Computer science for finance

STUDENTS ARE EXPECTED TO HAVE COMPLETED

No prerequisites required

COMPETENCES AND SKILLS THAT WILL BE ACQUIRED AND LEARNING RESULTS.

Students will receive an introduction to MATLAB technical computing environment. They will be able to use the desktop environment and the basic command-line instructions. They will then develop the competency of developing their own programs using MATLAB. These will potentially include flow control elements, input and output control, charts and functions among other components.

DESCRIPTION OF CONTENTS: PROGRAMME

1. Introduction to MATLAB
   - Desktop environment
   - Basic command-line instructions
   - Vector and matrices
   - Basic string manipulation

2. Introduction to programming
   - MATLAB scripts
   - Basic I/O
   - Basic functions

3. Flow control
   - Selection statements
   - Loop statements

4. MATLAB programming
   - Vectorization
   - User-defined functions
   - Program organization
   - Basic debugging

5. Structures

6. Plotting
   - 2D plot
   - 3D plot
   - Matrixes of plots

7. Resources
   - Toolboxes
   - Repositories

LEARNING ACTIVITIES AND METHODOLOGY

Traditional lectures combining slides and computer-based examples will be supplemented with class exercises. The latter will give the students the chance to put in practice the concepts explained by the
Students will receive weekly sets of programming exercises as homework. These sets will be mainly focused on the topics covered each week, but will also be cumulative. The answers will not be marked, but complete submission (either individual or in small groups) will be required to take the intermediate validation test on the topics related to the worksheet.

**ASSESSMENT SYSTEM**

The grading system will consist of two elements:

- Three short validation tests based on weekly exercises
- A final exam

Each of these items will contribute 50% to the final mark

A minimum score of 4 points in the final exam is required to pass.

<table>
<thead>
<tr>
<th>% end-of-term-examination</th>
<th>50</th>
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<tbody>
<tr>
<td>% of continuous assessment (assigments, laboratory, practicals...):</td>
<td>50</td>
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**BASIC BIBLIOGRAPHY**


**ADDITIONAL BIBLIOGRAPHY**