Random Mathematics

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School of Information and Communication Engineering

2020秋随机数学

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Course-Syllabus

- Course Objective
- Text Books & Reference
- Course Content
- Grading
- Instruction Info

Objective - 1

➢ Understand:

- Probability
- Random Variables
- Distributions
- Expectation, Variance, Moments, M.G.F.
- The Law of Large Numbers
- The Central Limit Theorem
- Estimation
- Sampling Distribution
- Testing Hypotheses
- Linear Regression
- Random Process

Objective - 2

➢ Conduct:

- Probability calculation
- Compute p.f./p.d.f or c.d.f of different *R.V.*s
- Calculate mean, variance, covariance, correlation, m.g.f
- Apply distribution models into real-world problems

➢ Estimate:

Parameters from given data

➢ Test :

A hypothesis from given data

➢ Perform:

- Project1-SNR analysis of a wireless detection system
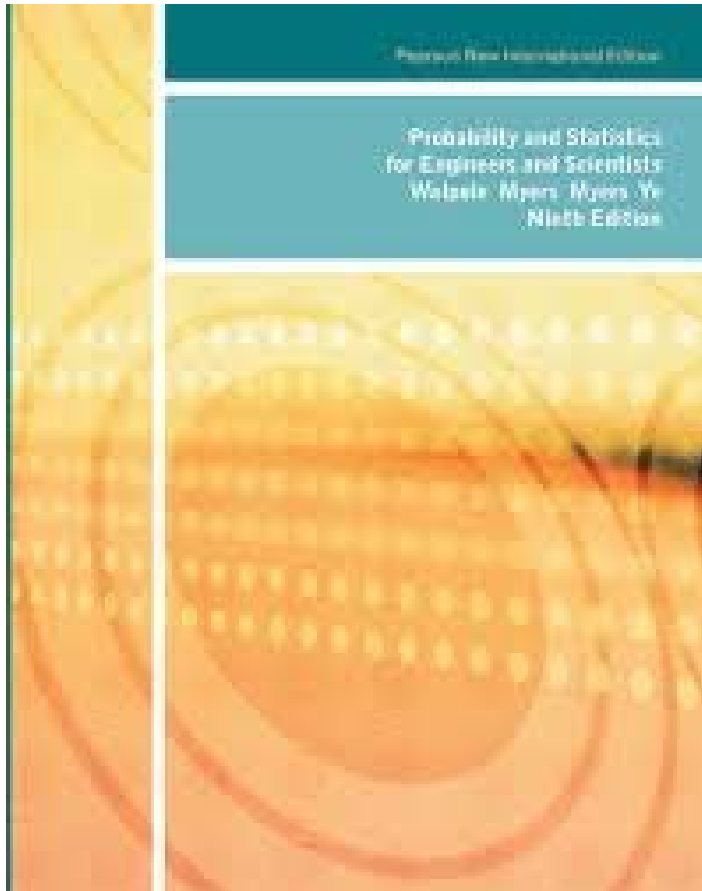- Project2-Statistical channel modelling of UWB soil data

Text books

1: Morris H. Degroot & Mark J. Schervish. Probability and Statistics (Forth Edition), Addison-Wesley, 2011.

2: Alberto Leon Garcia, Probability, Statistics and Random Processes for Electrical Engineering (3rd Edition), Prentice Hall, 2008.
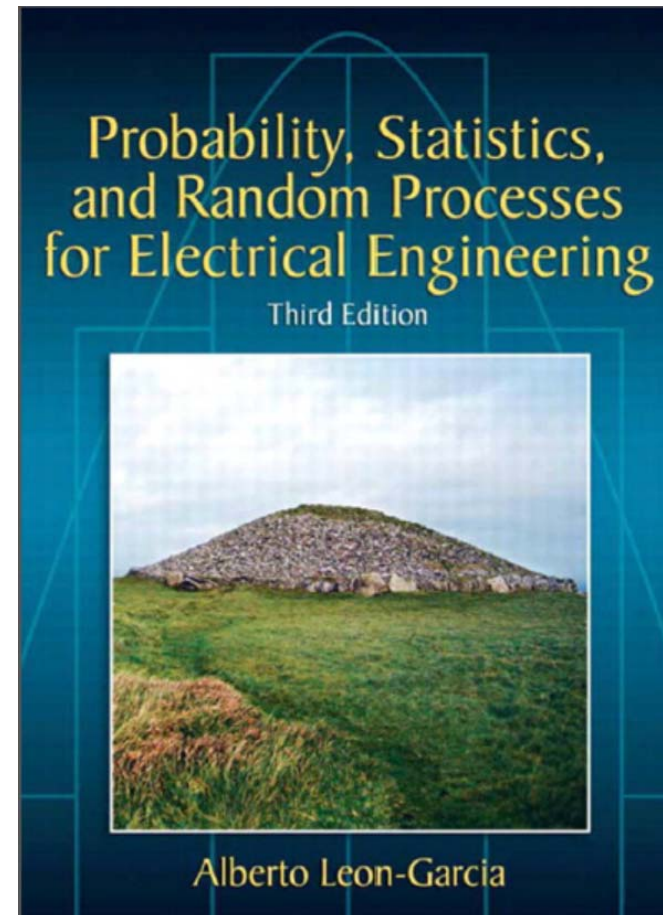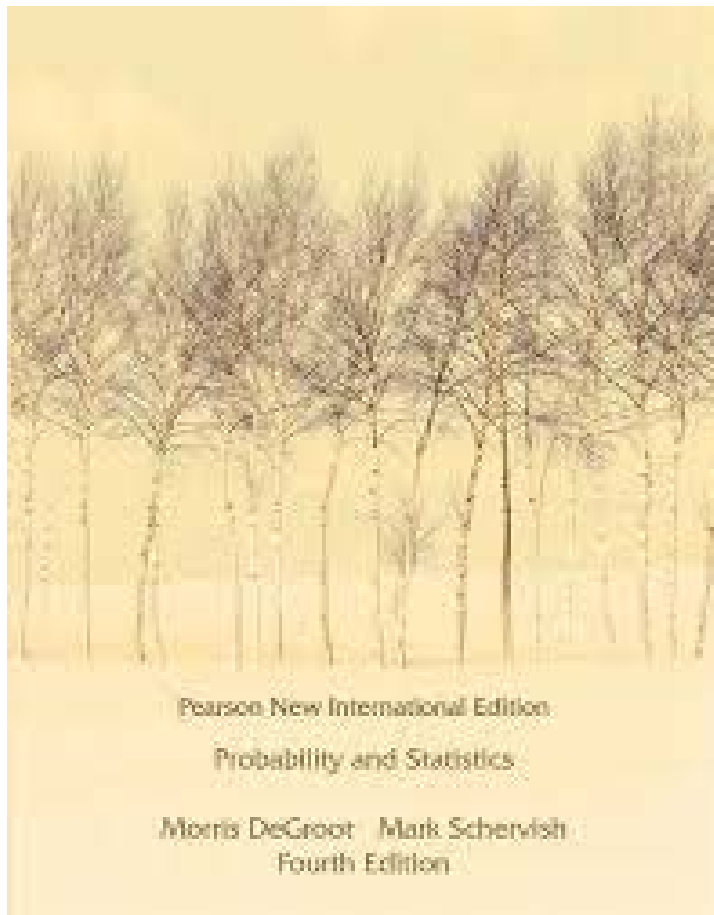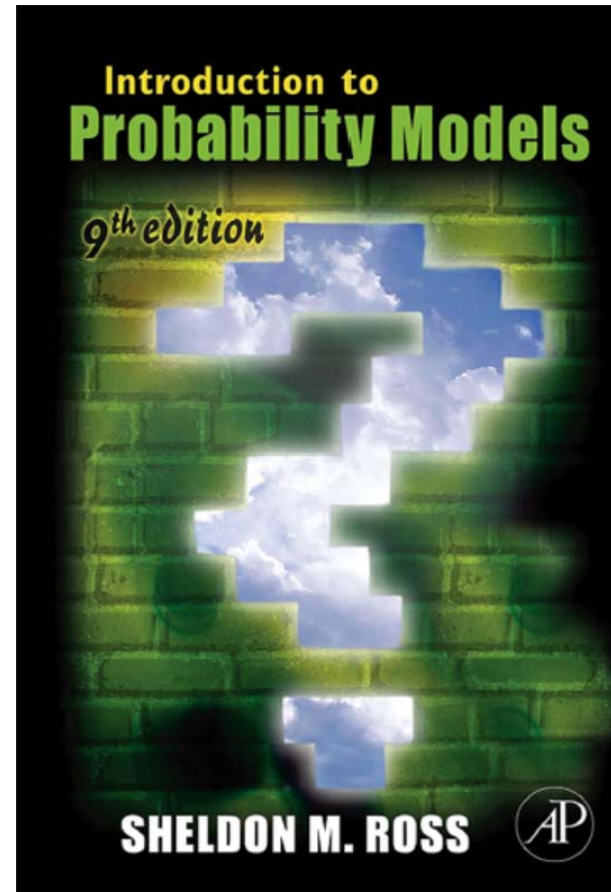
References

Ronald E. Walpole et al. Probability & Statistics for Engineers & Scientists (Ninth Edition), Prentice Hall, 2012.

Sheldon M. Ross, Probability and Statistics (Forth Edition), Elsevier, 2007.

Content

Grading

- Homework   20%
- Open-book Pop Quiz 2 times   20%
- Course Projects   10%
- Q&A (Supplement)   5%

     Usual Performance

- Closed-book midterm   20%

   Cover Text1 chap. 1-5

- Closed-book final exam   30%

   Cover Text1 chap. 1-9, 11, Text2 chap. 9

     Test Performance

Instruction Info
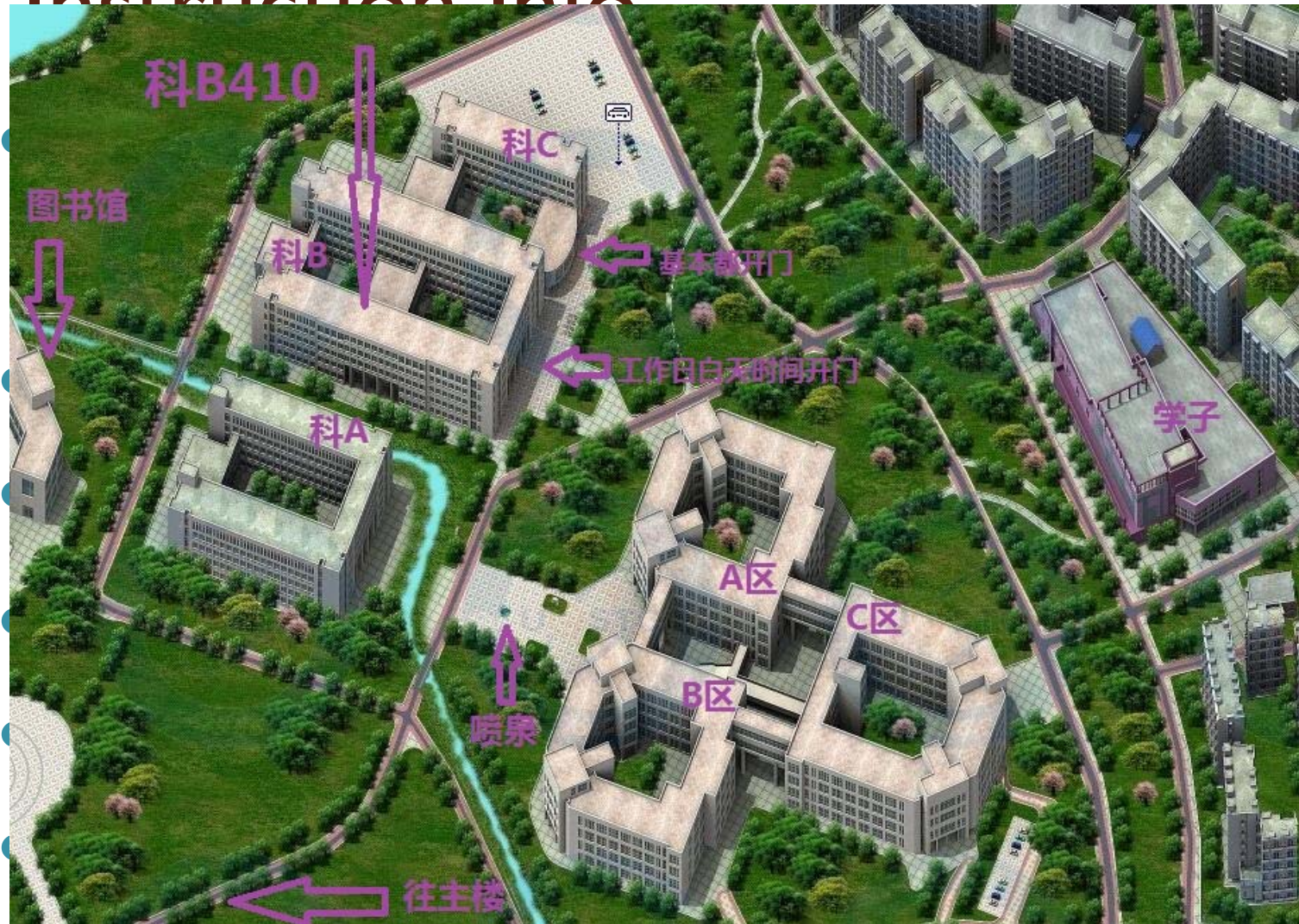
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