



STEVENS INSTITUTE OF TECHNOLOGY
TELECOMMUNICATIONS MANAGEMENT PROGRAM

TM - 605: *Probability and Stochastic processes for Telecommunications,*

INSTRUCTOR: *Dr. Behzad Maghami*

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TEXTBOOK: **Probability and stochastic Processes,**
BY: Frederick Solomon

PUBLISHER: Prentice Hall inc., ISBN # 0 - 13 - 711961- 5

or: Course contents on web site (module 1 through Module10)

COURSE OBJECTIVES:

The goal of this course is to give Telecommunication Management Program Students the required background in probability and random processes relevant to the study of telecommunication systems. The student will be exposed to examples related to telecommunications system modeling, analysis, measurements, and reliability. It provides the basis for the course, TM 614, "*Principles of Traffic Engineering and Performance Analysis*".

GRADING:

Midterm Exam	35%
Final Exam.....	45%
Home Works.....	10%
Quizzes	10%

Course Outlines:

Week 1	Chapter 1	Axioms of probability Pages: 1 – 22 Homeworks: Prob. 1, 2, 9, 18, 21
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Week 2	Chapter 2	Combinatorics Pages: 23 – 49 Homeworks: Prob. 7, 20, 21, 25, 30
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Week 3	Chapter 3	Conditional Probability & Independence Pages: 54 – 79
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Week 4	Chapter 3	Conditional Probability & Independence Pages: 54 – 79 Homeworks: Prob. 4, 20, 34, 36
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Week 5	Chapter 4	Discrete Random variables Pages: 80 – 113 Homeworks: Prob. 1, 12, 16, 26, 34, 37
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Week 6	Chapter 5	Continuous Random Variables Pages: 116 - 128
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Week 7	Chapter 5	Continuous Random Variables Pages: 128 – 139 Homeworks: Prob. 2, 7, 19, 25
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Week 8	Midterm Exam, (Chapters: 1, 2, 3, and 4)	

Course Outline Cont.

Week 9	Chapter 6	The Poisson Distribution & the Poisson process Pages: 150 – 180 Homeworks: Prob. 3, 17(a only), 23, 33
Week 10	Chapter 8	Joint Probability Distributions Pages 206 - 136 Homeworks: Prob. 6, 9, 16, 18, 24
Week 11	Chapter 9	Variance, Covariances, and Correlation Coefficients Pages 247 – 281 Homeworks: Prob. 6, 9, 33, 35
Week 12	Chapter 10	The Normal distribution, and Central Limit Theorem Pages 282 – 308 Homeworks: Prob. 2, 6, 15, 24, 28
Week 13	Final Exam, (Chapter 5, 6, 8, 9 and 10)	

Note :

* Homeworks of each week is due on or before Tuesday of next week

* *Homeworks should be sent to WebCT mail box.*

*** No late Homeworks will be accepted**

**Students should be aware of any exceptions to this plan*