

**Nanyang Technological University  
Nanyang Business School**

**BC3402 FINANCIAL SERVICE PROCESSES AND ANALYTICS**

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**Course Description and Scope**

This course traces the trade cycle and outline the front, middle and back office processes in financial services industry. For each of the key operational process, the course provides an overview of the process as well as the use of technology and analytics. Through the course, students are expected to develop the knowledge and skills in the managing, utilizing and leveraging of information technologies and analytics to support daily operations in financial institutions. Knowledge of programming languages is *not* required. From this course, students are expected to:

Understand the impact of financial technologies on financial markets, exchanges, and banking

Develop the knowledge of different classes of financial information systems such as payment systems, funds transfer networks, trading and settlement systems etc.

Understand and appreciate the role of algorithm trading in financial trading and its application in general.

Apply the knowledge and skills acquired in real-world financial services context

The course is intended to prepare undergraduates for careers in Finance, MIS and management consulting, who will need to have a firm grasp of technology concepts as they relate to the financial services context.

The course builds on three key modules. The first module covers the strategic drivers of information technology in financial sector and the ways technology is used in this sector. The second module focuses on the technologies employed in financial institutions at various stages of the trading process (pre-trade, trade, post trade and post settlement). Specifically it examines the various types of software systems used within the financial services as well as the financial information systems infrastructure in general. The final module examines commonly used trading algorithms employed in electronic based trading.

**Course Learning Objectives**

Students should be able to search, collate, process and synthesis information on information systems used in financial services

Student should develop skills in presenting case studies and confidence in public speaking through class participation

Students should develop interpersonal skills and learn to appreciate the team building opportunities in the group project as well case presentation

Students should be able to understand the various technological artifacts/ concepts in financial services, including financial networks, algorithm trading, trading and settlement systems, business continuity management, and straight through processing

## Course Assessments

Components	Marks	Individual/Group
Class Participation (Case Presentation)	10	Individual & Group
Course Project	25	Individual & Group
Quiz	10	Individual
Final Exam (open-book)	55	Individual
<b>Total</b>	<b>100</b>	

## Proposed Weekly Schedule

Week	Topic
1	Introduction
2	IT & Financial Services Industry
3	IT in the Trade Cycle (I)
4	IT in the Trade Cycle (II)
5	IT in the Trade Cycle (III)
6	E-Money and Financial Networks I
7	Financial Networks II: (Electronic Trading Networks) Settlement System in Action
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8	Quiz
9	Financial Networks III: (Electronic Trading Networks)
10	Algorithm and Trading and Trade Analytics I
11	Algorithm and Trading and Trade Analytics II
12	Algorithm and Trading and Trade Analytics III
13	Review Session