

COURSE DETAIL

PROBABILITY AND MATHEMATICAL STATISTICS

Country

New Zealand

Host Institution

University of Waikato

Program(s)

University of Waikato

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Statistics

UCEAP Course Number

110

UCEAP Course Suffix**UCEAP Official Title**

PROBABILITY AND MATHEMATICAL STATISTICS

UCEAP Transcript Title

PROB & MATH STATS

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

This paper introduces probability theory and the mathematical theory of statistics. It covers mathematical concepts and theory that underpin the statistical distributions, inference and important results in statistics. This course is almost entirely mathematical in nature. The first half starts with a rigorous introduction to probability theory. Topics include the axioms of probability, conditional probability and independence, random variables, discrete distributions, continuous distributions, expectations and variances, and special distributions. In the second half, building upon the tools and background in the first half, more advanced topics are studied, such as convergence of random variables, moment generating functions, characteristic functions, and their applications to the foundational results in mathematical statistics; namely the law of large numbers and the central limit theorem. If time permits additional topics such as maximum likelihood theory may be covered.

Language(s) of Instruction

English

Host Institution Course Number

STATS322

Host Institution Course Title

PROBABILITY AND MATHEMATICAL STATISTICS

Host Institution Course Details

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Computation and Mathematical Sciences

Course Last Reviewed

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