

Schedule

This syllabus represents my current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes will be communicated clearly both on the website and in class.

Scheme of work

Last compiled: 2025-10-06

Week

Date

Topics

Hours

Reading

CheatSheet

Remarks

Assessment

Mark

1

2025-10-06

Lab/Discussion on 1.2

3

Notes

Base R

Installation of RStudio Desktop, Signup for Posit Cloud, Google Colab, and Kaggle

2

2025-10-13

Lab/Discussion on 1.3 and 1.4

3

Notes

Base R

Focus more on `for{}` loop and `If-else` statement

3

2025-10-20

Lab/Discussion on 2.1 and 2.2

3

Notes

Base R

1. Create a function to automate data preprocessing (e.g., Missing value detection, etc.)

4

2025-10-27

Lab/Discussion on 2.2 and 2.3

3

Notes

Base R

2. R-project website, Bioconductor, and GitHub

5

2025-11-03

Lab/Discussion on 3.1, 3.2, 3.3, and 3.4

3

Notes

readr

Focus on Histogram, Scatter diagram, Bar chart, Box plot, and Line chart

6

2025-11-10

Lab/Discussion on 3.5, 3.6, and 3.7

3

Notes

Base::Graph

Advanced visualization techniques and interactive plots

7

2025-11-17

MID SEMESTER BREAK

8

2025-11-24

Lab/Discussion on 4.1 and 4.2

3

Notes

ggplot2

Data cleaning and preprocessing techniques

Quiz

15%

9

2025-12-01

Lab/Discussion on 4.3 and 4.4

3

Notes

ggplot2

Data transformation and manipulation

10

2025-12-08

Lab/Discussion on 5.1 and 5.2

3

Notes

tidyr

Statistical analysis fundamentals

11

2025-12-15

Lab/Discussion on 5.3 and 5.4

3

Notes

dplyr

Hypothesis testing and confidence intervals

12

2025-12-22

Lab/Discussion on 6.1 and 6.2

3

Notes

stats

Regression analysis and correlation

13

2025-12-29

SPECIAL BREAK

14

2026-01-05

Lab/Discussion on 6.3 and 6.4

3

Notes

Advanced statistical modeling

15

2026-01-12

Lab/Discussion on 7.1 and 7.2

3

Notes

stats

Project preparation and presentation skills

Test

30%

16

2026-01-19

Lab/Discussion on 7.3 and 7.4

3

Notes

stats

Final project presentation and report submission

Presentation & Report

25% & 30%