

Syllabus:**ISE 620, Foundations of Stochastic Processes****Units: 3****Course Description**

A Ph.D level introductory graduate course on stochastic processes, covering such topics as conditional expectation, Poisson processes, renewal processes, regenerative processes, and discrete and continuous time Markov chains. Assumes a knowledge of introductory probability and some familiarity with real analysis.

Learning Objectives

Students will learn how to analyze and apply various stochastic models. Applications to industrial systems are stressed.

Prerequisite: A course in probability

Recommended Preparation : Some knowledge of real analysis

Required Readings and Supplementary Materials

Required Text: Ross, Stochastic Processes, ed. 2, John Wiley and Sons, 1996

Recommended Text: Ross, Introduction to Probability Models, ed. 12, Academic Press, 2019

Description and Assessment of Assignments

Weekly homework are given and graded. There will be a midterm and a final.