

NUS School of Computing

Master of Science in Digital Financial Technology (MSc DFinTech)

(Effective from AY2024/2025)

Elective Courses (12 units)

Students are strongly encouraged to take the elective courses within one vertical track, but are not restricted to do so.

Important Notes:

Courses in this list may be subject to change as determined by the School/Departments.

Preclusion:

Please note that the following courses are *precluded* from each other:

CS5246 Text Processing on the Web	CS4248 Natural Language Processing
CS5439 Software Security	CS4239 Software Security
CS5446 AI Planning and Decision Making	CS4246 AI Planning and Decision Making
IS5009 Topics in Financial Technology Solutions	BT4013 Analytics for Capital Market Trading and Investment
IS5126 Hands-on with Applied Analytics	BT5126 Hands-on with Business Analytics

Vertical #1. Computing Technologies

Courses	Units	Available in Semester 1	Available in Semester 2
CS5224 Cloud Computing	4	✓	✓
CS5231 Systems Security	4	✓	
CS5321 Network Security	4		✓
CS5331 Web Security	4	Not Offered	
CS5421 Database Applications Design and Tuning	4		✓
CS5439 Software Security	4	✓	
IS5008 Technology Risk and Cyber Resilience	4		✓
IS5009 Topics in Financial Technology Solutions	4		✓
IT5004 Enterprise Systems Architecture Fundamentals	4	✓	✓

Vertical #2. Financial Data Analytics and Intelligence

Courses	Units	Available in Semester 1	Available in Semester 2
CS5242 Neural Networks and Deep Learning	4	✓	✓
CS5246 Text Processing on the Web	4		✓
CS5339 Theory and Algorithms for Machine Learning	4		✓
CS5344 Big-Data Analytics Technology	4	✓	✓
CS5446 AI Planning and Decision Making	4	✓	✓
FT5009 Contemporary Topics in Financial Data Analytics	4	✓	
FT5011 Deep Learning for Finance	4	Not Offered	
IS5006 Intelligence Systems Deployment	4	Not Offered	
IS5126 Hands-on with Applied Analytics	4	✓	✓
IS5152 Data-Driven Decision Making	4		✓
IT5005 Artificial Intelligence	4	✓	✓
IT5006 Fundamentals of Data Analytics	4	✓	✓

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Vertical #3. Digital Financial Transactions and Risk Management

Courses	Units	Available in Semester 1	Available in Semester 2
BMF5342 Technological Disruptions in Finance and Data Analytics	4	✓	
BMF5354 Financial Regulation in a Digital Age	4	✓	
BMF5355 Financial Institutions, Markets, Systems and Technology	4	✓	
BMF5358 Entrepreneurship in Financial Technology	4	Not Offered	
BT4013 Analytics for Capital Market Trading and Investment	4	✓	
BT4016 Risk Analytics for Financial Services	4		✓
CS5233 Simulation and Modelling Techniques	4		✓
FE5103 Equity Products and Exotics	4		✓
FE5105 Corporate Financing and Risk	4	✓	
FE5108 Portfolio Theory and Investments	4	✓	
FE5212 Sustainable Finance Risk Management	2	Not Offered	
FE5221 Trading Principles and Fundamentals	2	Not Offered	
FE5222 Advanced Derivatives Pricing	4	✓	
FE5223 Introduction to Electronic Financial Market	2	✓	
FE5224 Current topics in Applied Risk Management	2	Not Offered	
FE5225 Machine Learning and FinTech	4	Not Offered	
FE5226 C++ in Financial Engineering	4	✓	
FE5227 Commodities Fundamentals and Modelling	2		✓
FT5010 Algorithmic Trading Systems Design and Deployment	4		✓