

Maths 190

Topics to be covered for the week of 20 - 24 March 2017

Reminder: Wednesday, 22 March 2017 - Class presentation during the “Financial, Actuarial and Stochastic Modelling Day” from 08:30am – 12:30pm.
Lunch for the presenters will be provided.

For this week, we aim to cover the following theories/concepts:

1. Risk-neutral pricing of European options: The Black-Scholes option pricing formula will be derived using the risk-neutral approach. The put-call parity will be revisited.
2. We shall look at how the Black-Scholes-Merton European call price gets modified to take into account when (i) the underlying asset pays a known dividend, (ii) the underlying is a stock index, (iii) the underlying is a currency, (iv) the underlying is a commodity price and (v) the underlying is a futures contract.
3. Remarks on the stock price dynamics under the risk-neutral measure will be determined. Girsanov theorem on change of probability measures will be mentioned.

Reminder: Rest Break on Thursday, 23 March 2017 (i.e., no class on this day)