Engineering Tripos Part IB, 2P7: Probability, 2018-19

Leader

Prof C Rasmussen [1]

Timing and Structure

1 or 2 lectures per week in weeks 1-4. 6 lectures.

Aims

The aims of the course are to:

• Show how concepts of probability can be applied to engineering applications.

Objectives

As specific objectives, by the end of the course students should be able to:

• Explain and use simple ideas of probability, mean, variance, etc.
• Manipulate random variables and probability density functions.
• Solve simple statistical problems of engineering importance.

Content

Probability and Statistics

• Probability.
• Conditional probability and independence.
• Permutations and combinations.
• Binomial and Poisson distributions.
• Expectation of a discrete random variable.
• Variance and standard deviation.
• Probability density function for a continuous random variable.
• Mean and variance.
• Normal and exponential distribution.
• Tests of significance and confidence intervals

Further Information

Further information, including details of each lecture and hand-outs are available here: http://mlg.eng.cam.ac.uk/teaching/1BP7 [2]

Booklists

Please see the Booklist for Part IB Courses [3] for references for this module.

Examination Guidelines
Please refer to [Form & conduct of the examinations](http://teaching.eng.cam.ac.uk/content/form-conduct-examinations) [4].

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**Links**
- [mailto:cer54@cam.ac.uk](mailto:cer54@cam.ac.uk)
- [http://mlg.eng.cam.ac.uk/teaching/1BP7](http://mlg.eng.cam.ac.uk/teaching/1BP7)
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