COURSE DETAIL

ESSENTIALS OF ANALYSIS AND PROBABILITY

Country United Kingdom - Scotland

Host Institution University of Edinburgh

Program(s) University of Edinburgh

UCEAP Course Level Upper Division

UCEAP Subject Area(s) Statistics Mathematics

UCEAP Course Number 148

UCEAP Course Suffix

UCEAP Official Title ESSENTIALS OF ANALYSIS AND PROBABILITY

UCEAP Transcript Title ANALYSIS&PROBABILTY

UCEAP Quarter Units 4.00

UCEAP Semester Units 2.70

Course Description

The course covers many of the following topics: Random events, sigmaalgebras, monotone classes. Measurable spaces, random variables measurable functions. Measures, probability measures, signed measures. Borel sets in R^d, Lebesgue measure. Caratheodory extension theorem. Sequences of events and random variables, Borel-Cantelli lemma. Distributions of random variables. Independence of random variables. Integral of measurable functions - mathematical expectation,. Moments of random variables, L p spaces. Convergence concepts of measurable functions. Limit theorems for integrals. Weak and strong laws of large numbers. Completeness of L p spaces. Conditional expectation and conditional distribution of random variables. Fubini's theorem.

Language(s) of Instruction

English

Host Institution Course Number MATH10047

Host Institution Course Title ESSENTIALS OF ANALYSIS AND PROBABILITY

Host Institution Campus

Host Institution Faculty

School of Mathematics

Host Institution Degree

Host Institution Department

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