Financial Time Series – Information

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TMS087/MSA410 – March 2017

1 Idea

- Mathematical *introduction to time series* with applications in finance.

- Last financial course (of 4 for the Bachelor program)
  - Knowledge of mathematics and the content of the other courses is assumed.
  - Especially it is assumed that the students are familiar with the introductory chapter in the lecture notes.

- Mixed Bachelor/Master course, i.e., parts might be hard for some and/or too easy for others.

2 Structure

- 4 hours of *lectures* per week (Annika Lang)
  - Thursday, 13:15 – 15:00 in *Euler*
  - Friday, 10:00 – 11:45 in *Pascal*
  - Thursday, 18/5: *Financial time series in practice* by Carl Lindberg

- 2 hours of *exercise classes* per week (Andreas Petersson)
  - Tuesday, 15:15 – 17:00 in *MVH12*

- 2 *projects* with implementation of taught methods (each 2.5 hp and bonus points)
  - *No* "click the button" course.
  - Implement (more or less) from scratch.
  - Goal: understand the algorithms.
  - Work in groups of (up to) 2.
  - Both projects have to be passed separately.
  - 50% of the points are required to pass, better solutions give up to 4 bonus points per project.
  - Deadlines are *strict*.
  - Project 1 is due on *Sunday, 23/4* to be able to earn bonus points.
  - Project 2 is due on *Sunday, 14/5* to be able to earn bonus points.
  - No solution will be accepted after *Sunday, 28/5* (global deadline) to pass the projects.
  - Read the details on how to hand in carefully on the project description.

- The final *exam* is on Friday, 2/6, 14:00 – 18:00.

- The exam counts 2.5 hp.

- Bonus points from the projects are valid only for the first regular exam on 2/6.

- You are allowed to bring 4 pages (e.g., 2 pages double-sided) of *handwritten* notes and a simple calculator.

- It covers the content of the lectures and the exercise classes.

- The (first) re-exam is on Tuesday, 15/8, 14:00 – 18:00.

3 Formalities

- *Course homepage*: `http://www.math.chalmers.se/Stat/Grundutb/CTH/tms087/1617`

- *Student representatives*: Caroline Almkvist (TKIEK), Kristoffer Andersson (MPNEM), Luqueri Gustafsson (GU), Linus Jonsson (TKIEK), Gustav Lindwall (MPNEM)

- *Office hours*:
  - Annika Lang: *Thursdays 11:00 – 12:00* in MVL2086
  - Andreas Petersson: *Tuesdays 8:30 – 9:30* in MVL3048

4 Literature

- A list of used and recommended books can be found on the homepage.

- For the first part, mainly Brockwell/Davis "Introduction to Time Series and Forecasting" is relevant.

- Lecture notes are provided in parallel and will be updated once a week after the lecture on Friday.

- Comments and corrections for the lecture notes are always welcome to improve them.