

## MODULE DESCRIPTOR

### Module Title

Problem Solving			
Reference	CM1117	Version	1
Created	January 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.

### Indicative Module Content

Problem solving methods and strategies: abstraction, sub-goals, action sequences, decision trees; 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
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

**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  
 Description: A coursework involving problem solving exercises.

**MODULE PERFORMANCE DESCRIPTOR****Explanatory Text**

The module is assessed on a pass/unsuccessful basis. The module grade is based on performance in Component 1.

Module Grade	Minimum Requirements to achieve Module Grade:
<b>Pass</b>	Pass in Component 1
<b>Fail</b>	Fail in Component 1
<b>NS</b>	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