Stats 3520b Topics to be covered for the week of 17–21 March 2014

Second Midterm: Friday, 21 March 2014, 7-9pm, NCB 117

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

- 1. Asymptotic properties of the CRR model (Continued)
- 2. Revisit **briefly** modification to the binomial option pricing when the underlying asset pays dividend; and extension of the binomial option pricing method to options on currencies and options on futures.

The discussion of the following will be based on the book of Cvitanic and Zapatero.

- 3. General principles of no-arbitrage, risk-neutral valuation, martingale measures, and complete and incomplete markets
- 4. Connection between risk-neutral valuation and martingale measures
- 5. Characterisation of complete and incomplete markets
- 6. State prices, Arrow-Debreu securities

- 7. Connection between risk-neutral valuation and martingale measures
- 8. The fundamental theorem of asset pricing