PROGRAMME STRUCTURE

Our extensive curriculum will be taught over three trimesters in the full-time programme. Each trimester is divided into two mini terms consisting of seven weeks each. Students will spend the first five mini terms in Nanyang Technological University, Singapore, followed by a final term in Carnegie Mellon University, USA (subject to US visa approval, where applicable).

Part-time students may opt not to go to CMU, subject to the University's approval. If approved, they will take the courses in NTU. Fees will remain unchanged.



Recess: Dec-Jan & Apr-May. Please visit our website for the official academic schedule.

ADMISSION REQUIREMENTS

- A good undergraduate degree in applied mathematics, applied science, statistics, computer science, engineering or economics. Applicants from other fields will be considered on a case-by-case basis.
- Good GMAT or GRE score
- Good TOEFL or IELTS score, if the medium of instruction during undergraduate studies was not in English
- Minimum 2 years of relevant work experience is preferred but not required

PERIOD OF CANDIDATURE

Full-time - 1 Year (3 Trimesters) Part-time - 2 Years (6 Trimesters)

APPLICATION DETAILS

Admission for the programme takes place in July every year. All applications are to be submitted online with all the necessary educational and other required supporting documents, and an application fee of S\$100 (inclusive of GST).

Application closes end February for July admission.

Admission Process Schedule:

Submission of Online Application	
& Supporting Documents	1 Nov - 28 Feb
Interviews	Jan - Apr
Admission Offers	Apr - May

FEES

Application Fee: S	\$100
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Tuition Fees*:

for Academic Year 2016/2017 for both full-time and part-time are as follows:

S\$28,500
S\$33,250
S\$41,900
S\$55,800

Fees for full-time study are payable in installments over 3 Trimesters. Fees for part-time study are payable in installments over 6 Trimesters.

* Fees for AY2017/2018 are currently under review. Finalised fees will be announced in due course. Tuition fees do not include travel and living expenses for the final term in Carnegie Mellon University, USA. Estimated cost between S\$6,500 and S\$8,500 is to be fully borne by participants.

MSC FINANCIAL ENGINEERING

NANYANG BUSINESS SCHOOL NANYANG TECHNOLOGICAL UNIVERSITY

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Nanyang Business School

 $-d(t_{0})\sqrt{2\pi}e^{-\frac{1}{2}z^{2}}dz - e^{-it}(T-t)k$

MASTER OF SCIENCE (MSc)

FINANCIAL ENGINEERING

IN COLLABORATION WITH CARNEGIE MELLON UNIVERSITY



VIBRANT **LEARNING HUB**

Young and research-intensive, Nanyang Technological University (NTU Singapore) is ranked 13th globally. It is also placed 1st amongst the world's best young universities. NTU offers engineering, science, business, humanities, arts and social sciences, and has a joint medical school with Imperial College London. NTU is also home to world-class institutes and global research breakthroughs.

IN ASIA*

IN THE WORLD AMONG UNIVERSITIES BELOW AGE OF 50**

NANYANG **BUSINESS SCHOOL**

Consistently ranked among the world's top business schools, Nanyang Business School (NBS) is dedicated to educating international business leaders. NBS is the first in Singapore and among a select few in the world to attain accreditations from both global accreditation bodies, EQUIS (EU) and AACSB (US).

CARNEGIE MELLON UNIVERSITY, USA

A world-renowned pioneer in the teaching and research of Financial Engineering, Carnegie Mellon University's Tepper School of Business is one of the first business schools to emphasise interdisciplinary thinking. In recognition of consistent groundbreaking contributions, the U.S. News & World Report 2017 and the Financial Times rankings for 2016 have placed Tepper School of Business among top business schools.

- * Accounting Research rankings by Brigham Young University
- ** Quacquarelli Symonds Top 50 Under 50, 2016
- # Quacquarelli Symonds World University Rankings, 2016

THE NTU MSc FINANCIAL **ENGINEERING EXPERIENCE**

A unique graduate programme, the NTU Master of Science in Financial Engineering (MFE) empowers you to succeed as a dynamic professional in the world of high technology finance.

Learn from world-class faculty and seasoned industry professionals how to implement solutions in areas of high technology finance, such as risk management, product structuring, quantitative trading, quantitative research and financial information technology. Stay ahead of industry developments in this multidisciplinary programme that is offered in collaboration with Carnegie Mellon University, USA.

The programme's rigorous curriculum emphasises teamwork and communication in real-life corporate settings, seamlessly integrating current financial theory and computational methods with practical knowledge. Close interaction with both faculty and industry professionals will enable you to amalgamate real-life experience with academic research to enrich your understanding of today's financial world.

Five Highlights of the MFE Programme:

7 WEEKS AT CARNEGIE MELLON **UNIVERSITY. USA**

EXPERTISE FROM TWO NTU SCHOOLS

Nanyang Business School (NBS) & School of Physical and Mathematical Sciences (SPMS)

WORLD-CLASS FACULTY

INSIGHTS FROM INDUSTRY PROFESSIONALS

STRONG ALUMNI **NETWORK**

WHY FINANCIAL ENGINEERING AT NTU?

Updated to reflect new economic realities, the MFE programme is an intensive inter-disciplinary and collaborative programme that equips you with concepts and techniques in Finance, Computer Science and Mathematics. It applies sophisticated engineering tools to financial problems, utilising complex analytical and quantitative methods. It aims to create multi-skilled individuals with strong financial expertise, well equipped to stay constantly ahead of rapid advances in the financial services industry.

RESOURCES

Supporting all teaching and research activities in financial engineering and other areas of high technology finance, our Financial Trading Rooms are fully equipped with state-of-the-art terminals, trading simulation software and video-conferencing facilities, coupled with Bloomberg and Reuters 3000 Xtra. In addition, the Graduate Studies Career Development Office (GSCDO) facilitates job opportunities by providing assistance to students through workshops, seminars and career fairs. as well as to recruiters and employers in their talent search.

SPEAKER SERIES & VISITING PROFESSORS

You will benefit from the knowledge, wisdom and collective experience of our guest speakers and visiting professors. Industry professionals and visiting academics are invited throughout the academic year to teach and conduct seminars.

ENGINEERING FINANCIAL FREEDOM

Graduates from the MFE programme are highly valued and sought after in the financial services industry, with many successfully carving out a niche in the financial sector, both locally and internationally. Careers vary but usually revolve around risk management, quantitative asset management, product structuring, quantitative trading, quantitative research, financial information technology as well as other areas in high technology finance.

PROGRAMME **COURSES**

The courses in the MFE programme are divided into three groups: Financial Mathematics & Statistics, Finance and Computing. Preparatory courses in Math, Finance and Computing are also offered before the start of each academic year. The Math Preparatory Course is compulsory for all incoming students and commences end of June.

Students are required to complete 20 core courses and 4 elective courses:

FINANCIAL MATHEMATICS & STATISTICS

- Calculus & Linear Algebra
- Stochastic Modeling in Asset Pricing
- Stochastic Calculus for Finance
- Probability & Statistics
- Linear Financial Models
- Financial Time Series Analysis
- Numerical Methods for Financial Instrument Pricing (E)
- Simulation Methods for Option Pricing (CMU)
- Advanced Statistical Modeling (E)
- Optimisation in Finance (E)

Note

- 1. (E) denotes elective courses. All others are core courses.
- 2. Electives and courses at Carnegie Mellon University (CMU) are subject to change.

FINANCE

- Corporate Finance
- Asset Pricing Theory
- Bond Portfolio Management
- Equity Portfolio Management
- Derivative Securities
- Interest Rate Derivatives
- Financial Risk Management
- Advanced Risk Management (CMU)
- Term Structure: Theory & Practice (CMU)
- Seminars on Special Topics
- Monetary Economics (E)
- Financial Accounting (E)
- Exotic Options & Structured Products (E)
- Credit Risk Measurement & Management (E)
- Advanced Topic in Financial Engineering Studies (E)
- Trading Analytics & Processes (E)

COMPUTING

- Object Oriented Programming I
- Object Oriented Programming II
- Financial Computing (CMU)
- Artificial Intelligence Techniques in Finance (E)

I HAD NO DOUBTS ABOUT THE MFE PROGRAMME AT NBS BEING THE COURSE OF MY CHOICE **BECAUSE IT INTEGRATED QUANTITATIVE WITH QUALITATIVE FINANCE.**

It's a unique mix and such a skill set is really sought after if you are looking to make it on Wall Street. The programme really helped me in my previous role in IB Technology. I found it so much easier to talk to the front office people and provide technological solutions to their business needs. Sometimes business people are really amazed at the skill set I possess, for which I thank Nanyang Business School and its professors.



Anand Goyal Class of 2007 Executive Director, Financial Institutions Sales JP Morgan