**MA\*723 Stochastic Process**

Definition and classification of general stochastic processes. Markov Chains: definition, transition probability matrices, classification of states, limiting properties. Markov Chains with Discrete State Space: Poisson process, birth and death processes. Renewal Process: renewal equation, mean renewal time, stopping time. Markov Process with Continuous State Space: Introduction to Brownian motion.

**References:**

Karlin, K. and Taylor, H. M. (1975), A First Course in Stochastic Processes, Academic Press. ISBN: 0-12- 398552-8.