# UNIVERSITY OF NORTHAMPTON

# MODULE SPECIFICATION

This document forms the definitive overview as to the nature and scope of this module and is used in the University’s quality assurance processes. The information in this document cannot be changed without approval (except for the Indicative Content).

[A glossary of key terms is available.](https://www.northampton.ac.uk/ilt/current-projects/defining-contact-time/types-of-student-contact-time/)

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| **FACULTY** | Faculty of Art, Science & Technology |
| **SUBJECT AREA** | Technology |
| **SUBJECT FIELD** | Computing |
| **MODULE TITLE** | Cloud Computing and Big Data |

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| **MODULE CODE** | CSY2081 |
| **LEVEL** | 5 |
| **CREDIT VALUE** | 20 |
| **MODULE LEADER** | James Xue |

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| **DELIVERY MODE(S)** | Standard |
| **DELIVERY LOCATION(S)** | UON |

**PRE-REQUISITES:**None

**CO-REQUISITES:**None

**RESTRICTIONS:**None

**SUPPLEMENTARY REGULATIONS**:

This module has supplementary regulations: No

**MODULE OVERVIEW:**

The purpose of this module is to provide a fundamental understanding of the concepts of big data, virtualisation, and cloud computing. Students explore, select and justify appropriate frameworks/technologies for big data processing, virtualisation, and cloud computing solutions for a given scenario.

**INDICATIVE CONTENTS:**

* Fundamental concepts of big data, (e.g., Five Vs, format, and storage, etc)
* Procedure and technologies in processing big data
* Concepts of virtualisation and possible business drivers behind the use of virtualised computer hardware platforms, operating systems, storage, and networks.
* Virtualisation for cloud computing.
* Various cloud computing platforms and architectures
* Migration to the cloud
* Enterprise requirements (e.g., availability, reliability, and security) of cloud computing
* Ethical and legal aspects of big data and cloud computing
* Cloud computing portal and management systems
* Cloud computing opportunities, research challenges and future trends.

**LEARNING OUTCOMES:**

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| **Module Learning Outcomes** |
| **On successful completion of the module, with guidance students will be able to:** |
| **Subject-Specific Knowledge, Understanding & Application** |
| 1. Explain the concepts and characteristics of big data (e.g., five Vs), virtualisation and cloud computing. 2. Identify and select frameworks and technologies in processing and managing big data. 3. Identify and select a cloud computing platform/architecture/technology and implement a solution for given application requirements. |
| 1. Identify the ethical, legal and environmental issues involved in big data and cloud computing |
| **Employability & Changemaker Skills** |
| 1. Select from a range of tools and strategies to solve problems in given scenario. |
| 1. Accurately, clearly, and appropriately communicate / argue and counter-argue |

**Readers are referred to the Programme Specification document for the list of PSRB requirements met by this module.**

**TYPICAL LEARNING, TEACHING AND ASSESSMENT HOURS (for the module as delivered on-site at the University of Northampton):**

[View this table on how learning, teaching and assessment hours map to the KIS Categories.](https://www.northampton.ac.uk/ilt/current-projects/defining-contact-time/kis-guidance/)

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| **Learning and teaching information for this module when delivered off-site by UN partners is available from the partner institution’s NILE site (or equivalent). Any variation in study hours must be approved by the University of Northampton before students are enrolled, ensuring that study hours provision is always appropriate to support student achievement of the module learning outcomes.** |

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| **Learning, Teaching and Assessment activities** | **Study hours** |
| **Contact hours: (total)**  Comprising face-to-face and online contact hours as follows: | **48** |
| * Face-to-face (total) - this may include the following:  (delete any that are not applicable) * F2F (broadcast) Lectures (e.g. guest speaker, cohort induction) * Face to face interactive small group session (generic space in groups of approx. 30 e.g. seminars/workshops/tutorials) | 36 |
| * **Online contact hours** **(total)**  (comprising online activities with mediated tutor input) | 12 |
| **Guided independent study hours**  **(including hours for assessment preparation)** | **152** |
| **Module Total** | **200** |

**ALIGNMENT OF LEARNING OUTCOMES AND ASSESSMENTS:**

**University of Northampton:**

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| **Assessment Activity** | | | **Learning Outcomes** | **Weighting (%)** |
| **Code** | **Assessment Type** | **Assessment Deliverables** |  |  |
| AS1 | Assignment | A report - 1600 words | a, d, f | 40% |
| AS2 | Assignment | Technical report - 2400 words | b, c, e, f | 60% |

The assessment items listed above are graded and contribute to the overall module grade (assessment *of* learning). In addition, there are opportunities for formative assessment (assessment *for* learning), which are ungraded, to support students in achieving the module learning outcomes. These are NOT listed.

**APPROVAL/ REVIEW DATES:**

**Version: 1**

Date of approval: