1. Requirements

- Each team shall consist of **min 2 and max 4 team members**. The recommended size is 3.
- Each team needs to submit a **formal report** in *.pdf*
- In addition, each team needs to submit the **project repository** in a *.zip* file. The project repository must include the project source code. If the repository is publicly posted, then the team only needs to write the on-line link in the submission message (and submit only the *.pdf* as an attachment).
- The project report needs to be **min 2 and max 10 pages** in *A4*, excluding the appendix. (A shorter report does not mean lower quality.)
- The group composition needs to be announced at least two weeks before the submission deadline.

2. Deadlines

- Week 8 - (5% weight) - formed the project team, selected a topic and submit a cover page with 1 paragraph project plan
- Week 14 - (7% weight) - Interview during class time (attendance is compulsory). The interview is about 5 mins per group. There is no need to prepare presentation slides. (Attendance is compulsory)
- (18% weight) Week 15, you need to submit the project report and repository

3. Rubric Points

- [10%] Idea: Novelty of the proposed topic and/or suitable referencing of previous work
- [50%] Focus and contents:
  - Identify the essence of the topic
  - Progression from problem to analysis and conclusion
- [20%] Style: Clarity, structure, grammar and neatness of the project report
- [20%] Technical level of the computation and the analysis (code and algorithm)

4. **Topics**

Each team needs to identify the topic of the project. Team members are encouraged to meet, discuss and propose original topics. The project topic can **be or not be** within the 3 macro-topics that are subject of this course that are (1) "Fixed Income", (2) "Portfolio Theory" and (3) "Time Series Analysis". However the topic needs to be within the general subject of finance. Example of topics are the following:

- Portfolio Theory: Implement portfolios with equal risk contribution.
- Fixed Income: Implement a mortgage calculator for the Chinese housing market
- Analysis of trading strategies involving stocks and interest rates
- Re-implementation of any of conditional volatility models
- Re-implementation of interest rate term structure model (advanced)
- Classification of stock and stock performance (data analysis)

5. **Required and Recommended Report Items**

- [Required] Title, authors (with student ID and contact information) and date on the first page of the report
- [Recommended] Short abstract (no more than 10 lines)
- [Required] Introduction of the topic, citing most related work you referenced
- [Required] Core description of model you implemented with formulation. A reader shall be able to re-implement your model by just reading this section
- [Recommended] Description of data (simulation or real data) and demonstration results
- [Recommended] Reflection and conclusion
- [Required] Commented programming code (in Appendix)

Additionally to the report, it is recommended that each team write a short markdown (*.md*) document to be included in the project repository. Such document shall include any software installation or execution instructions and a summary of the package. It needs to be shorter than the report and part of it can be copied from the project report.