The Hong Kong University of Science and Technology

UG Course Syllabus

Probability and Random Process in Engineering

ELEC2600

4 Credits

Exclusion(s): ELEC2600H, MATH2421

Prerequisite(s): MATH1003 or MATH1014 or MATH1020 or MATH1024

Corequisite(s): MATH2011 or MATH2023

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Course Description

An introduction to statistical inference and random processes in electrical engineering, including the necessary probabilistic background, random variables, distribution and density functions, characteristic functions, conditional statistics, expectation, moments, stochastic processes.

Assessments:

Assessment Task	Contribution to Overall Course grade (%)
Homework	8%
Laboratory Exercises	12%
Mid-Term Examination	35%
Final Examination	45%

Required Texts and Materials

Probability, Statistics and Random Processes for Electrical Engineering, 3rd ed., Alberto Leon-Garcia, Addison Wesley, 2009.

Additional Resources

Introduction to Random Signals and Applied Kalman Filtering, 4th ed., G. Brown and P. Y. C. Hwang, New York: John Wiley & Sons, 2012.

Probability and Random Processes, 3rd ed., G. Grimmet and D. Strizaker, Oxford University Press, 2001.

Probability, Random Variables and Stochastic Processes, 4th ed., A. Papouils and S. U. Pillai, Mc-Graw Hill, 2002.

Probability, Random Processes and Estimation Theory for Engineers, 4th ed., H. Stark and J. W. Woods, Prentice Hall, 2012.