Data Science & Machine Learning Continuous Assessment

Due Date : Friday, November 28th, 2025

Value : 60%

INSTRUCTIONS TO CANDIDATES:

- Include your name and student number as a comment at the top of all YOUR submissions and/or code.
- You must submit all program, document and other files for this assessment. You may use any method for submission including Jupyter notebooks, GitHub, etc., however you must reference all sources used correctly.
- It is your responsibility to keep backups of all solutions and other files for this assessment.
- You may use any programming languages or other technologies you choose; however, you must provide a detailed outline of your reasoning behind your choices.
- This is an individual assessment - students will be assessed and marked individually.
- All usual exam rules and regulations apply.

Project Description

You are required to develop your own professional data science & machine learning portfolio. You are free to choose any data science & machine learning related topics to include in your portfolio; however, you must discuss your topic, and it must be approved by your lecturer. This a technical portfolio and therefore must primarily consist of a significant programming component.

You are required to provide a specification of the content that you propose to include in your portfolio by 9 am, Tuesday 4th November 2025, worth 5%. You will discuss and finalise this specification with your lecturer after this submission date.

Before we return after reading week, (9 am, Tuesday 4th November 2025) you are required to submit a single item of your portfolio, worth 10%.

The final completed version of your portfolio must be submitted by the end of week 11 of this semester (5pm, Friday 28th November 2025), worth 35%.

You are required to present your portfolio to the class group in week 12, the last week of the semester (week beginning Monday December 1st, 2024) – this is worth 10%.

A professional standard of work is expected, therefore, for example, include comments in your code as you deem necessary. Marks will be awarded for presentation, adhering to best programming practices (good use of comments, naming conventions, using functions etc.).

Your final submission must include your completed portfolio, all code, notes and sources of information and anything else that you feel is appropriate to be included.

If you have any queries regarding this assessment, please do not hesitate to contact the lecturer at any time.

You should include your professional details, LinkedIn profile, GitHub profile, website etc. Consider including in your portfolio, aspects that demonstrate your expertise in areas including, but not limited to:

1. Infrastructure for data
2. Data and data storage technologies
3. Programming and relevant technical expertise
4. Machine learning models
5. Any other areas of technical expertise that you feel are relevant

Deliverables

1) Portfolio Specification - (5%) 9 am, Tuesday 4th November 2025

   This deliverable presented in any format of your choosing must provide a specification of the content that you propose to include in your portfolio.

2) Single Portfolio Item - (10%) 9 am, Tuesday 4th November 2025

   This deliverable should comprise a single model trained on a data set to answer a question or make a prediction. It should include a description of the full process including data selection and preprocessing, model training and validation, and a conclusion.

3) Final Portfolio Submission - (35%) 12 noon, Friday 28th November, 2025

4) In-class presentation (10%) ` week of Dec 1st

   You must present, or no marks will be awarded for your portfolio.

*All dates are provisional and are subject to change.