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 Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Computation and Mathematical Sciences

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