MTH220 Statistical Methods and Inference

Level: 2

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY SEMESTER

Synopsis:

MThH20 is a natural continuation of MTH219 and aims to equip students with more in-depth statistical knowledge and skills to solve real-world problems and to make intelligent decisions. Students will be able to apply a wide range of concepts and statistical methods for analysing data, carrying out hypothesis testing, estimation and drawing inferences. Correlation analysis, regression methods, non-parametric techniques and inferential statistics will be introduced.

Topics:

- Sampling distribution
- Central limit theorem
- Estimation and inferences
- Inferential statistics, confidence intervals
- Hypotheses testing I - Z test/ t test
- Non parametric statistics
- Correlation analysis
- Regression analysis - linear regression model
- Categorical data analysis

Textbooks:

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

Learning Outcome:

- Calculate statistical parameters from data.
- Determine the equation of the least squares linear regression line.
- Comment on the results of hypothesis tests.
- Apply suitable hypothesis tests, non-parametric tests or goodness-of-fit tests.
- Compute probability or expected frequency of an event.
- Use R to perform data analysis.

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**