Module Timetable - FP041

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Module Timetable

Table 1: Assessment Dates

Week	Date	Topic	Deadlines
1	6th Feb '23	Introduction to Data Science and Scientific programming in Python	
2	13th Feb '23	Introduction to Data Science and Scientific programming in Python	
3	27th Feb '23	Introduction to Mathematical Modelling	Assessment 1 Released
4	6th Mar '23	Modelling using Functions and Structured Data	Assessment 1 Due
5	13th Mar '23	Basics of Descriptive and Inferential Analysis	Assessment 2 Released
6	20th Mar '23	Statistics fundamentals with Python	Assessment 2 Due
7	27th Mar '23	Modelling with linear regression	Assessment 3 Released
8	24th Apr '23	Big data analytics with Python	Assessment 3 Due
9	1 May '23	TBC	
10	8 May '23	TBC	
11	15 May '23	TBC	
12	22 May '23	TBC	

Assessment Deadlines

Assessment 1

Assessment Name: Question Set 1

Assessment type: Question set

Weighting: 30%

Assessment due on: 02/03/2023

Feedback and marks will be released via Tabula on the 30/03/2023

The materials being assessed is:

- Fundamentals and logic of programming
- Python operators, functions, packages, and graphs
- Introduction to Mathematical Modelling
- Data structures and functions in building a real-world model

The module learning outcome(s) being assessed is:

- Take a real-life problem and, making the necessary assumptions, translate it into a mathematical model
- Formulate mathematical problems, identify suitable algorithms to solve them, and implement them in a program written in a suitable programming language
- Interpret and evaluate the outputs of a mathematical model in the context of the original situation
- Demonstrate that a mathematical model can be refined by considering its outputs and simplifying assumptions

Assessment 2

Assessment Name: Question set 2

Assessment type: Question set

Weighting: 30%

Assessment due on: 22/03/2023

Feedback and marks will be released via Tabula on: 21/04/2022

The materials being assessed are

- Descriptive data analysis (distributions, measure of central tendency, measure of spread)
- Exploratory data analysis and machine learning using Python

The module learning outcome(s) being assessed is:

- Demonstrate that a mathematical model can be refined by considering its outputs and simplifying assumptions.
- Interpret and evaluate the outputs of a mathematical model in the context of the original situation
- Take a real-life problem and, making the necessary assumptions, translate it into a mathematical model

Assessment 3

Assessment Name: Data Science Case study

Assessment type: Case study

Weighting: 40%

Assessment due on: 24/04/2022

Feedback and marks will be released via Tabula on: 23/05/2023

The materials being assessed are everything discussed in the seminars and lectures.

The module learning outcome(s) being assessed is:

- Critically read a real-world problem, analyse the data provided, and build a mathematical model.
- Using concepts from machine learning, clean and organize data, visualize it to draw preliminary conclusion.
- Build simplifying assumptions around the data provided and perform statistical analysis.
- Demonstrate that a mathematical (statistical) model can be refined by considering its outputs and simplifying assumptions.
- Interpret and evaluate the outputs of a mathematical model in the context of the original situation.
- Write a clear and concise report presenting your analysis, findings, and recommendation.

What you CAN and CANNOT have help with?

Assessments 1 and 2

You CAN have help to:

- Check your understanding of assessments.
- Identify resources that will help you with assessments.
- Clarify questions and help with the mathematical and/or conceptual side of the coding problems.
- Clarify the mark scheme.
- Provide worked examples which are similar to the problems in assessments.
- Define and explain terminology relating to the assessments.

You CANNOT have help to:

- Plan or write code or code snippets for you.
- Debug your code.
- Give you hints to help you solve the coding problems.
- Check your work and assess it's quality.

Assessment 3

You CAN have help to:

- Check your understanding of assessments.
- Identify resources that will help you with assessments.
- Clarify questions and help with the mathematical and/or conceptual side of the coding problems.
- Clarify the mark scheme.
- Provide worked examples which are similar to the problems in assessments.
- Define and explain terminology relating to the assessments.

You CANNOT have help to:

- Plan or write code or code snippets for you.
- Debug your code.
- Give you hints to help you solve the coding problems.
- Check your work and assess it's quality.