

# MT358 : CALCULUS BASED PROBABILITY AND STATISTICS

Students discuss combinatorics and the classical definition of probability and then proceed to a more axiomatic approach to the subject. Discussions include topics such as sample spaces, events, conditional probability, random variables, probability distribution and density functions, and mathematical expectations. The normal distribution and the central limit theorem, as well as probability histograms, graphs, and area beneath curves as probabilities are all discussed. A rigorous treatment of sampling, estimation of population parameters, hypothesis testing, correlation and regression and analysis of variance are also covered.

**Credits** 4

**Prerequisite Courses**

MT141: CALCULUS II