SMU MASTER OF SCIENCE IN APPLIED FINANCE
The MAF programme prepares graduates for a wide range of careers in the finance industry.

Our Master of Science in Applied Finance (MAF) programme is a rigorous course designed to equip students with a comprehensive and in-depth understanding of the analytical and pricing issues of financial markets and instruments, largely from a practical perspective.

Graduates of our programme will attain a thorough understanding of economic analysis, financial statement analysis, security pricing and dynamics of financial markets, all of which are vital in today’s finance industry. They will gain a broad and complete understanding of corporate balance sheets; understand the risks and payoffs of market instruments and develop the abilities to invest according to their risk appetite and with appropriate controls. Increasingly, awareness of new regulatory frameworks and regulations on the finance industry is also emphasised together with the institutional background of markets.

The MAF programme therefore prepares graduates for a wide range of careers in the finance industry, including equity analysis, portfolio management, fixed-income analysis, corporate risk management, corporate strategy, hedge fund management, or in general terms financial analysis. In addition, the curriculum is designed to suit the Chartered Financial Analyst (CFA) examination requirements, ensuring our students can pursue their CFA designation. Historically, our students have achieved excellent results in the CFA examinations.

Our overall aim is to produce graduates with requisite analytical skills and knowledge to advance their career in the financial services and financial markets.

For the MAF programme, we are especially fortunate to have some of the lecturers who have taught in the CFA Institute’s syllabus since 1986 when the CFA was first introduced to Singapore. SMU is also a highly visible and distinctive university known for excellent research and strong pedagogical methods. In this programme, we have put together a team of well-qualified and experienced faculty and industry professionals with a passion for finance and the enthusiasm to share their knowledge with students.

I strongly encourage you to join our programme, and embark on a journey that can transform your future in the finance industry. You will find it a rewarding and enriching experience.

Yours faithfully

Professor Howard Thomas
Dean
LKCSB Chair in Strategic Management
Lee Kong Chian School of Business
Singapore Management University

Message from the Dean

Our MAF programme prepares graduates for a wide range of careers in the finance industry.

Our curriculum is carefully designed to strike a good balance between theory and practice.

I am pleased to recommend to you the Master of Science in Applied Finance (MAF) programme.

This programme is designed specifically to equip our students with cutting-edge knowledge and skills in applied finance. Over a period of 12 to 18 months, students will be exposed to a wide range of subjects such as accounting, statistics, equity and fixed-income analysis, corporate finance and portfolio management.

A special feature of the MAF programme is that the curriculum is structured to meet the requirements of the internationally recognised Chartered Financial Analyst (CFA) examinations. Hence, our students will not only graduate with a Master degree from SMU but will also be well-prepared and qualified to take the CFA examinations.

Our curriculum is carefully designed to strike a good balance between theory and practice. Upon successful completion of the programme, students would have acquired a firm foundation in economic and financial theories as well as state-of-the-art quantitative financial skills. The curriculum also offers practical training in finance so as to familiarise students with the current banking and finance practices on top of frequent industry visits, talks and networking activities.

The programme is taught by a team of distinguished faculty with many obtaining their PhDs from world-renowned business schools and experienced professionals from the finance industry.

I am confident that the MAF programme will provide you with the skills and knowledge required in the fund management, banking and stockbroking industries.

Come and join us to experience the rewarding and intellectually stimulating learning environment we provide at SMU. I am sure that you will enjoy and be glad of your decision.

Yours faithfully

Dr Benedict Koh
Professor of Finance (Education)
Associate Dean, Lee Kong Chian School of Business
Director, Centre for Silver Security
Director, MSc in Applied Finance Programme
Singapore Management University

Message from the Programme Director
About the Programme

Singapore Management University (SMU) offers the Master of Science in Applied Finance (MAF) programme by coursework. This landmark programme aims to raise the standard of practitioners’ knowledge and skills in applied finance which has been identified as an area of critical training by the Economic Review Committee and the finance industry.

Besides covering the critical components required to meet the high academic standards of a MAF degree at SMU, the curriculum is also designed to suit the Chartered Financial Analyst (CFA) Institute and Chartered Alternative Investment Analyst (CAIA) Association examination requirement, enabling you to pursue a CFA and CAIA designation as well. Upon successful completion of the programme, you will receive your MAF degree conferred by SMU.

OVERVIEW

MAF is an intensive programme where candidates are required to complete 15 core modules, 5 elective modules and a Career Management Skills module so as to meet the requirements of SMU’s Master of Science degree.

There are 3 tracks under the MAF programme:

<table>
<thead>
<tr>
<th>MAF Full-Time – 12 months (2 terms)</th>
<th>MAF Part-Time – 18 months (3 terms)</th>
<th>MAF China – 12 months (2 terms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Singaporeans, Singapore Permanent Residents and international students.</td>
<td>For Singaporeans, Singapore Permanent Residents and foreigners holding an employment or a dependant pass.</td>
<td>For international student who would like to complete 9 months of preparatory study in Xiamen, China before commencing their 1 year study in SMU.</td>
</tr>
</tbody>
</table>

Programme Features

An industry-relevant programme, taught by highly qualified and experienced faculty members and industry professionals

We are committed to ensure that our students gain knowledge and skills that are useful and relevant in today’s financial environment. Our course structure and programme content are designed to give you a strong foundation in the principles and practice of finance. You will also benefit from the expertise and experience of our teaching faculty who not only share insights from their own careers but also use a wide array of case studies to deliver important concepts. In addition, we regularly invite many successful professionals to our events to share their knowledge and perspectives. You will take away with you a toolkit of highly practical financial skills and knowledge that can easily be transferred to the workplace.

Partnership with CFA and CAIA

As a collaborative partner with Chartered Financial Analyst (CFA) Institute and Chartered Alternative Investment Analyst (CAIA) Association, the MAF programme is an ideal form of preparation for those who wish to pursue their CFA and CAIA designation.

Wide range of subjects

We offer a broad range of core and elective finance modules in MAF, catering to the fast-changing financial sector and the increasing need for financial professionals to have specialist skills. The programme also provides an international perspective of global financial markets and instruments while at the same time it is customised to take into account the unique characteristics of the regional and Chinese business environment.

Strong alumni network

Established in 2002, the MAF programme has produced over 600 graduates, forming part of our MAF alumni network. In addition to locals and expatriates working in key areas of finance in Singapore and around the world, we have graduates from the MAF China track who further add to our rich and diverse culture.

The main objectives of the MAF programme

- The MAF programme aims to equip practitioners with confidence, knowledge and skills in applied finance.
- CONFIDENCE
  - Be an effective communicator with strong interpersonal skills.
- KNOWLEDGE
  - Gain a strong foundation in the principles, practice and operations of financial markets with focus on the application of theory to real-world business needs.
- SKILLS
  - Equip yourself with analytical skills, creative problem-solving techniques and the aptitude to respond to changes and challenges based on a knowledge of the most recent advances in finance.
# Programme Structure

## MAF FULL-TIME & CHINA TRACKS

### TERM 1 (JULY TO NOVEMBER)
- Career Management Skills
- Derivatives Analysis
- Economic Analysis
- Financial Statement Analysis 1
- Equity Analysis and Portfolio Management
- Fixed-Income Analysis
- Financial Statement Analysis 2
- Advanced Equity Analysis
- Corporate Finance

### TERM 2 (JANUARY TO MAY)
- Financial Statement Analysis 3
- Financial Modelling
- Advanced Derivatives Analysis
- Advanced Portfolio Management
- Advanced Fixed-Income Analysis

### ELECTIVE MODULES
Choose 5 electives as listed below:
- Advanced Corporate Finance
- Investment Advisory Service and Wealth Management
- Corporate Risk Management
- Hedge Fund Management
- Bank Risk Management
- Alternative Investments
- Private Equity and Venture Capital Investing
- Investment Advisory Service and Wealth Management
- Corporate Risk Management
- Hedge Fund Management
- Bank Risk Management
- Alternative Investments
- Global Financial Markets

Each module consists of 7 class sessions of 3.5 hours. Classes are held on weekdays and Saturdays (9am–5pm).
The module may subject to change as deem appropriate.

## MAF PART-TIME

### TERM 1 (JULY TO NOVEMBER)
- Career Management Skills
- Corporate Finance
- Economic Analysis
- Derivatives Analysis
- Equity Analysis and Portfolio Management
- Financial Statement Analysis 2
- Financial Statement Analysis 1
- Fixed-Income Analysis
- Quantitative Methods and Statistics

### TERM 2 (JANUARY TO MAY)
- Advanced Equity Analysis
- Advanced Derivatives Analysis
- Advanced Quantitative and Economic Analysis
- Advanced Fixed-Income Analysis
- Financial Statement Analysis 3
- Financial Modelling

### TERM 1 (JULY TO NOVEMBER OF THE FOLLOWING ACADEMIC YEAR)
- Advanced Portfolio Management

### ELECTIVE MODULES
Choose 5 electives as listed below:
- Advanced Corporate Finance
- Hedge Fund Management
- Alternative Investments
- Investment Advisory Service and Wealth Management
- Corporate Risk Management
- Bank Risk Management
- Private Equity and Venture Capital Investing
- Global Financial Markets

Each module consists of 7 class sessions of 3.5 hours. Classes are held on weekday evenings and Saturdays (9am–5pm).
Preparatory classes in foundation course will be conducted in May/June, prior to the start of the MAF Part-Time track.
The module may subject to change as deem appropriate.
Faculty

Our 30-strong faculty members in the MAF programme are top notch, and accomplished in both industry and academia. Endowed with a wealth of experience in research, teaching, and consultancy, faculty members hold PhDs from various universities including top ranking ones such as Cambridge, Cornell, Massachusetts Institute of Technology, Princeton, Stanford and Yale. Several faculty members are recipients of international scholarly and teaching awards and have a wide range of research and teaching interests. Some of them also serve as editors or editorial board members of prestigious scholarly journals, and authored works which are well received.

Admission & Application

WHO SHOULD ENROL?
• Practitioners in finance or related fields who wish to pursue their CFA and CAIA designation.
• Professionals who wish to enhance their knowledge and skills in applied finance.
• Those who wish to attain the relevant qualifications in order to obtain an ideal job or enhance their career in the banking and finance industry.

ADMISSION CRITERIA
• A good university degree.
• A good GMAT or GRE score, which must be taken within the last 5 years at the time of submitting your application.
• Preferably with at least 2 years of working experience.
• TOEFL or IELTS is required if the medium of instruction of your undergraduate studies was not in English.

The MAF programme is open to all Singaporeans, Singapore permanent residents and foreigners. Foreigners who are interested in applying for the Part-Time track must hold a valid employment or dependant's pass. Student visas will not be issued to international students taking the MAF Part-Time track.

Shortlisted applicants will be invited for an interview.

APPLICATION
You can apply online via our website at www.smu.edu.sg/maf. Early application is encouraged. Please check our website for updates on application periods.

PROGRAMME FEES
The fees for the programme are:

MAF FULL-TIME / PART-TIME
The total fee is as follows:

<table>
<thead>
<tr>
<th>Application fee</th>
<th>Registration fee Description</th>
<th>Tuition fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>$50 (non-refundable)</td>
<td>$400 (Singaporeans / Singapore Permanent Residents)</td>
<td>$32,000</td>
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<tr>
<td></td>
<td>$500 (Others)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(non-refundable and is payable on acceptance to the programme)</td>
<td></td>
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</tbody>
</table>

MAF CHINA
The total fee is approximately as follows:

<table>
<thead>
<tr>
<th>Registration fee</th>
<th>Tuition fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>$400 (Singaporeans / Singapore Permanent Residents)</td>
<td>9 months preparatory study in China RMB80,000 (approximately $16,000)</td>
</tr>
<tr>
<td>$500 (Others)</td>
<td>One year full-time study in Singapore $32,000</td>
</tr>
<tr>
<td>(non-refundable and is payable on acceptance to the programme)</td>
<td></td>
</tr>
</tbody>
</table>

*The Singapore Management University reserves the right to alter tuition and other fees as deem appropriate.*
Synopsis of Modules

CORE MODULES

Career Management Skills
This module is designed to take you through the process of identifying your unique D.A.T.A., talents, skills and strengths, and equipping you with the tools necessary to design your own roadmap. Whether you dream of an exciting future or where you can be passionately engaged in life whether you are at the beginning of your work life i.e. making a first career step, or you are contemplating a mid-career change, your journey begins here. You will also develop competencies in writing a career plan, demonstrating reflective thinking about your career, preparing an effective resume and cover letter, and possessing job interviewing skills.

Economic Analysis
This module covers the principles of microeconomic and macroeconomic analysis with particular reference to economic management and the financial markets. The aim of this module is to learn and apply theories to the analysis. Topics in microeconomics include supply and demand, competition and monopoly, externalities and the new IT economy. For macroeconomics, topics will include growth, trade, cycles, and the causes and cures of global financial turmoil.

Equity Analysis and Portfolio Management
This module covers basic techniques of valuation and management of securities in a portfolio context. For valuation of stocks, models like discounted cash flow models, P/E multiples and alternative-pricing models will be covered. Implication of efficient market theory on fundamental and technical analysis will also be examined. Global and local equity market features will be incorporated to add depth to the module. For portfolio management, concepts of risk and return are analysed in the context of formal pricing models such as the Capital Asset Pricing Model and the Arbitrage Pricing Theory. Aspects of efficient market theory and anomalies are also considered. The concept of portfolio diversification and the construction of optimal portfolios such as mean-variance efficient portfolios are studied. The syllabus also includes international diversification and investments where currency risks and interest rate risks need to be evaluated.

Financial Statement Analysis 1
This module provides an introduction to the framework for financial statement analysis and financial statements (i.e. statement of financial position, statement of financial performance and comprehensive income, and statement of cash flows). In order to understand financial statements, you will learn key accounting concepts and policies that determine the “numbers” presented in financial statements. You will also be introduced to basic financial analysis techniques.

Quantitative Methods and Statistics
This module provides the basics of quantitative analysis, probability theory and data analysis, with special reference to finance. Topics include the time value of money, theory of interest, probability theory, descriptive data analysis, decision trees, estimation and hypothesis testing, and simple statistical analysis such as correlation analysis, regression analysis and time series analysis.

Corporate Finance
This course aims to provide you with a basic understanding of corporate finance. You will be exposed to key financial concepts and tools commonly used by managers in making sound financial decisions. These include time value of money, risk-return trade-off analysis and cost of capital. The course also reviews the basic financial activities undertaken by firms to create value for their shareholders. These activities include investing, financing and the dividend policy.

Derivatives Analysis
This module introduces the concept of derivative pricing based on the idea of an arbitrage-free market. Basic derivative instruments such as forwards, futures, options, swaps and swaptions will be covered. Valuation models for forwards and the Black-Scholes model for options will be studied. The difference between forwards and futures will also be discussed. In addition, the module contents will address the hedging and the trading issues. From a hedging perspective, option Greeks, interest rate and currency swaps versus exposures, and forward-spot basis risks will be studied. For trading, arbitrage opportunities, violations of parities such as put-call parity and other options strategies will be reviewed.

Financial Statement Analysis 2
This is a continuation of Financial Statement Analysis 1. It covers advanced topics including specific areas of the financial statements (e.g. inventory, receivables, PPE, income taxes, financing liabilities and off-balance sheet financing) and the need for analytical adjustments in analysing financial statements. You will also be introduced to the differences in US and IFRS GAAP, and the convergence of accounting standards.

Fixed-Income Analysis
This module focuses on the fixed-income markets and basic analytical tools used in analysing fixed-income securities. Features of fixed-income securities and credit rating will be covered in detail. Topics on basic analytical tools include interest rates and yield-curve mathematics, duration analysis and convexity. Theories on the term structure of interest rates will also be discussed.

Advanced Equity Analysis
This course is the continuation of Equity Analysis. It aims to provide you with an in-depth understanding of valuation and equity analysis. The course will equip you with conceptual and analytical skills necessary to make valuations on any publicly traded firm and create a value enhancement strategy for a firm’s management. This module also examines advanced equity valuation models including contingent claim valuation using Option Pricing Model.

Advanced Quantitative and Economic Analysis
This module builds on and extends the coverage of the earlier modules of Economic Analysis and Quantitative Methods and Statistics. Some advanced topics on the analysis of economic data will be covered, including multiple regression model, time series and econometric modelling, nonparametric statistics, and multivariate analysis. Applications of these techniques in portfolio management, economic forecasting, term structure modelling, asset pricing theories, performance measures and interest rate management will be examined.

Financial Statement Analysis 3
This module builds on and extends the coverage of the earlier modules, Financial Statement Analysis 1 and 2. Advanced topics in financial statement analysis including corporate restructuring, accounting for inter-corporate investments, mergers and acquisitions, distress analysis, accounting for multinational operations and the use of financial statements as a tool for valuation and forecasting will be covered.

Advanced Derivatives Analysis
This module builds on and extends the coverage of the basic module Derivatives Analysis. The basic concepts will be reinforced with some degree of modelling skills including the building of simple PDEs using Itô’s lemma. Some ideas of extending Black-Scholes and other adaptations to different commodities and financial instruments will be provided. More sophisticated theories such as forwards versus futures pricing, and interest rate swaps versus interest rate futures will also be covered. Interest rate derivatives such as caps, floors, and others will be studied in addition to the analysis of the use of derivatives in risk management.

Advanced Fixed-Income Analysis
This course is the continuation of Fixed-Income Analysis. This module focuses on fixed-income derivatives and risk management. Valuation models on fixed-income securities with embedded options, such as callable and convertible bonds will be discussed in detail. Issues in securitisation, asset-backed securities and options pricing theory with applications to fixed-income market will be covered as well.

Financial Modelling
Managers often need to make important quick decisions which are usually difficult to justify without a good model and thorough analysis. This module focuses on building and using spreadsheet models as effective tools in financial modelling. Through hands-on practices in class, you will be able to develop spreadsheet models covering representative topics from corporate finance to investment planning and analysis, analysing trade-offs and sensitivities, and understanding implications of uncertainties and risks. The key emphasis of this module is on acquiring the necessary programming skills and developing the art of modelling, more than learning about available financial models.

Advanced Portfolio Management
This module builds on and extends Portfolio Management. The module covers the complete investment process from constructing of the investment objectives and policies to broad class asset allocation, portfolio selection, revisions, monitoring, and performance measurement and attribution. Practical issues relating to investment management philosophy and style, and active and passive management will also be discussed. Advanced techniques in portfolio construction involving the use of single index, multi-factor and Arbitrage Pricing Theory models are studied.

For full description of elective modules, please visit MAF website: www.business.smu.edu.sg/maf/site/course_description_5module.html
The SMU MAF programme is intensive and rigorous. To me, the value of the programme has been that it has not only provided me with a strong foundation in finance but also a platform to further understand issues surrounding this ever-evolving industry. In the course of my participation in the programme, I benefited tremendously from the insights and knowledge of both the teaching staff and my fellow classmates. In addition, what is impressive about this programme is that it is extremely relevant to the real world, and the skills which I have learnt are very applicable to my work.

Edwin Chong Joo Meng
Assistant Vice President, Hong Leong Finance Limited

In modern finance, we understand the level of interest rate we want to yield depends solely on two trade-off factors – either how well we want to eat (more risk and return) or how well we want to sleep at night. At SMU, the dedication of our professors and rigorous curriculum enabled every graduate to be empowered with the knowledge and confidence to overcome any challenges they face and with the highest ethical standards. Clearly, our education has challenged the modern portfolio theory by giving us an insatiable appetite to achieve sustainable success and peace of mind for anyone who has met or is … an SMU student!

Jeremy Chan
Vice President, Credit Suisse

We are entering a new paradigm or evolution in the banking/investment industry. Yes, it is going to be tough, but high rewards await those who excel and are willing to take risks. The best investment you can make now is investing in yourself and there is no better return on investment than the SMU MAF programme. Verify it and welcome on board!

Toto Tanuwidjaja
Assistant Vice President, OCBC Bank

The turbulence in the financial markets brought the real economy to its knees. Instead of feeling fear and being risk-averse, the SMU MAF programme provided a fantastic ground for me to understand, learn and capitalise on opportunities arising in these uncertain times. I thoroughly enjoyed the holistic SMU experience provided by excellent lecturers who delivered investment theory with a strong dose of practical application of finance. For me, one of the best aspects of the programme was the highly interactive and passionate discussions with my classmates in the lecture hall and during group projects. We got on so well that even after completing the course we still keep in frequent contact.

Rayner Woo Hin Leong, CFA
Portfolio Manager

Lecturers are widely knowledgeable and willing to share their real-life and work experiences. I especially enjoyed such glimpses into the real finance world. They painted a fair picture of both the upsides and downsides of the finance industry. I also enjoyed the group projects which “force” us to tackle real financial problems, thereby solidifying our understanding of the key concepts in each financial module. I also made some nice friends along the way, whom I hope can lead to very meaningful relationships/networks in the future.

Chin Li Han
Polyolefins Supply Chain Support Lead
ExxonMobil Chemical Asia Pacific

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Voices from Alumni