COMP 7006 DATA SCIENCE

Credit Points 10

Legacy Code 301044

Coordinator Liwan Liyanage (https://directory.westernsydney.edu.au/search/name/Liwan Liyanage/)

Description The explosion of data in the internet age opens up new possibilities for agencies and business to better serve and market to its customers. To take full advantage of these opportunities requires the ability to consolidate, manage and extract information from very large diverse data sets. In science, data sets are growing rapidly, with projects routinely generating terabytes of data. In this subject we examine the software tools and analytic methods that underpin a successful Data Science Project and gain experience in big data analytics.

School Computer, Data & Math Sciences

Discipline Statistics

Student Contribution Band HECS Band 1 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Postgraduate Coursework Level 7 subject

Assumed Knowledge

Basic Statistics, Computer Programming.

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Describe the issues (computational and social) in data science
2. Show when and how to apply the MapReduce paradigm to solve data analytics problems
3. Select and apply appropriate Machine learning and statistical algorithms to extract information from data
4. Evaluate and interpret the utility of information found using Data Science

Subject Content

1. Introduction to Data Science
2. The Map-Reduce paradigm for Big Data
3. Unsupervised Learning; Clustering, Dimension Reduction
4. Supervised Learning; Regression and Classification
5. Unstructured data
6. Visualisation and Visual Analytics

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Multiple Choice	5 quizzes of 20 minutes each	20	N	Individual	Y
Applied Project	At least 5 pages of Text	50	N	Individual	Y
Presentation	15 Mins	30	N	Individual	Y

Teaching Periods

Spring (2025)
Parramatta - Victoria Rd
On-site
Subject Contact Liwan Liyanage (https://directory.westernsydney.edu.au/search/name/Liwan Liyanage/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP7006_25-SPR_PS_1#subjects)

Quarter 4 (2025)
Parramatta City - Macquarie St
On-site
Subject Contact Liwan Liyanage (https://directory.westernsydney.edu.au/search/name/Liwan Liyanage/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP7006_25-Q4_PC_1#subjects)