

## MODULE DESCRIPTOR

### Module Title

Text Mining And Natural Language Processing

Reference	CB3104	Version	2
Created	February 2024	SCQF Level	SCQF 9
Approved	January 2024	SCQF Points	15
Amended	April 2024	ECTS Points	7.5

### Aims of Module

This module aims to equip students with the skills needed to extract meaningful insights from text datasets using various Natural Language Processing algorithms and techniques. The module will introduce students to a broad area of Text Mining, including Sentiment Analysis, Topic Modelling, and Information Retrieval, enabling them to uncover valuable information from diverse textual sources.

### Learning Outcomes for Module

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

- 1 Demonstrate understanding of text mining and natural language processing concepts
- 2 Use text mining and natural language processing algorithms and techniques to extract meaningful insights from text datasets
- 3 Evaluate the performance of text mining and natural language processing algorithms
- 4 Communicate the results of text mining analysis effectively

### Indicative Module Content

Fundamentals of text preprocessing, including tokenisation, stemming, and stop-word removal; text analytics workflow; sentiment analysis; topic modelling; text summarisation, recommendation systems. The module engages with UNESCO's Education for Sustainable Development Critical thinking, Strategic, Normative and Integrated problem-solving competencies, enabling students to analyse complex systems, question norms, practices and opinions, reflect on their values and perceptions, and apply different problem-solving frameworks to complex problems.

### Module Delivery

The module is delivered via workshops, case studies, lab tutorials, and online exercises.

**Indicative Student Workload**

	Full Time	Part Time
Contact Hours	36	N/A
Non-Contact Hours	114	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:	Individual Portfolio Assessment				

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

The calculation of the overall grade for this module is based on 100% weighting of C1. An overall minimum grade D is required to pass the module.

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

**Module Requirements**

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

**INDICATIVE BIBLIOGRAPHY**

- 1 CHAKRABORTY, G., PAGOLU, M. and GARLA, S., (2014). Text mining and analysis: practical methods, examples, and case studies using SAS. SAS Institute.
- 2 SARKAR, D., (2019). Text analytics with Python: a practitioner's guide to natural language processing (pp. 1-674). Bangalore: Apress.
- 3 VAJJALA, S., MAJUMDER, B., GUPTA, A. and SURANA, H., (2020). Practical natural language processing: A comprehensive guide to building real-world NLP systems. O'Reilly Media.
- 4 ZHAI, C. and MASSUNG, S., (2016). Text data management and analysis: a practical introduction to information retrieval and text mining. Morgan & Claypool.