

COURSE DETAIL

FUNDAMENTALS OF PROBABILITY THEORY

Country

United Kingdom - England

Host Institution

King's College London

Program(s)

King's College London

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Statistics Mathematics

UCEAP Course Number

158

UCEAP Course Suffix**UCEAP Official Title**

FUNDAMENTALS OF PROBABILITY THEORY

UCEAP Transcript Title

PROBABILITY THEORY

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

The course covers: Countability, measure spaces, σ -algebras, π -systems and uniqueness of extension. Construction of Lebesgue measure on \mathbb{R} (proof non-examinable), Independence. The Borel-Cantelli lemmas, measurable functions and random variables, independence of random variables. Notions of probabilistic convergence. Construction of integral and expectation. Integration and limits. Density functions. Product measure and Fubini's theorem. Laws of large numbers. Characteristic functions and weak convergence, Gaussian random variables. The central limit theorem. Conditional probability and expectation.

Language(s) of Instruction

English

Host Institution Course Number

6CCM341A

Host Institution Course Title

FUNDAMENTALS OF PROBABILITY THEORY

Host Institution Course Details

<https://www.kcl.ac.uk/abroad/module-options/fundamentals-of-probability-theory>

Host Institution Campus

King's College London

Host Institution Faculty

Host Institution Degree

Host Institution Department

Mathematics

Course Last Reviewed

2023-2024

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