Syllabus-update 2 for Math 119, BM

- Office hours: Tue and Thur 11-12, SC 240. email: htyau@math.haarvard.edu

- Textbook: Michael Steel, Stochastic Calculus and Financial Applications.

- We have covered Chap 2 and 3. For Chapter 4, we assume all discrete time martingale theorems apply to continuous time. Section 4.3 is omitted. Section 4.5 is important. We also skip chap 5.

- Chap 6 is important. We mainly focus on sections 6.1-6.4. You should understand the material in section 6.5, but you can skip details of the proof, e.g., the proof of Theorem 6.3. We skip section 6.6 and all Chap 7. All statements in the book about local martingale will not be covered in the class.

- Ito's formula is the main focus of this class. We have covered 8.1- 8.5. The proofs in Section 8.6 are not required in this class, but the key statement of this section, the formula (8.51), will be needed. Its proof is on the top of page 134.

- For the rest of this class, we will do section 9.1-9.3, Chap 10, 11 and 15.1-15.2. Some sections in Chap 10 and 11 may be omitted depending on the difficulty of the proofs.