

# COMP 1013 ANALYTICS PROGRAMMING

**Credit Points** 10

**Legacy Code** 301487

**Coordinator** Rosalind Wang (<https://directory.westernsydney.edu.au/search/name/Rosalind Wang/>)

**Description** This subject covers the use of computers and computer programming for Data Science. After briefly considering spreadsheet systems, the subject will consider programming in the statistical system "R" in depth. Finally, other special purpose languages will be touched briefly (eg. SQL).

**School** Computer, Data & Math Sciences

**Discipline** Computer Science

**Student Contribution Band** HECS Band 2 10cp

Check your fees via the Fees ([https://www.westernsydney.edu.au/currentstudents/current\\_students/fees/](https://www.westernsydney.edu.au/currentstudents/current_students/fees/)) page.

**Level** Undergraduate Level 1 subject

**Assumed Knowledge**

Familiarity with computer software programs such as Excel.

## Learning Outcomes

1. Familiarity with computer software programs such as Excel.
2. Manage and manipulate data using R and R-Studio; including reading and writing data files
3. Write R programs to conduct Data Science tasks
4. Use basic SQL to manage and manipulate data
5. Apply Simulation techniques to Data Science tasks
6. Write reports using Markdown and R-Markdown

## Subject Content

1. Introduction to R and R-Studio
2. Data Types, Variables and Expressions
3. Input and Output
4. Control Structures: Loops and Conditional Expressions
5. Writing Functions
6. Simulation techniques
7. Introduction to SQL
8. Using Markdown for reporting

## 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
Quiz	5x 30 min	20	N	Individual
Final Exam	10-15 min oral exam or 1 hour written exam	40	Y	Individual

Applied Project 3 weeks/ approx. 2000 words N Individual

Teaching Periods

## Autumn (2024)

### Parramatta - Victoria Rd

**On-site**

**Subject Contact** Rosalind Wang (<https://directory.westernsydney.edu.au/search/name/Rosalind Wang/>)

[View timetable \(https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=COMP1013\\_24-AUT\\_PS\\_1#subjects\)](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP1013_24-AUT_PS_1#subjects)

## Vietnam Session 2 (2024)

### Vietnam

**On-site**

**Subject Contact** Rosalind Wang (<https://directory.westernsydney.edu.au/search/name/Rosalind Wang/>)

[View timetable \(https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=COMP1013\\_24-UT2\\_UE\\_1#subjects\)](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP1013_24-UT2_UE_1#subjects)

## WSU Online TRI-3 (2024)

### Wsu Online

**Online**

**Subject Contact** Rosalind Priestman (<https://directory.westernsydney.edu.au/search/name/Rosalind Priestman/>)

[View timetable \(https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=COMP1013\\_24-OT3\\_OW\\_2#subjects\)](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP1013_24-OT3_OW_2#subjects)

## Vietnam Session 3 (2024)

### Vietnam

**On-site**

**Subject Contact** Rosalind Wang (<https://directory.westernsydney.edu.au/search/name/Rosalind Wang/>)

[View timetable \(https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=COMP1013\\_24-UT3\\_UE\\_1#subjects\)](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP1013_24-UT3_UE_1#subjects)