ROBERT GORDON UNIVERSITY ABERDEEN

MODULE DESCRIPTOR

Module Title

Problem Solving and Maths

Reference	CM1119	Version	1
Created	November 2023	SCQF Level	SCQF 7
Approved	August 2023	SCQF Points	15
Amended		ECTS Points	7.5

Aims of Module

To develop appropriate skills in problem solving and critical thinking, and applying these tools and techniques in a variety of settings.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Identify appropriate methods and strategies for solving problems in a variety of domains.
2	Employ critical thinking tools and techniques to analyse facts and evidence towards identifying solutions to problems.
3	Apply basic reasoning skills in the construction of logical and sound arguments in communicating solutions to problems.
4	Apply data-driven approaches to solving problems.
5	Apply analytical and mathematical modelling skills to a range of problems relevant to computing domains.

Indicative Module Content

Problem solving methods and strategies: abstraction, sub-goals, action sequences, critical thinking: argument analysis, fallacies; reasoning: inductive reasoning, deductive reasoning, abductive reasoning, logic; statistics: data summarisation, correlation, probability.

Module Delivery

This module is delivered using a mixture of lectures, tutorials and laboratory sessions where appropriate.

Indicative Student Workload

		Full Time	Part Time
Contact Hours		40	N/A
Non-Contact Hours		110	N/A
Placement/Work-Based Learning Experience [Notional] Hours		N/A	N/A
TOTAL		150	N/A
Actual Placement hours for professional, statutory or regulatory body			

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Coursework	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4, 5
Description:	A coursework involving problem solving exercises.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

An overall minimum grade D is required to pass the module.

Module Grade	Minimum Requirements to achieve Module Grade:
A	The student needs to achieve an A in C1.
B	The student needs to achieve a B in C1.
C	The student needs to achieve a C in C1.
D	The student needs to achieve a D in C1.
E	The student needs to achieve an E in C1.
F	The student needs to achieve an F in C1.
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	None, in addition to course entry requirements.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

1	WALTON, D., 2005, Fundamentals of Critical Argumentation
2	WALTON, D., REED, C. and MACAGNO, F., 2008, Argumentation Schemes
3	CHATFIELD, T., 2022, Critical Thinking: Your Essential Guide
4	CAMPBELL, M., 2019, Learn RStudio IDE: Quick, Effective, and Productive Data Science