COURSE DETAIL

FINANCIAL MATHEMATICS
Country Ireland
Host Institution University College Dublin
Program(s) University College Dublin
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Mathematics
UCEAP Course Number 102
UCEAP Course Suffix
UCEAP Official Title FINANCIAL MATHEMATICS
UCEAP Transcript Title FINANCIAL MATH
UCEAP Quarter Units 4.00
UCEAP Semester Units 2.70

Course Description
This course introduces financial and commodity derivatives markets and their most commonly traded securities. Securities such as forwards, futures, and options have been traded on exchanges, as well as "over the counter," for decades. The emphasis of this course is on the pricing of such derivative securities. The course starts by looking at future and forward contracts to understand their properties and differences and determine how to value them. After a detailed study of the different types of options, the valuation method of binomial trees (based on the Cox, Ross, and Rubenstein paper of 1979) is discussed. The course then studies the model of a share price evolution introduced by Black, Scholes, and Merton in 1973, and derives the Black-Scholes model for valuing European call and put options on a non-dividend-paying stock. A brief introduction to probability theory is also provided in the course.

Language(s) of Instruction
English

Host Institution Course Number
MST30030

Host Institution Course Title
FINANCIAL MATHEMATICS

Host Institution Course Details
https://sisweb.ucd.ie/usis/w_sm_web_inf_viewer_banner.show_module?p_subj=MST&p_...

Host Institution Campus
UC Dublin

Host Institution Faculty

Host Institution Degree

Host Institution Department
Mathematical Studies

Course Last Reviewed
2018-2019

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