




**NANYANG  
TECHNOLOGICAL  
UNIVERSITY**  
**SINGAPORE**

Nanyang Business School

*INNOVATE.  
LEAD.  
TRANSFORM.*

**MSc FINANCIAL  
ENGINEERING**



*As a premier business school within a leading technological university, Nanyang Business School (NBS) is the nexus of world-class innovation, research, and business education.*

*INNOVATE. LEAD. TRANSFORM.*

## INNOVATE FOR THE FUTURE

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Situated within the tech and innovation ecosystem of Nanyang Technological University, Singapore (NTU Singapore), we are uniquely placed to collaborate with industry to create and share knowledge on how cutting-edge technologies can be leveraged in every domain of business to accelerate enterprise transformation and shifts towards a smart economy. We envision and advocate the use of technology to address future business and societal challenges such as urban sustainability, resilient supply chains, and healthcare and ageing. Simply put, we equip our participants with the know-how to stay relevant and innovate for the future.

## LEAD WITH IMPACT

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We bring together NBS' expertise in leadership and NTU Singapore's strengths in science and technology to nurture strategic, entrepreneurial leaders to address the broader issues in business, society, and the environment. Through our programmes, we develop ethical leaders who possess a greater sense of purpose to transform the status quo, forge new paths, create value, and deliver impact wherever they are.

## TRANSFORM WITH CULTURAL DEXTERITY

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We are located in Singapore, at the heart of an East-West amalgamation of culture and business. Our programmes hold the best that both worlds offer. Our strong Asian heritage is complemented by our world-class faculty, as well as deep business insights grounded by research in cultural intelligence, Asian consumer psychology, and the emerging markets in ASEAN. Globally minded business leaders are imbued with the cultural dexterity to succeed in dynamic Asia and beyond.

# THE MSc FINANCIAL ENGINEERING EDGE

*The MSc Financial Engineering (MFE) aims to create multi-skilled professionals with strong financial expertise, who are well equipped to succeed in and stay constantly ahead of rapid advances in the world of high-technology finance.*

Its rigorous inter-disciplinary curriculum will promote deep thinking and equip you with concepts and techniques in Finance, Computer Science, and Mathematics, and the ability to apply sophisticated engineering tools to financial problems utilising complex analytical and quantitative methods.

The programme 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 experiences with academic research to enrich your understanding of today's financial world.

You will also benefit from the knowledge, wisdom, and collective experiences of guest industry speakers and visiting academics who are invited throughout the academic year to teach and conduct seminars.

## 1

### *ESTABLISHED PROGRAMME WITH STRONG INDUSTRY LINKS*

With over 20 years of history, the MSc Financial Engineering is one of the most established programmes in the region. Enjoying strong recognition by employers, our graduates have gone on to create a successful career in financial institutions.

## 2

### *LEVERAGING NTU'S ECOSYSTEM OF EXPERTISE*

The programme has been designed by NBS in collaboration with NTU's School of Physical and Mathematical Sciences, benefiting you with the world-class teaching expertise and resources of two established schools.

## 3

### *OVERSEAS EXPOSURE AT A PRESTIGIOUS INSTITUTION*

Participants have the option to spend a seven-week term abroad studying at Carnegie Mellon University (CMU), USA\*, where they will be able to learn from one of the best universities in the world, renowned for its achievement in the field of computational finance.



\* Places are limited in the CMU track, and a separate fee is payable. Non-CMU track is also available where you can fully immerse in your studies at NTU.

# EXPAND YOUR PROFESSIONAL NETWORK

The MSc Financial Engineering programme attracts outstanding, talented individuals. The cohort comprises high-calibre participants from diverse backgrounds, enriching your peer-to-peer learning experience.

Besides the connections that you make in the classroom, you will also become part of NTU's growing alumni network – a rich environment for exchanging ideas and sharing insights!

## TYPICAL CLASS PROFILE



## ALUMNI COMMUNITY



# CAREER DEVELOPMENT

The Graduate Studies Career Development Office (GSCDO) is here to translate your NBS experience into the right job fit amid a constantly evolving corporate landscape.

We continually push the boundaries to gear you up for a rewarding and fulfilling career. To ensure that you get the best start to your career journey, we provide you access to a wide range of resources and activities throughout the academic year.



# PROGRAMME STRUCTURE

The MFE programme can be completed in one year over three trimesters on a full-time basis, or in two years over six trimesters on a part-time basis. Each trimester is divided into two mini terms consisting of seven weeks each.



## NOV-MAR TRIMESTER 2

- Advanced Statistical Modeling
- Artificial Intelligence Techniques in Finance
- Bond Portfolio Management
- Stochastic Calculus in Finance
- Equity Portfolio Management
- Financial Time Series Analysis
- Interest Rate Derivatives
- Object Oriented Programming II
- Optimisation in Finance

### USA SEGMENT CARNEGIE MELLON UNIVERSITY 7 WEEKS (CMU TRACK)

- Advanced Risk Management
- Financial Computing
- Simulation Methods
- Term Structure - Theory & Practice



## LATE JUN

### COMPULSORY MATHEMATICS PREPARATORY COURSE

## JUL-NOV TRIMESTER 1

- Asset Pricing Theory
- Calculus & Linear Algebra
- Corporate Finance
- Derivative Securities
- Linear Financial Models
- Object Oriented Programming I
- Probability & Statistics
- Programming Web Applications in Finance
- Stochastic Modeling in Asset Pricing



## MAR-JUN

### TRIMESTER 3

- Credit Risk - Measurement & Management
- Exotic Options & Structured Products
- Financial Risk Management
- Numerical Methods for Financial Instrument Pricing
- Quantitative Management of Bond Portfolio

## JUL-DEC

### INTERNSHIP (OPTIONAL)

Note: Schedule and courses are subject to change

# ADMISSION PROCESS

## REQUIREMENTS

- A good bachelor's degree with strong background in mathematics, statistics, or computer programming
- Good GMAT or GRE score
- TOEFL or IELTS score, if English was not the medium of instruction at the undergraduate level
- Work experience in the financial sector is preferred but not required

## ONLINE SUBMISSION

[www.applynbs.com/apply](http://www.applynbs.com/apply)

## APPLICATION DEADLINES

Round 1: 30 November

Round 2: 28 February

## PROGRAMME FEE

### Full-Time

S\$63,220.00 inclusive of GST (Non-CMU Track)\*

S\$67,410.00 inclusive of GST (CMU Track)\*

### Part-Time

S\$63,220.00 inclusive of GST (Non-CMU Track)\*

S\$67,410.00 inclusive of GST (CMU Track)\*

\* Tuition fee shown is inclusive of GST applied from 1st January 2024. From 1st January 2024, GST rate will be increased to 9%.

## APPLICATION FEE

S\$100

## SCHOLARSHIPS & FINANCIAL AID

### ASEAN Development Scholarship

This partial scholarship is awarded to nationals of ASEAN member countries (excluding Singapore) as part of NBS's effort to accelerate economic and social progress in the Member States of ASEAN. Each scholarship quantum is at 40% of the tuition fee.

### MSc Financial Engineering Merit Scholarship

NBS awards partial scholarships to outstanding candidates to nurture talents for the competitive quantitative finance field. Scholarship applicants must possess strong academic records, demonstrated leadership qualities and potential, and for working professionals, a good career progression. This scholarship is open to candidates of all nationalities, except those who are already receiving a scholarship.

### NTU Alumni Grant

NTU alumni who have completed a bachelor's or postgraduate degree at NTU are eligible for an alumni grant of 10% of the tuition fees. The subsidy can only be used to offset the tuition fee and cannot be used to offset other costs such as student service fees or miscellaneous fees.

### Singapore Citizen & Singapore PR Grant

Singapore Citizens and Singapore Permanent Residents are eligible for a grant of 10% of the tuition fees. The subsidy can only be used to offset the tuition fee and cannot be used to offset other costs such as student service fees or miscellaneous fees.



# WHY SINGAPORE

*Situated at the heart of Asia, Singapore is a unique confluence of East and West. With every major Asian city within a six-hour flight, the island city is the ideal place to experience the psyche, culture, and practices of the region, from China to India, Southeast Asia, and Northeast Asia.*

As a leading business and financial centre, Singapore is on par with global cities like London, Tokyo, and New York. And with good reason.

- Singapore has overtaken the USA to become the most competitive nation in the world, according to the World Economic Forum (WEF) 2019 Competitiveness Report, well recognised for ease of doing business, a robust labour force, and low levels of bureaucracy.
- It is one of the most business-friendly cities, providing a vibrant and stable environment that fosters entrepreneurship and innovation.
- As the centre of global economic activity pivots east, Singapore is the perfect base to tap into Asia's growth.

Singapore is first in the world for doing business\* and Asia's Most Liveable City^.

# WHY NTU

*Young and research-intensive, Nanyang Technological University, Singapore (NTU Singapore) has 33,000 undergraduate and postgraduate students in engineering, business, science, humanities, arts, social sciences, education, and medicine.*

NTU is home to world-class institutes – the National Institute of Education, S Rajaratnam School of International Studies, Earth Observatory of Singapore, and Singapore Centre for Environmental Life Sciences Engineering – as well as leading research centres such as the Nanyang Environment & Water Research Institute and Energy Research Institute @ NTU

The NTU Smart Campus is frequently listed among the Top 15 most beautiful university campuses in the world. Besides its main campus in the western part of Singapore, NTU also has a medical campus in Novena, Singapore's healthcare district.

**26<sup>th</sup>** IN THE WORLD\*

**1<sup>st</sup>** IN THE WORLD\*\*

\* Quacquarelli Symonds World University Rankings

\*\* Times Higher Education Young University Rankings



TUMCREATE is a research platform by Technical University of Munich and NTU Singapore for the improvement of Singapore's public transportation.

\* Source: Singapore Economic Development Board (EDB) — Business-friendly Environment

^ Source: Quality of Living Worldwide City Rankings, Mercer survey, 2019

# MSc FINANCIAL ENGINEERING

## NANYANG BUSINESS SCHOOL NANYANG TECHNOLOGICAL UNIVERSITY, SINGAPORE







91 Nanyang Ave, Gaia, ABS-01-029  
Singapore 639956

**Email** [mfe@ntu.edu.sg](mailto:mfe@ntu.edu.sg)  
**Phone** +65 6513 8668 / 6904 2048  
**Web** [ntu.sg/nbs-mfe](http://ntu.sg/nbs-mfe)



SCAN QR TO START  
YOUR APPLICATION

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