Financial Engineering

Module Code: ECO00017M  Credits: 10  Term: 2

Contact Hours: 9 two-hour Lectures

Module Organiser: Dr. P. Zerilli

Overview:

This module covers models to price portfolios of stocks and various types of bonds and derivatives. It is useful for those progressing to the financial industry or to research in finance. The content is mathematical in nature and covers numerical techniques. Practical workshops will focus on the application of the theory using various softwares (mainly Matlab based simulations).

Aims:

- Providing the students with an exhaustive background in pricing financial assets and derivatives using stochastic differential equations.
- Showing how to use various computer softwares (mainly Matlab) to have a deeper understanding of the theoretical models covered in the lectures.

Assessment:

There will be a two-hour unseen examination in the Summer Term.

Pre-requisites:

Continuous Time Finance.

Main References:

This module is based on the lecture notes. The material in the lecture notes is a synthesis of various texts and a number of specialist papers in this area that will be provided in due course.

In particular reference is made to:

* Hull, J.C., Options, Futures and other Derivatives, Prentice Hall, any recent edition.

Although not necessary, a further useful reading would be: