Engineering Mathematics in Finance (BENG 207P)

Module Tutor
Dr Vasos Pavlika

Aims

This module aims to introduce students to the principles of “Financial Engineering” and “Econometrics” and discuss how it links with classes of problems commonly met in traditional engineering applications. Students will strengthen their knowledge of the mathematical techniques discussed in year 1 and year 2 maths modules and they will apply these to the solution of problems in finance.

Intended Learning Outcomes

After successful completion of the module, students will be able to:

- Recognize the connections between mathematics, engineering and how mathematical ideas are embedded in a Financial Engineering and/or Econometrics context;
- Understand the basic concepts of Quantitative Finance & Financial Econometrics
- Perform basic calculations using Quantitative Finance techniques
- Measuring and forecasting the volatility of bond returns.
- Modelling long-term relationships between prices and exchange rates.
- Relate the behavior of the output of mathematical models to the underlying conceptual models of interest;
- Carry out problem solving both collaboratively in a team and independently;
- Present and interpret quantitative results in effective and appropriate ways to varied audiences, including non-mathematical or engineering audiences.

Method of Assessment

<table>
<thead>
<tr>
<th>Method of Assessment</th>
<th>Percentage weighting</th>
<th>To be passed in order to progress?</th>
<th>Examination Length or coursework word count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unseen exam</td>
<td>50%</td>
<td>Y</td>
<td>3 hrs</td>
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<tr>
<td>Coursework</td>
<td>50%</td>
<td>N</td>
<td>Max 5000 words</td>
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<tr>
<td>Lab participation</td>
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