

# SMU-SGX Quantitative Trading Course

Singapore Management University  
School of Accountancy/School of Law Basement 1  
Simulated Trading Room

**Trainers:** Associate Professor Christopher Ting and Mr Jeff Cheong  
**Course Duration:** 2 Days

## Course Features

- Hands-on "proprietary trading" with live-feed market data from SGX and Eurex
- Step-by-step hand-holding by an industry expert to implement a trading strategy
- Practical and useful lessons conducted by a professor who had seen it and done it
- Insightful observations on the correlating behaviours of some SGX derivatives with derivatives of other exchanges
- Simple-is-beautiful approach to design and implement quantitative trading strategies



## By the end of the course, participants will be able to:

- Put into practice the knowledge of computing the cash index directly and deriving the fair value of a futures contract.
- Apply the fair value as a reference price, and estimate the premium or discount in the market price by the leading futures market at different hours of the day
- Implement the simple calendar spread
- Compute the hedge ratio of two highly correlated futures contracts
- Derive the fair value of the quanto spread
- Apply different orders to either stop out or to ride the momentum
- Describe the importance of finding a few quantitative trading models that work for the trader
- Develop the ability and habit to manage risk and stay healthy mentally
- Start "prop" trading as a business venture

## Highly recommended for:

- Junior traders who are short of solid foundation in Quantitative Finance
- Retail traders who want to start trading futures contracts
- Entrepreneurial individuals who want to start the trading business
- Beginners who are curious and willing to learn

## Course Description

This 2-day course hand-holds the beginners to go about trading futures by journeying from the very basics to the intermediate level. Through hands-on trading experiments on a trading platform used by many professional traders, participants will learn the trade plied by disciplined traders who are able to trade futures for a (good) living. The course introduces a few simple quantitative trading strategies, demystifies "high-frequency" and "algorithmic" trading, presents practical methods to generate a "reference" price to gauge the market sentiment, and to gain a deeper understanding of how futures markets lean on each other for direction. More importantly, participants will know how to calculate the number of contracts per trade/position to achieve the optimal reward-to-risk ratio, as well as the optimal level to cut loss or to take profit. At the end of this course, participants will acquire a well-grounded confidence and discipline to start trading futures contracts.

# Course Schedule

DAY ONE	
DAY ONE	<p><b>Session 1</b></p> <p>Overview of SGX's Derivative Products and Electronic Market Place</p> <p>A. An overview of tradable financial instruments</p> <ul style="list-style-type: none"> <li>■ Four major asset classes: equities, currencies, commodities, and fixed income</li> <li>■ Cash markets versus derivative markets</li> <li>■ Exchange versus OTC</li> <li>■ Financial instruments with maturities versus those without maturities</li> <li>■ Linear payoff versus nonlinear payoff</li> </ul> <p>B. Trading versus investment</p> <ul style="list-style-type: none"> <li>■ Holding period or investment horizon</li> <li>■ Portfolio rebalancing versus market timing</li> <li>■ Hedging versus scalping</li> <li>■ Market making</li> <li>■ Linear payoff versus nonlinear payoff</li> </ul> <p><b>Session 2</b></p> <p>A. Price grid, tick size</p> <p>B. Market order versus limit orders versus stop order</p> <p>C. Dynamics of the limit-order book</p> <p>D. Liquidity</p> <ul style="list-style-type: none"> <li>■ Bid-ask spread</li> <li>■ Market depth</li> </ul> <p>E. Price Impact</p> <p>E. Order Flows</p>
	<p><b>Session 3</b></p> <p>Case Study: Trading Singapore MSCI Index Futures</p> <p>A. Calculation of cash index value from the component stocks</p> <ul style="list-style-type: none"> <li>■ Free float</li> <li>■ Divisor</li> </ul> <p>B. Calculation of the fair value of SIMSCI index futures</p> <p>C. Market behaviors of SIMSCI index futures</p> <p>D. A simple trading strategy using stop-limit orders</p> <p><b>Session 4</b></p> <p>Trading Strategies</p> <p>A. An overview of automated trading</p> <ul style="list-style-type: none"> <li>■ Market making</li> <li>■ Program trading</li> </ul> <p>B. State-of-the-art HFT infrastructure</p> <p>C. Calendar spread trading</p> <p>D. Inter-market spread trading</p> <p>E. Quanto spread trading</p> <p>F. Mishedges and cutting losses</p>
DAY TWO	<p><b>Session 5</b></p> <p>Batch Auction</p> <p>A. Short-term intraday momentum</p> <p>B. Effects of overnight market</p> <p><b>Session 6</b></p> <p>Managing the Risk of Professional Trading</p> <p>A. Proprietary trading as a business</p> <p>B. Margin</p> <p>C. Money &amp; risk management</p> <p>D. Kelly's criterion</p>
	<p><b>Session 7</b></p> <p>Hands-on trading and risk management</p> <p><b>Session 8</b></p> <p>Summary</p>

## Registration Details

<p><b>Course Fee</b></p> <p><b>Before GST</b> SGD 934.58</p> <p><b>After GST (7%)</b> SGD 1,000</p>	<p><b>Online Registration starts now!</b></p> <p><b>Mode of Payment</b></p> <ul style="list-style-type: none"> <li>• Credit Card (through Paypal)</li> </ul> <p><b>Cancellation Policy</b></p> <p>All cancellation has to be made in writing.</p> <p>100% of the course fee will be refunded if notification is received three weeks or earlier before the course date.</p> <p>50% of the course fee will be refunded if notification is received two weeks before the course date.</p> <p>There will be no refund if notification is received within a week before the course date.</p> <p>For enquiries, please contact us at (65)6828 0763 or email to <a href="mailto:quantfin@smu.edu.sg">quantfin@smu.edu.sg</a>.</p>
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