Investigation **3 units**

Fraud examination and forensic investigation is a growing area of practice in which the knowledge, skills and abilities of advanced accounting are combined with investigative expertise and applied to legal problems. This course covers the important underpinnings as well as the substance of forensic investigation of fraudulent activities such as financial statement frauds, cybercrime activities, corruption and money laundering schemes. The course also explores how analytics tools help forensic accountants to maximise auditing and analytic capabilities.

ACCT6140 Accounting Information Systems and Internal Control 3 units

This course consists of two related areas. This first part analyzes information systems from a management control perspective, emphasizing organization environment, technology, decision models and performance evaluation as determinants of information processing requirements; using cases and design projects to explore the management of information processing systems, major functional applications and impacts of information technology on individuals and society. The second part introduces the systems, procedures, and processes management employed to control operating activities, information reporting systems, and compliance with applicable laws, rules and regulations. Topics include design and evaluation perspectives of control environment, risk assessment, control activities, information and communication and monitoring.

ACCT6141 Accounting Data Analytics and Business Intelligence 3 units

While the production of data is expanding at an astonishing pace, companies are on average using only a fraction of the data out there. Recent survey by IMA (Institute of Management Accountants) in 2016 reveals significant skill gaps in many areas employers need most, especially identifying key data trends, data mining and extraction, operational analysis, technological acumen, statistical modeling and data analysis. This course targets towards accounting students who are interested in getting hands-on experience with data analytics and rising to the challenges and opportunities big data presents to the profession.

The course will provide a basis for handling and analyzing large-scale data stored within and outside an organization and finding business insights from analyses. In the first two-thirds of the course, we will study the basic concepts and techniques related to data preprocessing, data exploration, model building and results interpretation. Instead of digging deep into technical details, the course will provide a broad survey of common approaches and focus on the pragmatic implementation of data analytics. In the latter one-third of the course, we will discuss the emerging trends in big data and their applications in the accounting profession as well as other industries. The course will try to utilize real datasets related to accounting and finance and enable students to “learn by doing” through hands-on experience with data.

Prerequisites:

Students who take the course need a basic background of statistics. Having a passion for learning new things is important for the course.

ACCT6142 Predictive Analysis in Accounting and Quantamental Investing 3 units

This course explores the use of financial and non-financial data in the capital market contexts. Students will gain exposure to different data analytics techniques and predictive models to predict fundamentals and bankruptcies, to detect accounting fraud, and to identify trading strategies based on accounting anomalies. Students will gain knowledge and hands-on experience in applying these techniques generate value from accounting data.

ACCT6143 Blockchain Technology and the Future of Accounting Industry 3 units

This course aims to provide students with fundamental yet comprehensive knowledge of blockchain technology. Students who wish to explore what blockchain technology's potential applications are and how they can change the accounting industry are encouraged to take this course. By the end of the course, students are expected to appreciate and reflect on their role as a professional accountant and be ready for the upcoming transition to the new business environment.

In the first building block, we introduce the history and fundamentals of blockchain technology. Although technical, this part is essential to establish a foundation to understand the capabilities and limitations of blockchain technology. The programming assignment will give practical experience of interacting with blockchain technology.

In the second building block, we discuss the practical applications of blockchain technology, such as how to buy, mine, store, and use cryptocurrencies, enterprise applications of blockchain (e.g., decentralized applications (DApps) and decentralized finance (DeFi)), and the future of artificial intelligence (AI) and metaverse. Industry experts and entrepreneurs will give guest lectures on the realworld blockchain applications and interact with students.

In the final building block, we discuss the accounting policies related to valuing and accounting for various crypto assets. We will also discover the regulatory risk and opportunities of the crypto

markets in Hong Kong, Mainland China, and the US. The course concludes by exploring how blockchain technology can shape the future landscape of the accounting industry.

ACCT6160 Taxation in China 3 units

This course is designed to familiarize students with the Chinese tax law and practice. After an introduction to the normative and institutional backgrounds of tax administration, it will examine the country's major state and local tax regimes. The course will also touch on administrative and professional aspects of tax practice in this emerging market economy.

ACCT6161 International Taxation Planning and Management 3 units

This course introduces the tax concern of cross-border economic activities. It introduces the key concepts of international taxation, such as the tax jurisdiction of residence and source, international double taxation, relief from double taxation under domestic law and double taxation agreements. It also examines measures to prevent international tax avoidance, procedural mechanisms by which international tax issues are resolved, and bilateral administrative issues.

ACCT6170 Corporate Governance: A Global Perspective 3 units

The OECD Guidelines for Corporate Governance identify four elements namely objectives, transparency, benchmarks and accountability as key factors that transcend both legal and national boundaries. As a concept it delineates the rights and responsibilities of each group of stakeholders in the company by providing for appropriate checks and balance to be incorporated into the process of performance, decision making and monitoring. This course will address issues within in the rubric of corporate governance from an accounting and legal perspective.

ACCT6171 Applied Corporate Governance for Capital Markets 3 units

This course equips the students with a deeper understanding of the current state of play as regards corporate governance principles and rules, and the institutions through which corporate governance rules are applied to capital market participants, with a special focus on the Hong Kong and mainland China capital markets, but also addresses the challenges and trends in the real-life market place and how the linkages between effective enterprise governance, risk management and compliance can contribute to superior business performance and thereby to enhanced investor confidence in the capital markets.

Many diverse topics which impact how corporate governance is applied in practice in the capital markets, such as increasing regulatory supervision, GRC, key capital market participants, changes in the structure of the auditing profession, hot business transformation trends, a new enterprise business model, etc, are brought to life in an interlinking way using case studies and visiting business leaders to brief students and answer their questions.

Students are encouraged throughout the course to think about practical solutions to enhance corporate governance practices in Hong Kong and mainland China's capital markets.

ACCT6173 ESG and Accounting 3 units

This course helps students to understand and analyse ESG issues from the perspective of corporations and the capital markets. Course topics include reasons for the popularity of ESG issues in the business world; core elements of ESG and how they are measured; current reporting requirements and reporting practices; the impact of ESG on firm value; and ESG investing strategies. The course emphasizes critical thinking and uses a combination of lectures and cases.

ACCT6180 Accounting and Management Planning for Enterprises 3 units

"What distinguishes the successful entrepreneur and promoter from other people is precisely the fact that he does not let himself be guided by what was and is, but arranges his affairs on the ground of his opinion about the future. He sees the past and present as other people do; but he judges the future in a different way." (Human Action, Ludwig von Mises, 1966)

Entrepreneurial activities have become a potent source of economic power that generates enormous job opportunities and business innovation globally. This is particularly spectacular in the context of China where there are numerous cases of successful and failure cases of privately owned enterprises and collectively owned township and village enterprises growing from an embryonic stage into a larger firm. The course adopts a "life-cycle" approach and develops a set of accounting and managerial skills to analyze companies from the start-up stage to eventually cashing out.

ACCT6181 Financial Instruments and Hedge Accounting 3 units

1. Introduce accounting recognition, derecognition, and impairment of financial instruments which include financial assets, liabilities, equity and derivatives
2. Introduce hedge accounting
3. Introduce framework of using derivatives to manage market risks such as foreign exchange risk, interest rate risk, inflation risk, equity risk and commodity risk
4. Study and discuss real-life hedging cases

ACCT6199 Independent Study in Accounting 3 units

Independent study gives students added flexibility to design study programmes suited to a particular area of interest or to delve more deeply into a specific topic. Students need to find a faculty member willing to serve as the supervisor, and together, devise a format. There are a wide range of possibilities under independent study. The more common alternatives are: (a) Selection of a topic not normally covered in our curriculum in which the student has an interest. Normally the student would prepare a literature review on the selected topic. It would then be common for the student to perform some application or extension of this body of knowledge by extending or substantiating that knowledge by some data collection. (b) Preparation of a case and accompanying teacher's note. The case must be based on real organizations and substantial data collection would be expected. The student would be expected to demonstrate application of theory in preparation of the teacher's note.

DOTe – Decisions, Operations and Technology

DOTe5110 Statistical Analysis 3 units

This course is intended to equip students with the basic statistical tools required for the quantitative analysis of business problems. Topics include basic sampling and analysis of

data, probability distribution functions, estimation of parameters and hypothesis testing, goodness-of-fit tests, analysis of variance, simple regression, correlation, and basic non-parametric statistical methods.

DOTE5210 Strategic Information Systems 3 units

This course discusses the role of information technology (IT) in corporate strategy, along with its strategic, organizational, and technical issues in management and use. Topics include IT and business strategy alignment, IT-enabled business process reengineering, IT outsourcing, information systems planning and management, e-commerce technology and management, as well as business intelligent and analytics. Emphasis of the course is on how IT can contribute to organizational effectiveness.

DOTE5310 Global Supply Chain Management 1.5 units

This course introduces global supply chains and logistics management topics including the concepts, insights, practical tools, and decision support systems for the effective management of global supply chains. This course will convey both the intuitions behind many key supply chain and logistics management concepts and to provide simple techniques that can be used to analyze various aspects of the global supply chain and logistics management.

DOTE5510 Quantitative Analysis for Decision Making 1.5 units

The objective of this course is to introduce some of the most popular quantitative methods used in analysing business problems to students with no or only limited prior knowledge in this area. The course emphasizes the importance of decision making based on data. The lectures focus primarily upon understanding basic concepts about data analysis and statistical inferences and topics covered include descriptive statistics, probability, inferential statistics, and regression analysis. To free students from the trouble of learning and memorizing technical details of the analytical methods, computer software will be used extensively to perform the analysis so that the focus can be placed on understanding, interpreting, and communicating of the analytical results in a variety of business contexts.

DOTE6040 Business Analytics and Digital Innovation 3 units

This course will explore how business data and big data play a key role in business model, service as well as process innovations. The unique ramifications of mastering the technical and managerial aspects of business analytics that lead to digital innovations will be discussed. The course will not only survey the latest enabling technologies and their applications in business management but also provide a holistic overview of the data analytics models and tools. Emphases are placed on understanding of intuitions behind these tools as well as their applications in various areas of management, including marketing, finance and operations.

DOTE6100 Managing Service Operations 3 units

This course is designed for students to learn the latest theories, frameworks, concepts, techniques and to apply them in meeting the special challenges of managing service operations. The focus is to develop analytical thinking skills that will enable students contemplating careers in services to develop, evaluate and implement strategies for a wide range of service producing organizations. Topics will include: 1). the importance and economics of customer loyalty and approaches to build customer loyalty; 2). formulation and implementation of service strategies and the strategic service vision for greater business success; 3). management of the operational behavior of customers in service delivery; 4). design of sustainable service models that successfully incorporate a customer's operating role; 5). analyses of customer data to inform managerial decision making; and 6). management of changes in service settings.

DOTE6620 Decision Models and Applications 3 units

This course covers the principal quantitative techniques used in solving financial, marketing, and operations problems in the private and public sectors. Topics include decision under uncertainty, Markov chain, linear programming, classical optimization, dynamic programming, and integer programming.

DOTE6650 Data Mining for Managers 3 units

This course emphasizes on the applications of data mining techniques in business problems from managerial perspectives. Business applications such as customer relationship management and financial analysis will be discussed throughout the course. Some basic data mining techniques will also be explained for illustration purposes. They include clustering, market basket analysis, data warehouse, and neural networks.

DOTE6651 Economic Analytics 3 units

This course is about applying economic models with data to deal with corporate decisions and strategies. The art and science of economic modeling for this purpose makes use of the principles and the tools derived from the studies of information economics, games, industrial organization and the related fields. The course is conducted in a variety of formats including lectures, cases studies and other activities. Operation and strategic issues covered in the course include setting prices, designing contracts, managing firm boundaries, controlling strategic information, analyzing entry and exit, and formulating competitive strategy.

DOTE6652 Risk and Operations Analytics 3 units

This course introduces the analysis of key issues related to the design and management of business operations using quantitative tools such as linear, integer, and non-linear programming, regression, and statistical analysis. It covers important topics such as revenue management and dynamic pricing, inventory theory, production control and scheduling, and risk management in supply chains, among others, and uses mathematical modeling, spreadsheet analysis, case studies, and simulation to deliver materials. The course introduces Monte Carlo simulations with Excel and Crystal Ball, focusing on their applications in solving business operations problems.

DOTE6653 Web Analytics and Intelligence 3 units

The course focuses on the collection, analysis, and use of web data for business intelligence. Topics covered include web analytics concepts, web analytics technologies and techniques, visitor activity analysis methods, and web intelligence fundamentals. The course also evaluates practical, real-work analysis cases to demonstrate the strategic uses of web analytics for business intelligence and proper application of analytics techniques for online data optimization.

DOTE6654 Business Process Analysis and Simulation 3 units

This course introduces knowledge used to model and analyze business processes, with an emphasis on quantitative skills. A simulation package will be introduced and will be utilized to evaluate business process performance and to facilitate the decision making on business process improvement. The knowledge learnt from the course can equip students with scientific competence and help them solve practical problems in various settings related to business process management.

DOTE6680 Selected Topics of Information and Technology Management 3 units

This course is designed to investigate and to discuss selected topics of current interests in the area of information and technology management.

DOTE6682 Fintech and Its Applications **3 units**

Advance in information technology has already started a revolution in the financial industry. Every part of the financial service system is affected, from daily payment to long-term investment, from efficiency gain to logic transformation. The pace of change is fast. Too fast to catch, yet too critical to miss. Institutions which can leverage the new technologies gain superior market insights, create new business models, and will become the future leaders of the financial service industry. Individuals who can understand and work with FinTech open new gates for investment and career development.

This course introduces FinTech and examines opportunities and challenges. It seeks to equip students with both a deep and practical understanding of emerging technology in the FinTech arena as well as the necessary coding skills to tackle future demand. We are going to cover topics such as the fundamentals of the financial service system, technology disruption, data management and visualization, financial data mining (Python), quantitative trading and artificial intelligence, crowdfunding, blockchain technology, and RegTech.

Applications on practical FinTech problems are emphasized with case discussions and programming assignments. While we will work with computer codes, this course does NOT assume any programming background from students.

DOTE6683 Blockchain and Its Applications **3 units**

Blockchain technology provides a dynamic shared ledger that enables peer-to-peer transfer of digital assets without any intermediaries, and is predicted to be a revolutionary technology that is just as impactful as the Internet. It is radically transforming financial services, supply chains, and other business services, as well as creating new opportunities for innovation.

This course aims to provide students with basic knowledge of Blockchain and its practical applications in various business fields. It introduces the basic concepts and technologies of Blockchain with the technology's initial application, the cryptocurrency Bitcoin. Students will then gain an understanding of the commercial, technical, and public policy fundamentals of Blockchain technology and smart contracts in both public and private applications. Finally, the class will discuss current and potential Blockchain applications in various business domains.

DOTE6686 Advanced Information Systems Practicum **3 units**

This course bridges the gap between classroom and real world. It requires students to complete a real-world information systems project, in collaboration with a company or organization. Students are required to form a project team, under the joint supervision of a teacher and an executive of the sponsoring company.

DOTE6687 Data Communication and Networking **3 units**

This course discusses the concepts and principles of data communications and computer networks. It prepares students to make intelligent and informed decisions about moving voice, data, image and video between locations securely, by making them aware of the benefits, drawbacks, and effects related to various data communication technologies. Students will also learn how to make policy, design, and installation decisions related to planning and implementing data communication and network applications.

DOTE6688 Technology Startup-From Idea to Reality **3 units**

This is a practical course on entrepreneurial business management as a living skill to start, build and grow a technology enterprise. Learn by creating a new business based on the know-how and wisdom from Silicon Valley to Asia, including evaluating business

opportunities, innovation, generating business model, business plan, team building, competition analysis, IP, financing, growth, Silicon Valley and Asian business culture.

DOTE6689 IT Law for Executives 3 units

Information technology becomes more and more important in our business sector. Issues relating to information technology and law, such as privacy and location surveillance, digital signature, copyright, outsourcing, anti-competition and contracts are essential to our daily life. This course examines the link between IT law and business operations; it offers a clear picture to students who are at executive level with no related legal background.

Topics will include introduction of the Hong Kong Legal System; Contract Law; Torts Law; internet impact on legal systems; IT and IP Laws in business operations and the latest Competition Ordinance.

DOTE6690 Selected Topics of Business Analytics 3 units

This course is designed to investigate and to discuss selected topics of current interests in the area of business analytics.

DOTE6696 Advanced Business Analytics Practicum 3 units

This course bridges the gap between classroom and real world. It requires students to complete a real-world business analytics project, in collaboration with a company or organization. Students are required to form a project team, under the joint supervision of a teacher and an executive of the sponsoring company.

DOTE6697 Data Visualization and Business Communication 3 units

This course covers foundational perception principles, the art of designing impactful graphs, and strategies for clear, influential presentations. The course dives into the intricacies of effective data visualization and communication. The course invites some leading companies in different industries to share the skills they value in interviews and in work. Students are supposed to make presentations during classes.

DOTE6698 Artificial Intelligence for Business 3 units

This course provides a holistic overview of artificial intelligence (AI) models, as well as their mathematical and programming background. It covers, together with others, commonly used machine learning methods such as Bayes classifiers, decision tree, random forest, boosting, support vector machine, and neural network. This course emphasizes on understanding the intuition behind the methods and on applying them to business practices. It helps build hands-on experiences by using business data and R, an analytics software package. Previous coding knowledge will be needed for this course, and a decent familiarity with basic quantitative content (such as algebra and statistics) will also be required.

DOTE6720 Business Forecasting 3 units

This course provides students with principles and methods in forecasting for managerial planning. Major topics include multiple regression analysis, time series analysis with emphasis on smoothing techniques, decomposition methods, and Box-Jenkins procedures and indicator forecasting. Applications of the methods to both short-term and long-term forecasting to business, industries and national business trends are also emphasized.

DOTE6730 Project Management 3 units

This course covers the management of projects. A major focus is on how to manage various projects to successful completion within the constraints of resources and time. Included in the contents are the frameworks for proposal writing and planning, monitoring

and controlling, and performance evaluation. Various project management techniques are covered including PERT/CPM and project appraisal. Case studies and field projects as well as lectures will be used as teaching methods.

DOTE6751 Database and Big Data Management 3 units

This course focuses on both business data and contemporary big data modeling and management. We will examine the different natures of data and big data, selection and representation as well as use of suitable methods and tools for storing and accessing them. Topics such as data integrity, DBMS, data warehousing, NoSQL and MapReduce are covered.

DOTE6752 Information Systems Analysis and Auditing 3 units

This course provides students with knowledge and experience of analyzing the essential aspects of information systems in the real world. Emphases will be placed on the object-oriented analysis techniques using the Unified Modeling Language. Various key business activities will be discussed. This course will also explain the importance of business IS controls in contemporary IT governance. A business framework for the management of enterprise IS will be investigated.

DOTE6756 Business Intelligence Techniques and Applications 3 units

This course emphasizes on the applications of business intelligence techniques in the era of big data. The techniques will include data preparation, dimensionality reduction, clustering, classification, market basket analysis, and performance evaluation. Business applications such as customer segmentation and financial analysis will be discussed throughout the course.

DOTE6780 Mobile and Web Applications Development 3 units

This course provides students with the basic knowledge to design and develop Android applications for mobile devices. Students will work directly with the Java programming language and the latest Android developer tools, with the goal of enabling students to produce fully functional prototypes independently. This course will also place some emphasis on developing web applications using JavaScript. The basic concepts of client server architecture and simple Java Server Pages (JSP) will also be introduced.

DOTE6788 Cyber Security 3 units

This course provides an overview of the threats to networked organizations. Students will learn and understand the key issues associated with cyber space security, skills required to respond to security incidents, and knowledge needed to design security systems and protect security intrusions. Its coverage includes a variety of concepts and topics related to the securing of networked, cloud, and mobile processing environments.

DOTE6790 Technology Field Study 3 units

This course consists of preparatory assignments in readings and a written study plan, followed by a five-day residential program to Silicon Valley, California or similar Science Parks in Asia. The course is concluded with a written report and an oral presentation. The goal in taking classroom sessions abroad is to expose our graduate students to a wide spectrum of issues related to IT business, which includes research and development, company culture, and ways to manage a technology company. The issues are highlighted through lectures or seminars by university professors, and visits to world class companies or research and development centres. Students will have chance to discuss with top executives from these companies. Through this course, students will be able to understand the strategies companies adopted, and solutions in tackling business issues.

DOTE6930 Supply Chain and Logistics Management 3 units

This course covers the concepts, insights, practical tools, and decision support systems for the effective management of the supply chain. This course will convey both the intuitions behind many key supply chain and logistics management concepts and to provide simple techniques that can be used to analyze various aspects of the supply chain and logistics management. The role of supply chain and logistics management in the age of eBusiness will be addressed. Through readings and case studies, we will identify the current and prospective supply chain practices.

DOTE6940 Enterprise Resource Planning 3 units

Enterprise Resource Planning (ERP) is an integrated information technology to manage company-wide business processes. The topics include two aspects: enterprise resource planning system and the ERP project implementation issues. This course will also introduce the evolution of ERP, concepts and application of ERP. The topics of enterprise systems will mainly brief on the core modules along the value chain such as product development, order fulfillment, production and others. Finally, the "ERP and beyond" will address how the latest developments of ERP be extended to fulfill the new demand of more enterprise initiatives. Students will be requested to work on a group project.

FINA - Finance

FINA5010 Financial Management 3 units

This offering provides an overview and analysis of financial decision-making within the corporate setting. Various facets of financial management are tackled from both theoretical and applied perspectives. Key topic areas include capital budgeting, the concept of risk and expected returns, valuation of stocks and bonds, capital structure theory and its applications, cost of capital, corporate dividend policy, working capital management and equity fund-raising methods.

FINA5011 Corporate Finance 1.5 units

This course discusses the financial management decisions of a corporation. Specific topics include capital budgeting analysis under perfect and non-perfect competitive setups; theories of agency costs and asymmetric information that underlie financial decisions; capital structure; dividend policy; raising equity capital and long-term debt; warrants and convertibles; and corporate risk management.

FINA5012 Fundamentals of Sustainable Finance 1.5 units

This course aims to provide students with the knowledge and understanding of climate change risks and opportunities and their impact on capital markets. Topics will cover circular economy, core climate-economic theory and the role of central banks and supervisory authorities, climate change and equity investment opportunities, climate change risk management. An in-depth understanding of the impact of climate risks on asset allocation and the practical skills of portfolio alignment to a low-carbon economy will also be included.

FINA6020 FinTech Analytics 1.5 units

This course targets to train up students to derive and develop financial and managerial insights from technology, design innovative solutions to meet financial service needs, optimize financial decisions in complex business environment, and understand and analyze the social, economic, security, and legal impacts from their solutions.

FINA6067 Corporate Fund-Raising Initiatives in the Chinese Equity Markets 3 units

This course delves into the major issues surrounding equity fund-raising in China. The principal focus is on initial public offerings (IPOs) and seasoned issues in Chinese stocks (including H- share, 'red-chip', private Chinese and 'China-concept' issuers) listed in Hong Kong. The characteristics of the various corporate entities and the nature of the funding methods utilized are critically explored. Case analysis of major IPO and seasoned equity issues (rights issues and private placings) features to amplify these objectives. Shanghai A- share listings are also considered as well as the various reforms to its constituent issuers. These include the transformation of non-tradable stock holdings into tradable form, the development of QFII and QDII schemes and the key reforms to China's leading state-owned commercial banks. Finally, dual listings, such as American depositary receipts, and alternative routes to listing ('reverse takeovers') are also assessed. Upon completion of the course, students will have developed key insights into a major global funding activity.

FINA6092 Advanced Financial Management 3 units

This course provides an in-depth analysis of the financial management decisions of the corporation entity. Specific topics include: theories of agency costs and asymmetric information that underlie financial decisions, capital structure, dividend policy, equity capital and long-term debt funding, warrants and convertibles, and corporate risk management.

FINA6112 Investment and Portfolio Analysis 3 units

The foundations underpinning investment decisions are examined alongside portfolio management in this course. Topics include the risk-return tradeoff, the capital asset pricing model, the arbitrage pricing model, security analysis, portfolio selection, performance evaluation, hedging strategies, bond analysis, and an introduction of the uses of derivative securities in portfolio management. A delicate balance will be maintained between theory and practical applications.

FINA6122 Financial Markets and Instruments 3 units

Financial markets play a pivotal and central role in the formation of investment capital and, therefore, societal wealth. This function, in addition to many others, is explored in this course. Attention will also focus on the forms and structures of financial markets (i.e., stock, futures, gold and foreign exchange markets) both locally and internationally. Within this brief, detailed consideration is also given to the various institutions participating in the markets and to the form and functions of instruments quoted.

FINA6132 Derivatives Markets 3 units

This course examines the valuation and market structure of derivative securities. Topics include the role of derivative securities, the determination of forward and futures prices, hedging strategies using futures, trading strategies with futures, properties of options, the pricing of stock options, options on indices, currencies and futures contracts, risk analysis, applications of option pricing models, biases in the Black-Scholes model, interest rate options, exotic options, risk management with options, and trading strategies with options. The course involves extensive and intensive use of computer and relevant software packages.

FINA6152 Fixed-income Securities Analysis 3 units

The focus of this course is on the valuation of fixed-income securities and investment techniques in managing fixed income portfolios. Topics include the term structures of interest rates and forward rates; bond pricing, interest rate and reinvestment risks; risk and hedging in bond portfolio management; duration, convexity and portfolio immunization; corporate bonds, emerging-market bonds and default risks; fixed-income securities with

embedded options; callable and convertible bonds, mortgage-backed securities; interest rate derivatives; and interest rate futures, swaps, caps and floors.

FINA6172 Mergers & Acquisitions 3 units

This course integrates areas within financial management and investments to analyse merger and acquisition (takeover) markets. The class will be conducted using both lectures and presentations. The topics covered in lectures include an overview of takeover markets, legal aspects and restrictions, capital budgeting techniques, the efficient market hypothesis, the market model and computation of abnormal returns, the dividend discount model and the free cash flow model. The topics covered in presentations will include US and Hong Kong cases of mergers, tender offers and leveraged buyouts. Amongst other things, the efficient market hypothesis is applied to analyse the stock market response to takeover announcement as well as a range of other issues including: welfare gains/losses associated with takeover, the cost of capital for due acquiror and the intrinsic value of the target (using dividend discount and free cashflow models).

FINA6192 Cases in Corporate Finance & Investment Practices 3 units

The course enables students to gain comprehensive knowledge and practical insights in the latest trends of corporate finance and investment management. The cases discussed in the course cover important topics including finance resource allocation, mergers and acquisitions, funds investment and trading strategies. Moreover, the group project, being the key component in this course, should enable students to integrate theories in corporate finance and investment to empirical topics in capital budgeting, asset management and trading strategy.

FINA6203 Python in Finance 3 units

Python has rapidly become a powerful and versatile programming language widely used in the financial industry. This course is designed to provide students with the essential skills and knowledge to leverage Python for various financial applications. Throughout this course, students will gain hands-on experience with Python libraries and packages specifically tailored for financial analysis, modeling, and data manipulation. They will learn how to implement quantitative finance techniques, perform data analysis, build financial models, and automate repetitive tasks using Python. Key topics covered in this course include: 1) Overview of Python and its applications in the financial industry; 2) Managing Financial Data; 3) Implementing statistical analysis techniques for financial data; 4) Financial Modeling and Simulation. This course will prepare students for advanced courses such as Algorithmic Trading Strategies and Machine Learning in Finance.

FINA6204 Frontier Topics in Finance 3 units

Students taking this course will dive into the latest and most advanced topics in finance subfields, as selected by the expert finance faculty. By staying up-to-date with the latest trends and issues in finance, students will be well-equipped to excel in their careers in this professional field. Students are advised to contact MSc in Finance Programme Office for current offerings and prerequisites.

FINA6205 Frontier Issues in Finance 1.5 units

This course delves into the frontier topics and issues in various subfields of finance, which are carefully selected by the finance faculty. Students are advised to contact MSc in Finance Programme Office for current offerings and prerequisites.

FINA6212 Financial Policy 3 units

The objective of this course is to integrate various subfields of finance for the formulation of financial policies. The focus is on the application of financial theory to real-world business decisions, financing and restructuring strategies. The course also emphasizes

the impact of institutional constraints on managers' financial decision-making and the implementation of financial strategies.

FINA6220 Current Issues in Finance 1.5 units

Current topics and issues in subfields in finance, to be selected by the finance faculty, are addressed in this course. Students are advised to contact the department for current offerings and prerequisites.

FINA6221 Selected Issues in Finance 1.5 units

Topics and issues in subfields in finance, to be selected by the finance faculty, are addressed in this course. Students are advised to contact the department for current offerings and prerequisites.

FINA6222 Selected Topics in Finance 3 units

Topics and issues in subfields in finance, to be selected by the finance faculty, are addressed in this course. Students are advised to contact the department for current offerings and prerequisites.

FINA6225 China Finance 3 units

The purpose of this course is to help students study and understand the financial market and financial institutions in China. The history and current issues of China financial system will be addressed.

FINA6229 Machine Learning in Finance 1.5 units

This course provides an overview of the basic tools in machine learning, with emphases on applications in finance. Machine learning plays an important role in FinTech. Individual investors and financial institutions who are able to leverage these new tools and technology will have a significant advantage. This course discusses these new opportunities and challenges. It seeks to equip students with these highly coveted skills in the market. We will cover topics including: cluster analysis, decision trees, support vector machines, flexible discriminants, and neural networks, accompanied with the corresponding financial applications.

Real world finance problems often deal with large datasets, traditionally with historical price and return as well as data on financial statements. More recently, other databases like consumer credit and online data (e.g., Google search, news media, satellite images, etc.) are also becoming more important for financial analysts. Dealing with such large datasets require tools to manipulate them, and we will introduce the use of Python and detailed instructions on how to perform analysis on large datasets. Once students become comfortable with the use of Python and manipulation of large sets, we will introduce students to tools in machine learning, which play an important role in our financial market, from approving loans, managing portfolios, to assessing risks. Advances in machine learning technology have enabled financial institutions to explore the applications of artificial intelligence in areas like customer service, personal finance, wealth management, and risk management.

FINA6230 Venture Capital & Private Equity 3 units

The course will outline the mechanisms of venture capital (VC) investment and the financing of startups and early growth firms. As VC is a subset of private equity, the course will discuss the management, legal and marketing issues of private equity in general. Topics include raising and structuring private equity funds, the limited partnership, and fund strategies. The course will consider the investment decision of institutional investors in private equity and how funds are structured to meet their needs. It will discuss post-subscription private equity fund management - deal screening, evaluation, negotiation, disbursement, investee management, valuation and exit - and will consider specifically the

perspective of the VC investee company - alternative sources of financing, how to approach a VC to maximize chances of success, and governance issues in VC financed firms. The course may also delve into public versus private equity buyouts, valuation of buyouts and corporate restructuring under private equity.

FINA6250 Fundamentals of Derivatives Trading Strategies 3 units

This course intends to offer students insight into the implementation of options theory in the practical trading environment. The main strategies for trading derivatives will be discussed and the students are to apply their knowledge in practical trading sessions.

FINA6282 Economics for Finance Practice 3 units

The course covers both micro- and macro-economics fundamental to finance practice. Topics for microeconomics include: game theory and its application in finance, asymmetric information, consumer and producer behaviors, externality, public goods, information technology and network effect, asset markets and investment under uncertainty, mean variance optimization and portfolio theory, and behavioral economics. Topics for macroeconomics include: classical macroeconomics, Keynesian macroeconomics, output, inflation and unemployment, trade and exchange rate, economic policies, and economic growth.

FINA6292 Capital Markets 3 units

This course provides an overview of the capital markets and financing strategies for corporations. It covers equity capital markets, fixed income markets, and loans. Specific topics include analyzing IPO documents, secondary offerings, equity valuation, convertible bonds and other hybrid instruments, debt capital markets, analyzing bond documents, loan revolvers, working capital management, and syndicated loans.

FINA6342 Advanced Management of Financial Institutions: Financial Information System Management 3 units

This course introduces the students to large scale financial and risk management systems using Calypso as the example. The students will learn about the complexities of actual financial systems currently being used by global financial institutions.

FINA6352 Credit & Financing: Flow, Structured and Risk Management 3 units

This elective course aims to teach the fundamental concepts underlying general and advanced analytical tools in credit risk modelling, credit rating methodology, counterparty credit risk and credit derivatives. Course contents will also relate to latest market regulations and capital requirements.

FINA6362 Foreign Exchange in Theory and Practice 3 units

This course will cover exchange rate theory, exchange rate policy, and statistical work on exchange rate determination. It will also touch on important topics of the day, such as China's exchange rate regime, global imbalances, and the problems of the Eurozone.

FINA6372 Behavioral Finance 3 units

Traditional finance seeks to understand financial markets assuming that investors are "rational". Rationality means that investors can access to and have the ability to process information correctly and that competition between investors ensures that securities are correctly priced to reflect all available information. That is, the market is efficient. However, recent studies suggest that markets are not efficient and that investors are not fully rational. For example, particular trading strategies based on past information such as past returns and accounting information are able to outperform the markets. In addition, studies find that investors are committed to certain heuristic-based biases and frame dependent such as overconfidence, optimism, self-attribution, illusion of control, loss aversion, representativeness heuristic, anchoring, availability, ambiguity aversion, hindsight,

flaming, etc. Behavioral biases combined with limits to arbitrage may result in securities not to be correctly priced.

This course will help students understand how individuals' attitudes and behaviors affect their financial decisions and financial markets. In the practical side, this course will emphasize the role of investors' psychological biases on various types of market inefficiency and show that how sophisticated investors can take advantage of these behavioral biases. This is a research oriented course with emphasis on both psychology theories and data analysis skills.

FINA6522 Law and the Securities Markets 3 units

This course is designed to introduce students already familiar with the economics of securities markets to the law that governs those markets and the transactions in securities they are designed to execute. The course will closely examine actual legal documentation to show its basic structure and purpose. Further, the course will analyze basic legal principles that shape the law and regulation of corporate finance and securities markets, such as legal strategies to overcome asymmetric information, moral hazard and agency problems, as well as techniques to secure prior claims against assets held in the possession of another entity in any bankruptcy proceedings regarding that entity.

FINA6532 Quantitative Methods in Finance 3 units

The course introduces probability, stochastic processes, and statistics required for quantitative finance study. Topics include: time value of money, probability, probability distributions and descriptive statistics, sampling and estimation, hypothesis testing, correlation analysis and regression, time series analysis, simulation analysis and technical analysis.

FINA6533 Finance Field Study 3 units

This course consists of assignments, case reports and/or presentations along with a week-long residential program in various countries arranged by the program. The goal in taking classroom sessions abroad is to expose our students to a wide spectrum of finance related issues, such as capital markets, derivative markets, venture capital, economics, politics, social issues, business functions and financial systems of the host country. Site visits to multi-national financial institutions, joint ventures and regulatory bodies might be included.

FINA6542 Quantitative Risk Management 3 units

This course explores quantitative methods in credit risk management and examines market risks, operational risks, integrated risk management, and risk management information technology. Basic Value-at-Risk (VaR) methodologies such as historical simulation, parametric VaR, delta-gamma approximation and Monte-Carlo simulation will be covered. Defaults of bank loans, corporate bonds, and/or counter-parties are addressed. Reduced-form models and structure models are discussed, with application of Creditmetrics TM and KMV methodologies.

FINA6552 Bank and Insurance Capital 3 units

The course offers a comprehensive understanding of Basel I, II, and III. The standard internal ratings-based (IRB) approach, as well as the foundation internal ratings-based (FIRB), and advanced internal ratings-based (AIRB) approaches, will be covered. The 3 Pillars for banking capital will be explored. Students are guided through practical implementation of different capital requirements under different regulatory frameworks.

FINA6572 Mathematical Financial Modeling and Structured Solutions 3 units

The course introduces mathematical modeling concepts and techniques for financial applications. The classic Black-Scholes Model, local volatility, stochastic volatility are critically evaluated. Interest rate models such as Ho-Lee, Hull-White, Heath-Jarrow-

Morton (HJM), Libor Market Model are discussed. Cross currency models for foreign exchanges and modeling for commodity are also covered.

FINA6582 Computational Finance 3 units

This is a practical course for trading system and risk management system implementation. Existing open source software for finance will be adopted. Some current trading systems will be case shown. Students will learn the implementation through carrying out software development projects.

FINA6592 Financial Econometrics 3 units

This course covers econometrics used in empirical finance. Topics will include univariate and multivariate linear models, parametric and nonparametric models of volatility, evaluation of capital asset pricing model, arbitrage pricing theory, risk management models. The course makes extensive use of computer-based applications to draw inferences.

HTMG - Hotel and Tourism Management

HTMG5001 Real Estate Finance 3 units

The turmoil in real estate market, which is one of the largest and most important components of the financial system, could bring a negative impact to the world financial markets. The participants in the real estate market should understand how to evaluate the risk and return concerning various ways of financing. This course exposes students to concepts, theories and industry practice in real estate finance. Topics related to real estate finance, including legal foundation of real estate finance, mortgage loans, secondary mortgage market, mortgage-backed securities and financial leverage, will be discussed. Different alternative real estate financing vehicles, such as real estate investment trust (REIT), will also be examined.

The primary goal of this course is to help students develop the conceptual knowledge and analytical skills of real estate finance, including those related to the institutions and instruments used to finance residential and commercial real estate. After taking this course, the students are expected to understand the importance of different financing methods and be able to make informed real estate finance decisions.

HTMG5002 Property Development and Investment 3 units

This course provides fundamental knowledge of and analytical tools for property development and investment. The course links space market and asset market in a dynamic real estate system and focuses on topics such as principles of commercial property investment analysis, cash flow analysis, real estate project investment analysis, etc. We will also discuss issues related to development project investment analysis, including definition and measurement of risk and return, valuation of land and multiple-phase development projects based on real option theory, financial modelling for real estate investment, feasibility studies, financial evaluation procedure based on net present value (NPV), and estimation of operational leverage and opportunity capital cost (OCC) for development investment. Various global case studies will be used to guide theoretical learning and class discussion.

HTMG5003 Services Management 3 units

The trend toward service-dominated economies has been global in scope. Not surprisingly, services are the major driver of economic growth in Asia, where the share of services in the most advanced economies is comparable to that of their U.S. and European counterparts. Given the importance of services in the world economy, it is imperative for students to have basic knowledge of services marketing. This course aims to equip

students with the fundamental knowledge and skills of services marketing. Feature topics include the fundamental differences between services and goods, service strategies of managing the service experience, and consumer perception of service quality and service delivery.

HTMG5005 Chain Development and Management 3 units

The course is designed to introduce students to the organization, administration, concepts and theories in chain management in the hospitality industry as well as the evaluation of existing and challenging practices. The students will learn the growth and development of major hospitality chains and to analyze their strategies and tactics at different levels and markets. Topics include overview of chain operations in the hospitality industry, fundamental theories and principles of chain management, corporate entrepreneurship, competitive strategies of hospitality chains and brands at different stages of corporate life cycle, perspectives of owners, developers and lenders as well as management contract, franchising, joint venture and strategic alliance.

HTMG5007 Strategy and Competitive Advantage 3 units

The course is designed to offer students with an integrative framework for planning and executing corporate-, business- and function-level strategies that help hospitality and tourism companies achieve sustainable competitive advantage. It introduces a wide variety of contemporary strategic analysis tools. Topics include strategic decisions as formulating competitive strategies, diversification, internal resources / capabilities, external environments assessment, stakeholder relationships, strategic alliances, organizational structure and control mechanisms in hospitality and tourism industries. Critical issues related to ethical decision making and corporate social responsibilities will also be addressed.

HTMG5014 Revenue Management 3 units

This course helps students learn how to apply the principles of revenue management effectively as they apply to the hospitality industry by following the concept of allocating the right type of capacity to the right kind of customer at the right price so as to maximize revenue. Focus is placed on the integration of revenue management techniques with information technology, internal management issues, and external marketing concerns. Topics include theories on revenue management, forecasting, overbooking, group decisions, and management and marketing issues. Students will be exposed to how hospitality organizations use revenue management technique to determine their pricing strategy to maximize their revenue.

HTMG5015 Global Asset Allocation 3 units

This course provides theoretical foundation for global asset allocation with the applications to real estate securities. Topics include international CAPM and multifactor models in global asset allocation as well as the strategies and tactics of real estate securities portfolio management. Using investment games, students will be introduced to both the conventional wisdom and contemporary methods used in managing a global real estate securities portfolio. Students in this course will have completed (or are concurrently enrolled in) the relevant prerequisite courses in finance, accounting and statistics.

HTMG5017 Real Estate Valuation 3 units

This course introduces concept and application of valuation of real estate. Important concepts and techniques of real estate valuation will be covered to demonstrate how these can be applied to a range of property types or for a range of purposes. Topics related to real estate valuation will be covered including the economic forces driving the real estate value in the market, the needs for valuation, valuation methods and their application, investment appraisal and development appraisal. After taking this course, the students are expected to have in-depth understanding of the concept and technique of valuation

and demonstrate practical competence in undertaking different types of real estate valuation.

HTMG5018 Facilities Development and Management **3 units**

Facilities management is the total management of all services that support the core business of an organization. It is a process of providing and coordinating effective and efficient services that can be applied holistically to enhance the performance of an organization. Good facilities management does not only benefit an organization, but also its stakeholders such as, among others, staff, clients, and tenants. Strategic facilities development and management emphasizes providing safe, healthy, reliable and productive work environment in a strategic manner to ensure the core business to achieve organizational objectives.

This course is designed with a focus on Hong Kong's real estate market. As Hong Kong has an increasing demand for both facilities management and property management professionals, many facilities managers become involved with property management issues or are responsible for managing an organization's property portfolio. Thus, this course will introduce real estate knowledge, business analysis skills and special techniques on both facilities management and property management professionalism.

The course aims to ensure students to 1) understand the role of strategic facilities management in the real estate life cycle; 2) develop critical thinking about all facets of facilities management services; 3) master the knowledge of operational level management, including real estate leasing, liabilities and legal issues, maintenance, landlord and tenant relationships, service charges, etc.

HTMG5019 Executive Speaker Series and Industry Consulting Studies **3 units**

This course aims to provide an immersive experience for students to integrate theory and practice. The course consists of two parts. Part I is designed as a series of executive speeches. Industry leaders in the hospitality, tourism and real estate sectors in Asia are invited to participate and speak on the investment and development strategies of their companies and the existing and emerging trends, challenges, and opportunities facing their industries. Students are required to research and study the company and the industry prior to engaging the speaker. The executive speaker series provides the students with opportunities to learn leading companies' current strategies and best practices, and gain strategic insights through interacting with the industry leaders. Part II consists of consulting projects conducted by students. Project objectives and contents will be designed by the participating company(ies) and the course instructor(s) collaboratively. The projects will be centered on conducting a strategic diagnosis for the participating company and proposing solutions/actions to improve the company's competitiveness and performance. In addition to the emphasis on companies' operational and financial success, special attention will be placed on the sustainability and integrity issues that are important for companies competing in the hospitality, tourism and real estate industries in Asia. Students learn to apply up-to-date theories and analytical tools and are encouraged to come up with innovative solutions for the participating companies.

HTMG5020 Retail Management **3 units**

The retail industry is closely related to the hospitality and tourism industry. Hong Kong is a key touristic destination and is renowned for providing visitors with exciting and exceptional products and shopping experiences. This industry is also important in major international tourist hubs including Paris, Milan, London, Tokyo, and New York - cities that are regarded as shopping paradises and attract foreign tourists inflow with various types of pro-retail sales schemes. China is a big market for the retail industry because of its huge population base and recent strategic shift towards recognition of the service industries.

The retail industry is a highly competitive industry and there are special management skills and trainings required in order to lead and succeed in the business. It is closely related to real estate asset management, especially for the luxury brand flagship stores, and specialty retail brands like Ikea, for which locating land for its huge Blue Box Ikea stores is critical to its business success.

This course examines different types of retailing, future trends in the retailing industry, and the key management skills required for this industry. In addition to retail operations and management practices, the course will also discuss the relations between the retailing industry and the tourism and real estate industries. The course also discusses how retailing businesses use competitive strategies and advanced information technologies to create competitive advantages, and how they manage relationships with stakeholders, including customers, suppliers, and policy makers.

HTMG5021 Shopping Mall Development and Management 3 units

Shopping mall is a dynamic business and has been one of the important assets in the investment portfolio. Unlike other real estate assets focusing only on the rental income paid by the tenants, the shopping mall predominantly concerns about the business of the tenants and how to increase their revenue. The shopping mall business thus requires thorough management to attract more customers and to increase the traffic flow. Despite the significance of site selection and financial feasibility, other important factors determining the success of a shopping mall include tenant mix, marketing and promotion, operation and maintenance, as well as asset enhancement. This course introduces theoretical knowledge and concept affecting the development and management of the shopping mall. After taking this course, students should have a good understanding of the shopping mall business and allow them to work in the shopping mall development and management field.

HTMG5022 Revitalisation of Historic Buildings 3 units

Historic buildings bear witness to the development of a city and they are valuable and unique assets of urban community. In recent years, people have grown increasingly aware of the issue of the demolition and redevelopment of historic buildings. New generations are shouldering the responsibilities of inheriting and maintaining the culture of the city in a sustainable manner. This course focuses on historic buildings and sites in relations to their settings and aims to introduce the revitalisation theories, revitalisation policies and revitalisation process. Case studies are used to illustrate revitalisation projects in Hong Kong, Mainland China, Macau and Singapore.

HTMG5023 Land Conversion Process and Development Control 3 units

Land improvement refers to investments that make land more usable for humans. Prior to the development of its industrial and commercial activities, Hong Kong was once an agrarian society with a large amount of active agricultural land. The growth of Hong Kong's economy is accompanied with large areas of agricultural land, with fish ponds and farmlands, being developed into other uses. Land conversion process and development control has significant economic and social implications for all stakeholders involved.

This course is designed to address two major topics: lease control and statutory control during land conversion and development processes. The course provides a foundation for understanding land development. Landowners and developers of all sizes typically aim to maximize profits, minimize risks and control cash flow. These objectives require landowners and developers to design optimal plans for local markets and meet local legal and administrative requirements and procedures. This course introduces Hong Kong's land tenure system and development control and helps students understand the geographical characteristics of real estate properties in Hong Kong that have been

developed into different uses over time. Students will also learn about the interplay between development processes and local conditions.

HTMG5024 Real Estate Economics **3 units**

Real estate, governing one-third of the world's assets, plays an important role in the capital markets. It is thus crucial to understand how the real estate system works and what economic forces drive the real estate value. In the real estate system, there are two markets (space market and asset market) and one industry (development industry). Space market is essential to the overall real estate system as it governs rents. Changes in rent promptly influence the demand for real estate asset market, and development industry at a later date. This course introduces urban and real estate economics. Urban economics is the primary branch of economics for studying the space market. Topics related to urban economics and real estate space-market analysis will be covered, including four-quadrant model, central place theory, residual theory of land value, the concept of rent, bid-rent analysis, neighborhood life cycle, property life cycle, and demand and supply for real estate space market. After taking this course, students are expected to have in-depth understanding of factors that trigger the functioning of real estate space markets.

HTMG5025 Planning and Executing Real Estate and Hospitality Projects **3 units**

The use of projects has been increasing in organizations. A project can be defined as a temporary endeavor undertaken to create a unique product, service, or result. Projects are particularly important for financial success of real estate and hospitality organizations, in which time-sensitive and budget-constrained projects are widely used in planning, developing, financing, evaluating, managing, and marketing business solutions or real estate properties. The abilities to successfully plan and execute projects have become an important leadership competency in the real estate and hospitality industries. To lead a larger organization in these industries, a manager needs to first develop the capabilities to integrate his or her technical, organizational, behavioral, financial, quality, logistical, and informational expertise in completing projects. The objective of this course is to equip students with project planning and execution skills and tools relevant to real estate and hospitality assets. In addition to discussing the critical steps in a project (e.g., initiation, plan, budget, schedule, monitoring, control, performance evaluation, and risk management), the course also emphasizes how organizational factors (structure, strategy, and culture) and industry-specific standards and practices affect project results. Experiential learning activities such as real-world group projects from the real estate/hospitality fields, active case discussions, and business examples will be offered along with lectures for the purpose of enhancing students' conceptual understanding and practical skills.

HTMG5026 Capstone Research Project **3 units**

The objectives of this course are: (1) to supplement the study of theoretical perspectives with empirical research evidence, (2) to guide students in conducting empirical research, and (3) to nurture an academic mind and enable students to study the intimate relationship between theory and practice. Students will identify relevant industry issues and provide policy recommendations. These recommendations are grounded in academic literature and supported by empirical evidence. Students are expected to conduct a behavioral research project on an issue related to the hospitality and real estate industry.

HTMG5027 Real Estate Financial Reporting and Analysis **3 units**

Real estate entities that construct, manage and hold real properties encounter various financial reporting issues that could affect their performance measurement. In real estate industry, the financial reporting is in fact unique and complex. While the industry has its own specific standards, it is mandatory that these entities also need to follow the statutory reporting requirements. This course covers the financial reporting practices adopted in the

real estate industry and applies the financial statement analysis techniques in the performance measurement and valuation of real estate entities. Topics include fundamental accounting techniques and practices, relevant financial reporting standards for the real estate industry, subsequent measurement of investment property, as well as real estate financing and tax considerations. After taking this course, students are expected to have an in-depth understanding of the financial reporting standards required and be able to apply these standards in the valuation of real estate entities.

HTMG5028 Managing Risk in Real Estate: Banking Practices 3 units

This course provides an overview of the infrastructure and financial risk management of financial institutions. The unifying theme in this course is the application of modern finance theories to the financial decision making and management of financial institutions, especially commercial banks. The subject of decision-making in financial institutions is approached from a risk perspective, with a focus on banking practices in managing risks associated with real estate assets and investments. The main topics cover various financial risks and their management, including interest rate risk, credit risk, liquidity risk, foreign exchange risk and market risk within an international context. This course provides students with a banker's perspective on real estate financing and investment.

HTMG5029 Selected Topics in Real Estate 3 units

This course is designed to investigate and to discuss selected topics of current interests in the area of real estate.

HTMG5030 Real Estate Field Study 3 units

Experiential learning is a crucial element of real estate study. Since the real estate industry involves complex work practices and diverse professional fields, it is necessary for students to learn first-hand knowledge of real estate planning, development, management, and investment through site visits and field trips, local or overseas. This course is designed to extend students' real estate learning beyond the classroom. The course combines classroom lectures / workshops on chosen real estate topics with a field trip to a location typically outside Hong Kong. Students are expected to apply theoretical concepts and tools to analyze real-world cases, conduct market research, and/ or solve problems in a specific real estate area. The topics of this course will vary depending on different instructors, field trip locations, and project tasks.

HTMG5031 PropTech: Emerging Trends and Opportunities 3 units

The real estate industry, which accounts for a significant portion of global capita assets, used to be known for relying on traditional practices and lacking capacity for continuous innovation. This, however, has changed in recent years with the fast development of property technology (PropTech) applications. PropTech refers to a wide range of technology-enabled solutions used to optimize all stages of the real estate process, from property design, construction, management to property buying, leasing, and selling. This course helps students understand how the Internet, mobile and digital technologies have changed residential and commercial real estate business operations. Students will learn to compare and evaluate PropTech solutions and understand the business opportunities and potential challenges associated with these new tools/ platforms. Real-world cases and examples will be used to discuss the impact of PropTech on real estate practices.

IEMS – Information Engineering

IEMS5709 Emerging Topics in Information Engineering 3 units

This course gives an overview of social media, studies how different tools in information science can be used to analyze social media content, and how these results can be useful in different applications. This course will cover both knowledge in computational analysis

of social media and the corresponding social networks, and basic technical skills in Python programming for the analysis.

IEMS5710 Cryptography, Information Security and Privacy 3 units

This course aims to enhance students' knowledge of cryptography as well as information security and privacy, in both theoretical and practical ways. The course introduces cryptography at an elementary level, enabling students to appreciate its application to information security and privacy. Daily applications of cryptography will be discussed, including digital certificate and Public Key Infrastructure (PKI), Virtual Private Network (VPN), wireless communication security, as well as security and privacy issues in online social networks.

IEMS5717 Emerging Communication Technologies 3 units

The course covers the principles and applications of various emerging communication and networking technologies to support the current high-capacity and flexible telecommunication data networks. The topics include telecommunication network infrastructures, optical fiber transport and access networks, mobile cellular systems and emerging wireless networking technologies, cloud/fog/edge computing, software-defined networking and network virtualization, distributed systems for big data analytics, and network control and management.

IEMS5719 Technology Strategy 3 units

This course introduces technology strategy and management. The challenges of technology companies (such as hardware, software, internet, consumer electronics, communications and networking) regardless they are in startup or mature stage, are very different from other industries. They need to consider five aspects carefully to formulate an effective strategy. A framework of strategy in technology-intensive companies will be introduced. This framework consists of 5 components:

1. Network Effects
2. Multi-sided Platforms
3. Intellectual Property (IP) and Standards
4. Technology Commercialization
5. Digital Convergence

IEMS5723 Social Media Analytics 3 units

This course will introduce to the students emerging topics in information engineering. The detailed course contents may be changed from year to year depending on the current development and the teacher specialty. Course assessment is at the discretion of course teacher.

IEMS5726 Data Science in Practice 3 units

Data science is a cross-disciplinary study involving informatics, machine learning, and statistics. This course discusses various components in the pipeline of a data science project, which include Python programming, data pre-processing, feature selection, common machine learning algorithms and data visualization. A problem driven approach is adopted to discuss applications of data science in various real-life examples.

IEMS5727 Internet of Thing and Smart Applications 3 units

The course introduces the principles, architectures, enabling technologies and smart applications of Internet of Things (IoT) systems. Various technology options for smart object identification, sensors, machine-to-machine communications and protocols, cloud computing and big data analytics, security, as well as their design considerations will be discussed. Emerging smart applications of IoT in various fields such as healthcare, transportation, logistics, manufacturing & production, home automation, smart city, will be studied.

IEMS5731 Software Design and Development 3 units
This course introduces basic programming methodology and provides students experience in designing, implementing, testing large programs using Java. Topics include basic Java programming, object-oriented programming, web application development and software development methodologies.

IEMS5732 Data Communications and Networking 3 units
This is an introductory course for data communications, computer networking systems and internet protocols. Topics include: data transmission fundamentals, multiplexing and switching, layered network architectures and the TCP/IP model, and common internet protocols, wired and wireless local and wide area networks.

IEMS5910 Advanced Research and Development Project I 3 units
Student will work independently under the supervision of a faculty member on a research project in Information Engineering. The topic and scope of the study is to be agreed between the student and the supervisor. A project report is required at the end of the course.

MGNT - Management

MGNT5501 Corporate Governance and Corporate Social Responsibility 1.5 units
This course focuses on two key and related areas aiming at sustainability by aligning interests between the firm and its stakeholders. This course aims to develop students a managerial mindset for doing good business and doing it well by introducing basic concepts and practices related to CG and CSR. The course will cover fundamental, emerging, and context-specific organizations and institutions, internal and external CG mechanisms, strategic CSR, social entrepreneurship and innovation, public/private/NGO partnership, family business, corporate fraudulence and scandals, crisis response strategies, etc.

MGNT5503 Creating Global Advantages 1.5 units
This course will help prepare students planning to work in large and small firms making international business decisions and acting as an effective international manager. Topics include: strategies on internationalization process; understand different modes of entry; mergers and acquisitions; explore key strategies for international business; investigate how to interact with and work on multicultural teams, how to be an effective leader in different countries, and how to conduct international negotiations. The course will also explore key design, management, and strategy issues that multinational corporations face.

MGNT5504 Managerial Communication Skills 1.5 units
This course emphasizes both a strategic and practical approach to provide students with a set of frameworks that help them construct effective and influential workplace correspondence, documents and presentations. This course offers students the opportunity to speak and write in a managerial context while receiving practical feedback and coaching to develop and sharpen these critical skills.

MGNT5505 Managing People and Organization 3 units
This course aims at:
1. equipping students with an understanding of the complexities and ambiguities in organizational behavior and organizational learning and the daily processes that managers, policy makers and consultants are involved in;
2. developing in students the professional insights to choose strategies for learning in organizations and organizational networks;

3. deepening students' understanding of leadership;
4. equipping students with an understanding that leadership takes place at individual, team, organizational levels and at the intersection of business and society

MGNT5506 Strategic Management for Competitive Advantage 3 units

The course is designed to offer students with an integrative framework for formulating and implementing corporate-level and business-level strategies that help firms achieve sustainable competitive advantages. It introduces a wide variety of strategic analysis tools and adopts case-based teaching approach. The course will cover important strategic management topics such as formulating competitive strategies, corporate diversification, mergers and acquisitions, strategic alliances and networks, organizational structure and control mechanisms, etc.

MGNT5507 MiM Capstone 3 units

This course involves a 2-week international study-trip. This course puts in practice all the students who have learned throughout the year, an intense consulting project work with company visits and intercultural seminars where students should learn about doing business in the region.

MGNT5531 Business Model Canvas for Digital Economy 1.5 units

This course aims at helping students understand basic concepts and methods of application of business models. A business model is a logical and internally consistent representation of the design and operations of a business, capturing the essence of how it will be focused and demonstrating how an interrelated set of decision variables will be addressed to create, deliver and capture value. There is a widespread recognition that competition between businesses today is not solely based on their strategies but to a large extent on innovative business models. Increasingly often, startups introduce new business models and change the dynamics of the industry and related industries. Business model innovation is focused on the design and development of new and unique business models that, by definition, challenge accepted conventions in a given industry about how to create and deliver customer value in new ways. This course will explore the range and diversity of innovative business models in the digital economy and equip students with hands on experience in developing innovative business models that capitalizes strategic opportunities given by the digitalization.

MGNT5532 Emerging Technology and Business Innovation 1.5 units

This course aims at providing a solid ground to students interested in top management and government policy issues concerning the innovation process. The course is divided into 5 main parts. The first part discusses technology at the macro level: technology's impact on industries and nations, and patterns of technological change. The second part of the class focuses on disruptive innovations—what they are, how they impact firms and industry change. The third part deals with the response of firms to disruptive innovations, including the changing basis of competition in markets. Also, the increasing returns environment is examined. The fourth part focuses on building organizations' internal capabilities to innovate and the "innovator's solution". The fifth part discusses additional topics in innovation such as entrepreneurship, and creating innovative organizations.

MGNT5533 Entrepreneurship and Strategic Renewal 1.5 units

This course aims at providing a solid ground to students interested in entrepreneurship and strategic renewal processes of the firms. In a world of innovations that keep accelerating change, formulating path-breaking innovation strategy and organizational transformation to remain competitive is an increasing imperative. Sustained competitiveness often requires entrepreneurial initiatives in startup, growing, mature or declining organizations with the purpose of instilling a strategic orientation for dynamic capabilities and competitive advantages. This course will offer fundamental concepts,

models, and best practices of entrepreneurship and strategic renewal of different organizational types, at different stages of organization life span, and across different industries and countries. Emphasis will be placed on entrepreneurial opportunity recognition, organizational diagnosis, design and alignment, as well as the execution of organizational transformation and renewal.

MGNT5534 Executive Challenge for Innovation 3 units

This course aims at helping students understand the nature of challenges faced by executives in innovation management. This course uses a role-playing simulation, which is run full-time over four consecutive days (96 hours). The entire course will be conducted with students split into management teams of five students (CEO, Finance Director, Sales & Marketing Director, Operations Director, and HR Director). The management teams of students will act in response to a series of actual events surrounding the management takeover of a newly acquired firm. The course provides real-time insight into what it is like to assume managerial control of a company.

MGNT5535 New Venture Management 3 units

This course focuses on the nature and challenges of entrepreneurial businesses as they move beyond startup and enter the growth stage. A majority of them usually sustain unique technology, business model, and other competences that other companies find it difficult to match. Yet entrepreneurial firms in the growth phase must build an organization capable of managing this growth. Besides, as other firms enter the market they need to sustain growth as the market and competitive environment changes. The entrepreneur needs to create systems and a professional organization both responsive to external change and entrepreneurial enough to continually create new businesses and products through innovative thinking.

MGNT5536 Independent Study Project 3 units

This course involves an independent study project conducted by individual students. Subject to approval from the programme, students will be able to undertake an individual research in the form of independent study project on the topic of their choice under the supervision of a faculty member. It would aim to help students understand how to collect, analyze and interpret data to make better decisions.

MGNT5537 Management Consulting 1.5 units

This course is designed for students who aspire to be management consultants as their careers. The course will provide knowledge and frameworks for understanding the profession, consultancy processes, and the working context. Students will learn and utilize a set of tools in identifying, analyzing, and resolving organizational problems.

MGNT5561 MiM Selected Topics 3 units

This course focuses on the timely themes and special issues in the field of management in relation to digital economy and innovation. It includes, but is not limited to, emerging trends in human capital management, strategic management, global business management, and entrepreneurship.

MGNT5581 MiM Contemporary Topics 1.5 units

This course focuses on the contemporary topics in the field of management in relation to digital economy and innovation. It includes, but is not limited to, emerging trends in human capital management, strategic management, global business management, and entrepreneurship.

MKTG - Marketing

MKTG5011 Marketing Management 3 units

This course is designed to illustrate how to devise a good market plan comprising segmentation, positioning and targeting to achieve consumer satisfaction. Emphasis is placed on adopting the basic marketing concept to enhance a firm's long-run market position via the creation of a differential advantage while meeting consumer desires at the same time. Another emphasis of this course is to explain how a firm can excel in the ever-changing market and competitive environment.

MKTG5012 Marketing Research 3 units

This course deals with the systematic and objective search for, and analysis of, information relevant to major classes of marketing management problems. There will be a focus on applications of problem structuring and marketing data collection, processing, and analysis.

MKTG5013 Buyer Behaviour 3 units

Integrated selected topics in buyer behaviour with marketing applications. Topics include: the sociological and psychological aspects of buyer behaviour, product adoption and diffusion, and the process of buyer behaviour, including search, motivation, influence, and interaction, and examination of normative behaviour models.

MKTG5014 Managing Service Excellence 3 units

This course reviews the important concepts in service marketing. It addresses the issues involved in the effective marketing of services taking into account the unique characteristics of services. The issues which are covered include: the interactive nature of the service provider, the consumer and the physical environment in the service provision process; the importance to maintain high quality; and special problems related to the growth and internationalization of services.

MKTG5015 Organizational Marketing 3 units

The major objectives of this course are to develop an understanding of the unique features, behaviour and problems of organizational marketing as compared to consumer marketing and to show how to apply the marketing managerial process (e.g., market segmentation, target market selection, development of the marketing mix) to the field of organizational marketing. The course is concerned with the application of modern marketing principles to organizational customers, including profit and non-profit organizations such as industrial buyers, government and social service institutions.

MKTG5018 Big Data Strategy 3 units

This is an introductory course for big data marketing. The course introduces to the students the different types of data, data analytics, and their applications in marketing. The topics may include scanner panel data and shopping behavior analysis, web search data and online advertising, clickstream data and internet marketing, social network analysis, text mining and customer relationship management (CRM), machine learning and picture information processing, database management. Methodologies and techniques, including web crawling, logistic regression, and social network analysis, will be introduced and their business applications will be explained.

MKTG5019 Strategic Consumer Insights 1.5 units

This course is designed to provide students with a comprehensive coverage of frameworks, concepts, tools, and techniques to get into the minds of consumers. It has a strong emphasis on uncovering and generating business-relevant consumer insights. Relevant theories and research in behavioral sciences will be discussed with the

overarching goal of understanding and shaping consumer behavior. The topics discussed comprise of psychological processes underlying consumer decision-making, consumer heterogeneity, social influences, cultural differences in consumer behavior, and behavioral interventions.

MKTG6011 Strategic Marketing **3 units**

This course covers major marketing decisions in a problem oriented setting, the in-depth study of general marketing management, and the development of marketing plans and strategies. Emphasis is placed on integrating and applying analytical techniques, and interfunctional aspects of marketing.

MKTG6012 Integrated Marketing Communication **3 units**

This course is designed to provide students with a theoretical and practical appreciation of the role of "integrated marketing communication" (IMC) in today's business environment. IMC differs from traditional advertising and promotion programs by using zero-based planning, data-driven communication and brand touch points. The program focuses on using strategic mix of advertising, sales promotion, public relations, event marketing and direct response promotions along with mass and two-way communication.

MKTG6013 Customer Relationship Management **3 units**

Customer analytics is a process by which businesses leverage customer data to make key marketing decisions. It has a precursor as the so-called process of customer relationship management (CRM). Historically, only repeated customer interactions—mainly in retail, service and industrial sectors—generate sizable data suitable for business analytics, and these data are stored in the CRM system. Today's market sees proliferation of customer data for not just loyal customers but even first-time or short-lived visitors, on not only customer transaction histories but also their characteristics, attitudes, opinions, and behaviors. Thanks to the advancement of ready-to-use data analytics tools, businesses can easily tap into this rich information to understand their customers' likes, needs, and wants better than ever before. If customers are the ultimate trophy that businesses are battling for in the market, customer analytics is the most powerful weapon a business need to master to outsmart one's competitors.

This course aims to provide students with the principles, frameworks as well as tools to make sense of customer data for business decision making. Our philosophy is to view customer data as assets of the business and the goal is to use right tools to uncover the relevant insights to acquire new customers, grow existing customers' loyalty, and ultimately, improve all customers' lifetime value to the business. In this course, we will ask the following questions:

- How to allocate marketing resources to acquire new customers?
- How to engage customers for their continued retention and relationship development?
- How to utilize effective data analytics tools to generate actionable customer insights?

We will then connect relevant findings to established strategies and tactics to develop and grow customer lifetime value.

MKTG6014 Global Marketing Management **3 units**

In this electronic age, multinational marketers will face a fast changing marketing environment. Globalization of business activities will no longer be the privilege of firms in the advanced countries. Existing concepts and theories in international marketing are being challenged for their abilities in solving problems in this electronic era. This course is designed to link theories with business practices. Topics include analyses of the underlying forces in international business, and the recent development of theoretical concepts and theories in the area of international marketing. Marketing strategies will be discussed for operations in both advanced and emerging economies.

MKTG6015 Salesmanship and Sales Management **3 units**

Salesmanship and Sales Management is the art of developing salespeople's selling skill and motivating one's own salespeople through an insightful blend of training and management procedures: both "system"-driven and "human"-oriented. Topics will include: sales training, determining the nature and amount of personal sales effort, territory design, quota and other performance assessments, and other control measures. Special emphasis will be placed on the discussion of contemporary practices in salesmanship and the selecting, training, motivating, and directing of salespeople.

MKTG6017 Strategic Brand Management **3 units**

One of the most important assets of any business is tangible: its brands. As industries become increasingly competitive, it is clear that strong brand-building skills are needed to survive and prosper. The Strategic Brand Management course is designed to provide conceptual background as well as practical approaches (i.e., relevant research techniques) to manage brands as a strategic asset as well as a primary source of competitive advantage. Topics include new product development process, brand creation, brand building, measuring/monitoring brand equity, and revitalizing brands. Although brands are one of the most important assets for any business, it is found that managers generally do not have very clear idea how to successfully manage their brands. Far too few managers really understand the concept of brand equity and how it must be implemented. In other words, managers need to learn the basic brand building concepts as well as the research techniques that can be used to collect data for brand planning. The objective of this course is to provide students with understanding regarding brand building concepts as well as to equip students with research techniques that can be used to build and manage a successful brand.

MKTG6019 E-Marketing **3 units**

This course deals with a new paradigm of marketing management in modern enterprise. It primarily explores the business implications of fascinating developments including computer networking, artificial intelligence, hypermedia, and visual arts of the emergence of electronic commerce in the electronic world. In addition to acquiring basic skills for navigating this newly developed mass medium, students are required to create personal and business electronic presence on the World Wide Web, and to develop a new perspective about marketing in 21st century.

MKTG6020 Special Topics in Marketing **3 units**

This course will focus on special issues selected by the Marketing Department.

MKTG6021 Business Negotiation **3 units**

This course introduces current research and thought on the negotiation process, and provides opportunities for students to apply the concepts and skills in simulations of actual negotiations. Strategic lessons are learned from different actual cases. The objective is to enable students to appreciate the art and science of negotiation, to understand how to resolve conflicts and derive the most out of bargaining.

MKTG6026 Behavioral Decision Making **3 units**

Making decisions, from the trivial to the fundamental, is part of the everyday life of every manager and investor. For the last 30 years, psychologists — and more recently also economists — have studied how people process information and make decisions. This research program has provided an insightful understanding of how people's decisions deviate from "optimal" ones, and the consequences of such biases in financial and personal terms. This course is devoted to understanding the nature, causes and managerial implications of these limitations. It will help the students discover a series of serious yet often overlooked mistakes that most people would commit in a variety of decision contexts, including investment decisions, hiring decisions, purchase decisions

and even marital decisions. At the same time, this course will also teach them how to correct these mistakes and how to reach optimal solutions. Instead of overwhelming the students with mathematic models or academic theories, this course will use many in-class exercises and questionnaires to convey the concepts.

MKTG6027 Marketing Engineering **3 units**

Firms today have access to more data about the market and consumer behavior than ever before. The business world is increasingly characterized by data explosion and information-intensive decision making. Integration between basic marketing concepts and analytical tools can significantly improve marketing decision making. The goal of this course is to help students develop the expertise to identify marketing opportunities/problems, analyze market data, and make marketing plans. Using exercises tied to computer software, students will develop problem-solving skills and critical thinking for various marketing problems.

The course consists of two parts. The first part addresses general strategic issues on market and consumers. We learn how to make strategic decisions on segmentation, targeting and positioning (STP). The second part examines specific marketing mix decisions, including new product design, sales forecasting, and promotion, etc.

MKTG6029 Social Media Analytics **3 units**

More than three-quarters of the top 100 companies are using at least one social media platforms (i.e., Facebook, Twitter, YouTube, etc). Definitely, social media marketing has emerging as a tectonic shift from traditional marketing.

This course introduces concepts, theories and applications of social network and social media analysis such as network and graph theory applications in social media, as well as network marketing and social media strategy. Through lecture, discussion, guest speakers, case studies and team project, students will come to evaluate how social media has changed the marketing paradigm and practices and many companies are struggling with it.

This course helps students implement social media strategies which involve different aspects of marketing and hone their network analytical skills. Due to a strong need for marketing professionals who are attuned to this area, this course is specifically for students who are planning to enter digital/social media marketing, consulting and brand management roles.

MKTG6030 Practicum in Managerial Marketing **3 units**

The objective of this course is to give students advanced practical marketing research techniques as well as hands-on experience in solving marketing problems in the real-world environment. The course consists of some lectures on advanced but practical marketing research techniques and a group project. In the group project, students will work closely with the marketing manager of a firm to solve his or her marketing problem(s) by using primary marketing research. Students will need to do presentation to the firm's marketing and/or management team as well as submitting a detailed written report or marketing plan.

MKTG6031 Practicum in Big Data Marketing **3 units**

The objective of this course is to provide students hands-on experience to solve big data marketing problems in the real-world environment. The course consists of lectures on big data software, big data group projects, meetings, reports and presentations. The big data project can be a data mining project or a text mining project or a voice mining project. Students work on the real world data and collaborate closely with the staff of the Marketing Engineering Center to deliver joint solutions to the big data marketing problems in the industry.

MKTG6033 Digital Marketing **3 units**

This course aims to discuss some new topics in digital marketing. It covers the interaction between online and offline marketing; the challenge of social media marketing to traditional marketing theories; models and problems of sharing economy; a discussion of different pricing models of internet companies; and the development and the influence of artificial intelligence (AI).

MKTG6035 Marketing Analytics **3 units**

Marketing analytics allow firms to measure, manage, and analyze marketing performance in order to maximize its effectiveness and return on investment. Advancements in collecting, storing, and analyzing information have created new business opportunities. Marketing analytics gives students an advantage to allocate marketing resources optimally to come out ahead of competition. Professionals with these skills are highly demanded.

This course provides students with solid foundation in marketing analytics. Students will build data skills to turn business data into prescriptive recommendations for the marketing execution process to maximize firms' strategic value. In this course, students will have the opportunity to experience hands on the use of business data to answer marketing questions and to analyze and present results.

Learning outcomes will include fundamentals of data analysis like data manipulation, data visualization and statistical tests, as well as advanced marketing applications such as data complexity reduction, factor analysis and choice models.

MKTG6036 Pricing Analytics **3 units**

Determining the price of a product or service is one of the most important but also complex marketing decisions. The objectives of this course are threefold. First, it aims to familiarize the students with the basic concepts and techniques in pricing decisions. Second, it introduces an integrated framework, which is structured around marketing's three C's: costs, customers and competitors, for assessing and formulating profitable pricing strategies. Third, this course points to analytical tools which are essential for the understanding of both pricing decision and its value creation process from a managerial perspective. Students are expected to not only understand the concepts for setting pricing decisions, but also be able to apply essential techniques for making profitable pricing decisions in current business environment.

MKTG6037 Machine Learning in Marketing **3 units**

Machine learning, with its capability of analyzing big databases for patterns and insights, is quickly altering the future landscape of marketing. This course uses real business cases from tech companies and aims at providing students with a basic understanding on how machine learning can assist modern marketing decisions. Topics such as the following will be covered: 1) unsupervised learning and recommendation systems; 2) supervised learning and churn rate prediction; 3) A/B testing and the optimization of advertising offers; 4) natural language processing and the analysis of user-generated content. Deep learning and artificial intelligence will also be discussed.

MKTG6038 Special Topics in Business Negotiation **1.5 units**

This is a hands-on course where students learn and practice negotiation concepts, frameworks, and skills in various business settings. Through experiential exercises, case debrief, and class discussions, students are expected to participate, voice, practice, reflect, and learn how to negotiate effectively from both the teaching materials, the instructor and fellow classmates.