

Master of Science in Blockchain

NTU Centre in Computational Technologies for Finance

Jan 2024



Overview

The Master of Science in Blockchain (MSBT) programme is a flagship master's degree programme by Nanyang Technological University, Singapore, via the NTU Centre in Computational Technologies for Finance (NTU-CCTF). CCTF is a pan-university initiative chartered by the College of Engineering (CoE) and the Nanyang Business School (NBS), and supported by the School of Computer Science and Engineering (SCSE).

The MSBT programme emphasizes the fundamentals of blockchain technologies (e.g. blockchain scalability, smart contracts, zero-knowledge proof, etc) from a computer science perspective, and explores the potential application of blockchain technologies in different vertical sectors, such as finance, banking, insurance, supply chain, energy, healthcare, artificial intelligence, and the Internet of things.

The core curriculum includes the theoretical foundation of blockchain technology, practical skills in blockchain and smart contracts development, and management skills covering blockchain governance, legal regulations, and business management, enabling students to understand the subject comprehensively.

We aim to train next-generation technical talents for Singapore and the global, with both a deep understanding of blockchain technology and its transformative applications.



STARTS ON

The first intake is targeted for Aug 2023.



COOPERATION

Students in the programme come from all over the world and have diverse technical backgrounds, creating a creative atmosphere for interdisciplinary collaboration.



CAREER

- Blockchain Developer
- Blockchain Project Manager
- Blockchain UX Designer
- Security Professional
- Solutions Architect



INDUSTRIES

Internships/projects with industry partners for exposure to real-world applications.

Programme Structure

The MSBT (Master of Science in Blockchain) programme is an intensive 1-year full-time (or 2-year part-time) programme by coursework. Students will be awarded the Master of Science in Blockchain after completion.

- Each compulsory course is a 3 AU course with 39 teaching hours, including lectures, tutorials, example classes and labs over 12 weeks.
- Each elective course is a 1.5 AU course with 19.5 teaching hours over 6 weeks.
- The Blockchain Innovation (Capstone) Project is a 3-6 month project with 6 AU.
- The Capstone project will be co-supervised by industrial experts through the Technical Fellowship Programme.
- The Capstone project is not a compulsory component.

Core Courses

Blockchain Fundamentals

- Introduction to Blockchain Technology
- Distributed Systems
- Introduction to Cryptography
- Software Engineering
- Blockchain Development Fundamentals
- Blockchain and Smart Contract Security
- Blockchain Privacy and Scalability

Elective Courses

Blockchain Development

- Web Programming Basics
- Blockchain Solutions and Smart Contracts
- Development of Decentralized Applications
- Software Project Management
- Introduction to Cyber Security
- Game Theory and Blockchain

Elective Courses

Blockchain Management

- Token Economics
- Emerging Topics in FinTech
- Blockchain Business Applications
- Ethics and Laws in Blockchain
- Blockchain in Finance

Project

- Blockchain Innovation Project — Capstone

1st Master's Programme in Blockchain and Its Applications Offered by a Top Young University



Partnership Engagement Plans



Algorand - NTU

Algorand Technical support and curriculum collaboration for the programme.



The joint programme is run by CoE/NBS under the **<NTU Centre in Computational Technologies for Finance>**.



Vitalik Buterin

**CHAIR of NTU-CCTF
Advisory Committee**



Admission Requirements



- A honour degree in computer-related majors from reputable universities and institutes or a bachelor's degree in any discipline with 2 years of computer programming job experience.

- Graduates whose native language is not English must provide proof of English language proficiency through any of the following ways:



TOEFL Score (Test dates must be within 2 years or less from the date of application):

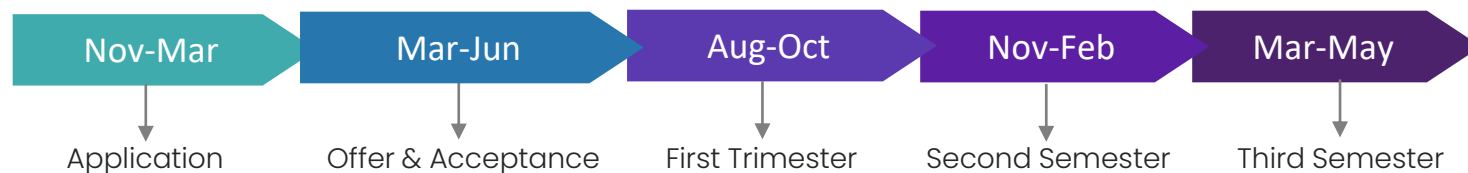
- ≥ 600 (paper-based)
- ≥ 250 (computer-based)
- ≥ 100 (internet-based)



IELTS Score (Test date must be within 2 years or less from the date of application):
≥ 6.5

- GRE is not required for the MSc programme (by coursework).

Timeline of August Intake



Tuition and Fees

(SGD Before GST)

- Singapore Citizens \$36,500
- Singapore Permanent Residents \$43,500
- International Students \$54,300
- NTU Alumni discount 10%



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For Postgraduates, if you are keen to pursue your tech- or media-related studies at the Master or Ph.D. level in specialized.
(Find out more at: go.gov.sg/SGDScholarships)

How to Apply

To apply for the Master of Science in Blockchain programme, please visit

www.ntu.edu.sg/education/graduate-programme/master-of-science-in-blockchain

The application window for **AUGUST 2024 intake** will be opened on **November 1, 2023**.

Get in touch with us

We look forward to receiving your application and welcoming you to the School of Computer Science at Nanyang Technological University.

For more information on the Master of Science in Blockchain programme, please get in touch with the Admissions Committee at

cctf-msbt@ntu.edu.sg



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