Group Project Assignment

Project Title: Data■Driven Analysis of Supply Chain Efficiency

Module: Advanced Data Science Techniques
Deadline: 15 January 2026, 17:00 GMT

Overview:
This project requires students to design and implement an end■to■end data science pipeline analysing supply chain efficiency for a mid■sized logistics company. The aim is to integrate data collection, cleaning, modelling, and evaluation using modern analytics techniques.

Tasks:
1. Collect and preprocess the provided dataset (deliveries, delays, fuel consumption).
2. Implement feature engineering strategies relevant to predictive modelling.
3. Develop predictive models (regression, random forest, gradient boosting).
4. Evaluate models using RMSE, MAE, R^2, and cross■validation.
5. Provide a critical discussion linking modelling choices to operational decision■making.

Deliverables:
• A project report (max 10 pages) including methodology, results, and interpretation.
• Source code organised in a reproducible structure.
• A 5■minute group presentation summarising key findings.

Assessment Criteria:
• Technical correctness and methodological rigour (40%).
• Quality of analysis, interpretation, and critical discussion (30%).
• Code quality, reproducibility, and organisation (20%).
• Presentation clarity and structure (10%).

Submission: Upload a single ZIP file to the VLE containing the report, code, and presentation slides.