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 [4].

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Links
[1] mailto:cer54@cam.ac.uk
[2] http://mlg.eng.cam.ac.uk/teaching/1BP7
[3] https://www.vle.cam.ac.uk/mod/book/view.php?id=364081&chapterid=43861
[4] https://teaching.eng.cam.ac.uk/content/form-conduct-examinations