

The Hebrew University of Jerusalem

Syllabus

Financial Analytics - 55720

Last update 29-09-2023

HU Credits: 3

Degree/Cycle: 2nd degree (Master)

Responsible Department: Business Administration

Academic year: 0

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: Mt. Scopus

Course/Module Coordinator: Prof. Yigal Newman

Coordinator Email: ynewman@stanfordalumni.org

Coordinator Office Hours: After class or with prior appointment

Teaching Staff:

Prof Yigal Newman

Course/Module description:

The course covers the basic fundamentals required to manage liquid financial assets using modern quantitative models.

We will discuss the progression of quant models throughout the years, present various groups of quant models and compare them to qualitative models. The course is based on the lecturer's ongoing practical experience as a quant asset manager.

This is a tough course and completing the problem sets requires coding.

Course/Module aims:

Learning outcomes - On successful completion of this module, students should be able to:

Students will be able to propose, plan, design, test, and manage a modern quantitative investment strategy

Attendance requirements(%):

80%

Teaching arrangement and method of instruction:

Course/Module Content:

- An introduction to quantitative asset management
- Types of quant models: TS vs CS
- Performance Measurement
- Backtesting
- Regression models, factors
- Example: momentum
- Event-driven trades
- Summary

Required Reading:

- "Big Data and Machine Learning in Quantitative Investment" (1st Edition, 2019) by Tony Guida [Amazon link](#)
- "Advances in Financial Machine Learning" (1st Edition, 2018), by Marcos Lopez de

Prado Amazon link

Additional Reading Material:

- *“Financial Analytics with R: Building a Laptop Laboratory for Data Science”* (1st Edition) by Mark J. Bennett and Dirk L. Hugen Amazon link
- *“An Introduction to Statistical Learning: with Applications in R”* (Springer Texts in Statistics, 1st ed. 2013, Corr. 7th printing 2017) by Gareth James, Daniela Witten, Trevor Hastie, and Robert Tibshirani. Amazon link
- *“Quantitative Financial Economics: Stocks, Bonds and Foreign Exchange”* (2nd Edition) by Keith Cuthbertson, Dirk Nitzsche Amazon link

Grading Scheme:

Submission assignments during the semester: Exercises / Essays / Audits / Reports / Forum / Simulation / others 100 %

Additional information: