

MTH219 Fundamentals of Statistics and Probability

Level: 2

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY SEMESTER

Synopsis:

Students are exposed to the essential and important concepts of Statistics and Probability for data analysis. Illustrative examples in various discipline will be discussed. Emphasis will be on understanding data variability and uncertainty; cultivating statistical thinking and applying statistical techniques to solve real-life practical problems. Descriptive statistics and useful probability models will be introduced.

Topics:

- Exploring data.
- Summary statistics.
- Interpreting and analysing data.
- Descriptive statistics, measures of location and dispersion.
- Modelling variation.
- Expectation and variance of random variables.
- Probability models.
- Bernoulli trials, binomial, geometric and uniform distributions.
- Poisson approximation for rare events and exponential models.
- Normal distribution.
- Functions of random variables.

Textbooks:

: FUNDAMENTALS STATISTICS PROBABILITY SUSS CUSTOM (eText version) 2nd edition
Pearson
ISBN-13: 9789814514330

Learning Outcome:

- Calculate expectation, variance and/or median of random variables.
- Show the dependence/independence of events.
- Comment on results obtained by direct calculation of probability of events versus those obtained by Normal/Poisson approximation.
- Compute probabilities of events.
- Apply probability models in practical settings.
- Determine statistical information of a given data set.

Assessment Strategies (Evening Class):

Components	Description	Weightage Allocation (%)
Overall Continuous Assessment	PRE-CLASS QUIZ 1	2
	PRE-CLASS QUIZ 2	2
	PRE-CLASS QUIZ 3	2
	COMPUTER MARKED ASSIGNMENT 1	8
	TUTOR-MARKED ASSIGNMENT 1	16
Overall Examinable Components	Written Exam	70
Total		100