Engineering Tripos Part IB, 2P7: Probability, 2015-16

Lecturer
Dr Jossy Sayir [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://www.inference.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].

**UK-SPEC**

The UK Standard for Professional Engineering Competence (UK-SPEC) [5] describes the requirements that have to be met in order to become a Chartered Engineer, and gives examples of ways of doing this.

UK-SPEC is published by the Engineering Council on behalf of the UK engineering profession. The standard has been developed, and is regularly updated, by panels representing professional engineering institutions, employers and engineering educators. Of particular relevance here is the ‘Accreditation of Higher Education Programmes’ (AHEP) document [6] which sets out the standard for degree accreditation.

The Output Standards Matrices [7] indicate where each of the Output Criteria as specified in the AHEP 3rd edition document is addressed within the Engineering and Manufacturing Engineering Triposes.

Last modified: 17/11/2015 11:29

**Source URL (modified on 17-11-15):** http://teaching.eng.cam.ac.uk/content/engineering-tripos-part-ib-2p7-probability-2015-16

**Links**
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