Course Title:	**Foundations of Data Science**
Course Code:	**COMP615**
Descriptor Start Date:	**31/01/2025**
POINTS:	**15.00**
LEVEL:	**6**
PREREQUISITE/S:	**COMP517**
COREQUISITE/S:	**None**
RESTRICTION/S:	**None**

LEARNING HOURS

Hours may include lectures, tutorials, online forums, laboratories. Refer to your timetable and course information in Canvas for detailed information.

Total learning hours: 150

PRESCRIPTOR

This paper focuses on several core topics that constitute the infrastructure for Data Science, including the data analytics pipeline, management of large scale data, how analytics and machine learning capabilities are built on top of that storage, and how data scientists develop machine learning and modelling platforms using libraries and robust architecture design patterns.

LEARNING OUTCOMES

1. Explain what data science is about and the areas that play major roles within the realm of data science
2. Use the most common data representation and pre-processing methods and apply appropriate data visualization techniques in Python
3. Apply and evaluate a variety of data science techniques that are available to perform the analysis.blems.
4. Explain and interpret results of algorithm analyses

CONTENT

- Introduction to Data Science
- Information used in business, science, and everyday life
- Inductive reasoning, understanding the experimental design and data analysis
- Prediction and classification methods
- Machine learning algorithms
- Artificial Neural Networks

LEARNING & TEACHING STRATEGIES

Lectures and on-line sources will be used to present the material, with workshops to support individual practical exercises.

ASSESSMENT PLAN

Assessment Event	Weighting %	Learning Outcomes
Lab tasks	10.00	2,3,4
Assignments	50.00	2,3,4
Examination	40.00	1,3,4

Grade Map **MAP1**

A+ A A- Pass with Distinction
B+ B B- Pass with Merit
C+ C C- Pass
D Fail

Overall requirement/s to pass the course:

To pass this course, students must attempt all summative assessments and achieve a minimum overall grade of C-.

LEARNING RESOURCES

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For further information, contact: Te Ara Auaha - Faculty of Design & Creative Technologies

Principal Programme:	**AK3697, Bachelor of Computer and Information Sciences**
Related Programme/s:	**AK3698** **AK3756** **ICE1** **INEXCH1** **SABRD1**