

**Assignment**  
**Learning and Computational Intelligence in Economics and Finance (CF963-7-AU)**  
**2015-2016**  
**Set by Edward Tsang, University of Essex**

**1. Introduction:**

This is an assignment on algorithmic trading. This assignment accounts for 20% of your total marks in this course. This assignment should be submitted electronically. The deadline of this assignment is *11:59:59am, Thursday 10<sup>th</sup> December 2015*.

**2. Objective:**

The primary objective of this assignment is to assess your ability to (a) design a trading strategy and (b) evaluate its performance. Profitability is preferable, but you will mainly be assessed by whether you can describe your algorithm clearly and whether you can fairly evaluate your algorithm.

**3. Your task:**

Your task is to design an a trading strategy. You should describe your algorithm precisely. You should also explain how you would evaluate the effectiveness of your algorithm. You must show clearly when your algorithm buys and sells, and what profit or loss it makes in each deal (you may put the details in the appendix). Test your strategy on any or all of the FTSE 100 stocks – daily closing prices were provided in the module.

There is no constraint on what type of strategy you implement. We have covered trading strategies based on moving average and directional changes in lectures, but you are free to implement any other types of strategies. You may test your strategy with Matlab, Java, Python or Excel whichever you find appropriate.

**4. Submission requirements:**

You should submit electronically a report of no more than 500 words. You can include more information in an appendix if needed. Please also submit the source code and executables (if compiled, either on a Mac or PC) to allow me to verify your results if needed.

**5. Assessment criteria for this assignment:**

In assessing your submission, I shall ask the following questions:

- Do I understand the trading strategy clearly? Exactly under what condition would it buy and sell?
- Do I understand how you evaluate your strategy? What data did you use? In what period?
- Have you supplied me with details on how the profits and losses were produced?
- How does the strategy perform overall? Under what condition does it make or lose money?

Please bear in mind that the more sophisticated your strategy, the harder it is to explain it. Given the assessment criteria, it is safer to present a simple strategy and describe everything clearly, than to submit a sophisticated strategy but fail to present it clearly.

You should imagine that you are trying to convince your sponsors that this is a trading strategy that they should invest in or avoid. For that purpose, everything must be explained clearly. You must also submit enough information for them to verify your results.

**6. Please refer to the Student's handbook on the Departmental Policy on Plagiarism and Late Submission**