Stochastic Methods in Finance II (STAT0018)

**Description**
This module aims to explore advanced topics in finance via mathematical and statistical methods in order to gain a better understanding of optimal decision making, risk management and derivative pricing techniques. It is primarily intended for third and fourth year undergraduate students and taught postgraduate students registered on the degree programmes offered by the Department of Statistical Science, or jointly with other departments. The academic prerequisite for such students is STAT0013.

On successful completion of the module, a student should be able to: define the concepts of risk aversion and stochastic dominance, and apply them to manage risk in, and rank capital projects; understand how dynamic programming can be used to make optimal decisions under uncertainty; understand how to apply mathematical and statistical modelling techniques to credit risk modelling, value-at-risk measurements and capital adequacy assessments; understand a range of modelling techniques used in derivative pricing, and the concepts and assumptions that underpin them; criticise and understand the limitations of these techniques as they are used in the modern finance industry.

**Key information**
- **Year**: 2019/20
- **Credit value**: 15 (150 study hours)
- **Delivery**: UG L6, Campus-based
- **Reading List**: View on UCL website
- **Tutor**: Dr Julian Herbert
- **Term**: Term 2
- **Timetable**: View on UCL website

**Assessment**
- Written examination (main exam period): 90%
- Coursework: 10%

**Find out more**
For more information about the department, programmes, relevant open days and to browse other modules, visit ucl.ac.uk
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Key information
Year 2019/20
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Reading List View on UCL website
Tutor Dr Julian Herbert
Term Term 2
Timetable View on UCL website

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- Coursework: 10%

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