



# FINANCE, BIG DATA AND ANALYTICS

Summer Programme: 5 July 2021 to 16 July 2021



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**Location: Virtual**

**All courses will be conducted through Zoom**

## PROGRAMME HIGHLIGHTS

- Cases to demonstrate how to finance and analytics methodologies are applied to solve real-world business challenges
- Build foundational knowledge of finance for a specialization in the field
- Financial technology (fintech) and its applications in financial markets
- Hands-on coding and exercises with real world financial data
- Lunch talks by academic directors of various NUS masters programmes

## WHAT YOU'LL GET

### CERTIFICATE & RECOMMENDATION LETTER

Students graduating from the programme will receive:

- **NUS Business School certificate of participation**

In addition, the two best students in the programme will receive:

- **Recommendation letter from academic director of the summer program**

## WHO IS IT FOR?

- Open to local and overseas undergraduate and post-graduates from all disciplines
- Take advantage of the summer break to boost your knowledge in finance, data analytics and programming
- No prior programming experience necessary
- All sessions will be conducted in English
- Build a global network of peers and mentors

Contact us for more information



[finsummer@nus.edu.sg](mailto:finsummer@nus.edu.sg)

# PROGRAMME SCHEDULE\*

## Professors and industry experts



### Opening and Closing Speeches by Professor Allaudeen Hameed Head of Department of Finance, Tang Peng Yeu Distinguished Professor of Finance

Professor Hameed's work has been published in top tier finance journals and he has won several research awards.

## TOPICS COVERED IN WEEK 1 FOUNDATION OF FINANCE SEGMENT



### Valuation Basics and Financial Statement Analysis by Associate Professor Ruth Tan Deputy Head of Department of Finance

This topic covers valuation basics including discounted cash flow and effective interest rates, and conducts financial analysis and relative valuation through the use of case studies.



### Capital Budgeting by Professor Allaudeen Hameed Head of Department of Finance, Tang Peng Yeu Distinguished Professor of Finance

This topic applies appraisal techniques to evaluate investments, introduces the concept of incremental cash flows, and covers sensitivity analysis and scenario analysis on key variables of the investment decision.



### Risk & Return and Portfolio Theory by Associate Professor Johan Sulaeman Academic Director, NUS MSc in Finance

This topic covers a comprehensive framework for making investment decisions, including the measurement of risk and return, the important concept of diversification, modern portfolio theory leading to optimal portfolio allocation, various asset pricing models, and market efficiency.



### Financial Institution and Instruments by Associate Professor Yeo Wee Yong

This topic introduces participants to different financial institutions, their functions, and the risks they are exposed to. The common types of financial instruments they create and trade will also be discussed.



### Financial Markets, and History and Future of Finance by Dr Ben Charoenwong

Where do financial markets come from and how will they evolve in the near future? From the invention of tokenization in ancient Greece to paper money in China to the ATM in the United States, global financial markets have been built upon the financial technology of its time. This topic discusses the origins of the current financial markets, current assets and trading structures, including the market for information and financial data, as well as areas for future development.

## TOPICS COVERED IN WEEK 2 FINANCIAL TECHNOLOGY SEGMENT



### Data Structure and Analytics by Dr Lee Yen Teik

Through a mix of discussions and experiential exercises, this topic applies scientific methods to translate raw data into actionable insights for better decision making.



### Robo-Advisory and Wealth Management by Professor David Lee Chairman of Global FinTech Institute

This topic introduces participants to the applications of Robo-Advisors and covers the key trends in relation to AI and FinTech landscape in the USA and Asia including technology, regulatory environment, and business models. It examines the transformation of the Robo space in anticipation of the latest trends in Central Bank Digital Currency, eWallet and Crypto Custody for Robo businesses.



### Fund Selection and Alternative Investment by Dr Zhang Weina

This topic discusses how an investor can evaluate and select professionally managed funds for investment. Various fund performance measures are discussed and compared. The alternative investment covers the extended portfolio theory by incorporating the consideration of environmental and social returns with financial returns in portfolio allocation.



### Household Finance by Professor Sumit Agarwal Professor of Finance, Economics and Real Estate, Low Tuck Kwong Distinguished Professor

This topic covers how households make financial decisions relating to the functions of consumption, payment, risk management, borrowing and investing, how institutions provide goods and services to satisfy these financial functions of households, and how interventions by firms, governments and other parties affect the provision of financial services. It includes the practical aspect of how data and FinTech can be used to study household spending, saving and default, specifically during COVID.



### Credit Risk by Dr Sungjune Pyun

This topic covers the fundamentals of credit risk measurement and management, which includes industry practices of measuring credit risk, principles of expected credit loss calculation and tools for credit risk management such as credit default swaps.



## APPLICATION

Application deadline: 31 May 2021

Applicants should provide:

- Current resume
- University transcript



## FEES

SG\$5,000

(excl. GST) for Week 1 Foundation in Finance Segment

SG\$7,000

(excl. GST) for Week 1 Foundation in Finance Segment and Week 2 Financial Technology Segment

\*Subject to change



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