# PROBABILITY AND STATISTICS [IT2110]

By SLIIT Mathematics Unit Faculty of Humanities and Sciences

### COURSE

- Course Delivery
  - ✓ 2 Hour Lecture
  - ✓ 1 Hour Tutorial
  - ✓ 2 Hour Lab Session (R)
- Course Web Enrollment Key
  - ✓ IT2110
- Module Outline
  - ✓ Refer course web

## **COURSE EVALUATION**

- Continuous Assessments 50 Marks
  - ➤ Mid Term Examination 30%
  - ➤ Online R Assignment (Practical) 20%
- Final Examination 50 Marks

# **CONTACT INFORMATION**

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### **COURSE CONTENT**

- Introduction to Statistics
- Sampling Methods
- Descriptive Statistics
- Probability
- Random variables & Probability Distributions
  - Discrete Probability Distributions
    - ✓ Binomial Distribution
    - ✓ Poisson Distribution
- Continuous Probability Distributions
  - ✓ Exponential Distribution
  - ✓ Normal Distribution

- Sampling Distributions
  - ✓ Sampling Distribution of the Means
  - ✓ Central Limit Theorem
- Statistical Inference
  - ✓ Parameter Estimation
  - ✓ Hypothesis Testing
- Chi squared Tests
  - ✓ Goodness of Fit Test
  - ✓ Independence Test
- Regression Analysis
  - ✓ Scatter Plot
  - **✓** Correlation
  - ✓ Simple Linear Regression Model

Introduction to Time Series

### **BLOOM'S TAXONOMY**



#### Produce new or original work

Design, assemble, construct, conjecture, develop, formulate, author, investigate

evaluate

#### Justify a stand or decision

appraise, argue, defend, judge, select, support, value, critique, weigh

analyze

#### Draw connections among ideas

differentiate, organize, relate, compare, contrast, distinguish, examine, experiment, question, test

apply

#### Use information in new situations

execute, implement, solve, use, demonstrate, interpret, operate, schedule, sketch

understand

#### Explain ideas or concepts

classify, describe, discuss, explain, identify, locate, recognize, report, select, translate

remember

Recall facts and basic concepts define, duplicate, list, memorize, repeat, state

### REFERENCES

- Probability and Statistics for Engineers and Scientists (9<sup>th</sup> Edition)
  - Authors: Ronald E. Walpole, Raymond H. Myers, Sharon L. Myers & K. Ye
  - Publisher: Prentice Hall
- Schaum's Outlines of Statistics (6<sup>th</sup> Edition)
  - Author: M. R. Spiegel & L.J. Stephens
  - Publisher: McGraw-Hill Education