Instructor Hayriye Ayhan, Room 326, 894-2308, hayhan@isye.gatech.edu
Class Times MWF 10:05 to 10:55
Office Hours WF 12pm to 1:30pm
Text Book Introduction to Probability Models by Sheldon M. Ross. Both 6th and 7th editions are O.K.
Grading Exam #1 30%, Exam #2 30%, Homework 5%, Final 35%
Exam Dates Exam # 1 February 23 (W), Exam # 2 April 11 (M)
Course Outline

1. Introduction
   - Probability Review
   - Conditional Probability
   - Conditional Expectation

2. Discrete Time Markov Chains
   - Introduction to Markov Chains
   - Classification of States of a Markov Chain
   - Limiting Probability Distribution
   - Markov Decision Processes

3. Exponential Distribution & Poisson Processes
   - Properties of Exponential Random Variable
   - Poisson Process
   - Generalizations of Poisson Process

4. Continuous Time Markov Chains
   - Generators and Modeling
• Birth Death Processes
• Time Dependent Probability Distribution
• Limiting Probability Distribution
• $M/M/c$ Queue

5. Queueing Theory

• $M/G/1$ Queue
• $G/M/1$ Queue
• Queueing Networks

6. Renewal Theory

• Renewal Reward Processes
• Regenerative Processes