CM1606: Computational Mathematics

Semester II: Statistics Component

To provide background knowledge in statistical concepts for problem solving in AI and DS

ROBERT GORDON UNIVERSITY ABERDEEN
TEF Gold
INFORMATICS INSTITUTE OF TECHNOLOGY

MODULE LEARNING OUTCOMES

- On completion of this module, students are expected to be able to:
  - apply a range of statistical distribution models and hypothesis testing to real world problems
  - represent, analyze, and visualize data in order to infer helpful insights about data/data collection

MODULE DETAILS

- Full Module Title: Computational Mathematics
- Module Code: CM1606
- Length: year long
- Lecturers

Module Leader: Ganesha Thondilage

Lecturer - Semester II: Prashan Rathnayaka *(prashan.r@iit.ac.lk)*

ASSESSMENT PLAN

- Coursework – 60%
- Examination – 40%
- Minimum qualifying grade for each component is D

MODULE DELIVERY

- This is a year long module
- Lectures
  - 2 hours per week
- Tutorial
  - 2 hours per week

MODULE CONTENT

- Data Analysis
- Conditional Probability
- Discrete Distributions (Binomial covered)
- Continuous Distributions (Normal covered)
- Sampling Distributions
- Linear Regression
- Hypothesis Testing
- Analysis of Variance

ESSENTAIL READING

- *Bruce,A., Bruce, P., Gedeck, P. (2020) Practical Statistics for Data Scientists. O'Reilly*
- *Bruce, A., Bruce, P. (2017) Practical Statistics for Data Scientists. O'Reilly*

FURTHER READING

- *Chihara, L., Hesterburg, T. (2011) Mathematical Statistics with Resampling and R. Wiley*
- *Swartz, T. (2012) Introduction to Probability and Statistics. Pearson*