This Module Version is not active until 01/Sep/2025

MODULE DESCRIPTOR

Module Title

Natural Language Processing

Reference	CMM544	Version	1
Created	October 2024	SCQF Level	SCQF 11
Approved	February 2025	SCQF Points	15
Amended		ECTS Points	7.5

Aims of Module

This module aims to provide students with a comprehensive understanding of text analytics, including the processes of pre-processing, representation learning and analysis of text data.

Learning Outcomes for Module

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

1	Analyse complex text analytics problems.
2	Appraise state-of-the-art natural language processing techniques and methods.
3	Design natural language processing solutions for a range of real-world problems.
4	Evaluate natural language processing solutions using best-practice metrics.
5	Criticise relevant literature in natural language processing and artificial intelligence.

Indicative Module Content

Fundamentals of logic, reasoning and machine learning; Natural Language Processing Techniques; supervised and unsupervised machine learning techniques applicable to NLP problems; text Classification; document Clustering; model evaluation; model interpretation; legal and ethical issues pertaining to NLP.

Module Delivery

Lectures are used to deliver the main principles and techniques. Practical sessions are used to acquire practical skills and reinforce knowledge from the lectures.

Indicative Student Workload	Full Time	Part Time
Contact Hours	30	30
Non-Contact Hours	120	120
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	150
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 assessing knowledge and practical skills in Natural Language Processing techniques and evaluation of their results.

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The calculation of the overall grade for this module is based on 100% weighting of Component 1. To pass the module students should achieve grade D or better.

Module Grade	Minimum Requirements to achieve Module Grade:
A	Grade A in Assessment Component 1
B	Grade B in Assessment Component 1
C	Grade C in Assessment Component 1
D	Grade D in Assessment Component 1
E	Grade E in Assessment Component 1
F	Grade F in Assessment Component 1
NS	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. Dipanjan, S. (2019). Text Analytics with Python: A Practitioner's Guide to Natural Language Processing. 2nd edn. Berkeley, CA: Apress.

2. Raschka, S. and Mirjalili, V. (2019). Python Machine Learning. 3rd edn. Birmingham, UK: Packt.

3. Ertel, W. and Black, D. (2018) Introduction to Artificial Intelligence. 2nd edn. Cham, Switzerland: Springer Nature.

4. Ulusoy, O., Tansel, A.U., and Arkun, E. (2015) Recommendation and Search in Social Networks. Cham, Switzerland: Springer International Publishing.

5. ULUSOY, O., TANSEL, A.U., and ARKUN, E. 2015. Recommendation and Search in Social Networks. Cham: Springer International Publishing.