Boston University, College of Engineering
ENG ME/SE/EC 725: Queueing Systems

Course Information: Fall 2013

Meeting Details:

Tuesday and Thursday 2:00 - 4:00 pm
PSY B45

Instructor:

Professor Perkins
Office: 15 St. Mary's Street, Room 146
Phone: (617) 353–4991
Email: perkins@bu.edu

Course Website:

http://people.bu.edu/perkins/SE725

Office Hours:

Tuesday/Thursday 12:45-1:45 pm (email me to confirm) and by appointment

Textbook:

Leonard Kleinrock, **Queueing Systems, Volume 1: Theory**

Problem Sets:

Problem sets will be 50% of course grade. Assigned approximately bi-weekly.

Exam:

Midterm worth 20% of course grade. Date to be determined.

Project:

End-of-semester project worth 20% of course grade. Due date to be determined.

Attendance and Participation:

Attendance/Participation in class will be 10% of course grade.

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Course Topics: Fall 2013

- Introduction (1 lecture)
- Markovian and other Stochastic Processes (2 lectures)
- Markovian Queueing Theory (6 lectures)

  Single-server systems; open queueing networks; closed queueing networks; networks with finite buffers
- Renewal Theory and Applications (2 lectures)
- Non-Markovian Queueing Theory (4 lectures)

  M/G/1 queue; G/M/1 queue; GI/G/1 queue
- Applications of Queueing Systems (3 lectures)
- Numerical Techniques for Queueing Systems (3 lectures)

  Convolution Algorithm; Mean Value Analysis; Decomposition methods
- Approximate Models of Queueing Networks (2 lectures)
- Simulation of Queueing Systems (1 lecture)
- Dynamic Control and Optimization of Queueing Systems (3 lectures)