Programme Specification

MSc Data Science (UoR-NUIST Academy, Year 1 at UoR) (full-time) PFTZDATARNHM

For students entering in 2027/28

This document sets out key information about your Programme and forms part of your Terms and Conditions with the University of Reading.

Awarding Institution	University of Reading
Teaching Institution	University of Reading
Length of Programme	MSc Data Science (UoR-NUIST Academy, Year 1 at UoR) (full-time) - 2 years
Accreditation	N/A
Programme Start Dates	September
QAA Subject Benchmarking Group	Computing

Programme information and content

This programme aims to provide students with research-led and industrial-relevant knowledge and skills in data science, as well as hands-on experience of solving computing problems with real-world, real-time and large-scale data streams, also including real-world challenges such as big data, data security and ethical issues.

In addition, students will get an in-depth understanding of advanced and modern computing paradigms such as artificial intelligence, machine learning, and cloud computing. Students will also develop transferable skills such as problem solving, critical thinking, technical report writing, for workplace or further research/degree and be able to utilise knowledge and skills to continue learning and adapting to new data science technologies.

On completion of the course, students will be well placed to progress into a variety of roles in data-intensive industries or a related research career.

The design of the programme follows the guidance provided by QAA and ACM and aligns with the Teaching and Learning Strategy of University of Reading. This programme is carefully designed to provide a comprehensive coverage from fundamental knowledge and essential skills in data science to advanced computing paradigms and real-world challenges.

This programme is jointly run by UoR and NUIST.

Year 1:

Students will complete non-credit bearing NUIST modules provided by NUIST and complete Academic English modules.

Students may need to attend the pre-sessional English courses to meet the minimum English language requirements if their IELTS results do not reach the progression requirements for Year 2 of the programme.

Year 2:

Students who progress onto the programme can choose between the following three options for the academic year.

- **Option 1:** Students will study at Reading for the full 180 credits, consisting of 120 credits of taught modules and 60 credits for the dissertation, from September to September. Students will also complete relevant assessments such as coursework and exams in Reading. Resit exams will be taken in Reading in August/September.
- **Option 2:** Students will study 120 credits of taught modules in Reading from September to June. Students will also complete relevant assessments such as coursework and exams in Reading. Resit exams will be taken in Naning in August/September.
- **Option 3:** Students will study in Nanjing and be taught by NUIST staff members. Students will also complete relevant assessments such as coursework and exams at NUIST.

Year 3

Students will have the following three options for the academic year, depending on the location of study in year 2.

- **Option 1:** Students who completed 180 credits in Reading in year 2 will have submitted their dissertation in September and will not have any UoR modules in year 3.
- **Option 2:** Students who completed 120 credits of taught modules in Reading in year 2 will study in Nanjing and complete 60 credits for the dissertation in semester 1.
- **Option 3:** Students will study in Nanjing and be taught by NUIST staff members. Students will also complete relevant assessments such as coursework and exams at NUIST.

During semester 1, all students who need to complete the dissertation will do so in stages under the supervision of a NUIST supervisor and a UoR supervisor, and will be based in Nanjing.

The programme will be supported by the expertise and resources in data science, machine learning and cloud computing at the University of Reading and NUIST.

Programme Learning Outcomes
-MSc Data Science (UoR-NUIST Academy, Year 1 at UoR) (full-time)

During the course of the Programme, you will have the opportunity to develop a range of skills, knowledge and attributes (known as learning outcomes) For this programme, these are:

	Learning outcomes
1	Describe and explain general data science concepts, principles and algorithms.
2	Acquire and be able to apply mathematical and statistical, programming, artificial intelligence and machine learning techniques for data science tasks; as well as cloud computing skills for data management and distributed and parallel data processing.
3	Evaluate, select and use state-of-the-art tools and platforms for solving data science problems.
4	Design, implement, and execute solutions for data science problems from small-scale to large-scale and real-world data.
5	Evaluate data science solutions, including their outcomes, efficacy, constraints, and technical uncertainty.
6	Critically evaluate ethical, legal, security and social issues in data science context.
7	Undertake research, manage project and communicate technical concepts and research/project output precisely and effectively.
8	Utilise knowledge and skills to continue learning and adapting to new data science technologies.

You will be expected to engage in learning activities to achieve these Programme learning outcomes. Assessment of your modules will reflect these learning outcomes and test how far you have met the requirements for your degree.

To pass the Programme, you will be required to meet the progression or accreditation and award criteria set out below.

Module information

The programme for the UoR Award comprises 180 credits, allocated across a range of compulsory modules as shown below. Compulsory modules are listed.

Compulsory modules

Year 1

There are no UoR modules taught in year 1 at NUIST, but students will need to pass the year to meet the progression requirement outlined in the relevant section below.

Year 2 modules

Year 2

The following modules will be taken by students who will be studying 180 credits in Year 2 in the UK:

Module	Name	Credits	Level
CSMAD	Applied Data Science with Python	20	M
CSMAI	Artificial Intelligence and Machine Learning	20	M
CSMBD	Big Data and Cloud Computing	20	M

CSMDE	Data Security and Ethics	20	M
CSMDS	Data Science Algorithms and Tools	20	M
CSMMS	Mathematics and Statistics for Data Science	20	M
CSMPR	MSc Project	60	M

The following modules will be taken by students who will be studying 120 credits in Year 2 in the UK:

Module	Name	Credits	Level
CSMAD	Applied Data Science with Python	20	M
CSMAI	Artificial Intelligence and Machine Learning	20	M
CSMBD	Big Data and Cloud Computing	20	M
CSMDE	Data Security and Ethics	20	M
CSMDS	Data Science Algorithms and Tools	20	M
CSMMS	Mathematics and Statistics for Data Science	20	M

The following modules will be taken by students who will be studying Year 2 in Nanjing:

Module	Name	Credits	Level
CSMADNU	Applied Data Science with Python	20	M
CSMAINU	Artificial Intelligence and Machine Learning	20	M
CSMBDNU	Big Data and Cloud Computing	20	M
CSMDENU	Data Security and Ethics	20	M
CSMDSNU	Data Science Algorithms and Tools	20	M
CSMMSNU	Mathematics and Statistics for Data Science	20	M

Year 3

The following modules will be taken by students who will be studying 60 credits in Year 3 in Nanjing:

Module	Name	Credits	Level
CSMPRNU	MSc Project	60	M

Part-time or flexible modular arrangements

N/A

Placement opportunities
N/A

Study abroad opportunities
N/A

Optional modules
The optional modules available can vary from year to year. An indicative list of the range of optional modules for your programme can be found online in the Course Catalogue. Details of optional modules for each part, including any additional costs associated with the optional modules, will be made available to you prior to the beginning of the Part in which they are to be taken and you will be given an opportunity to express interest in the optional modules that you would like to take. Entry to optional modules will be at the discretion of the University and subject to availability and may be subject to pre-requisites, such as completion of another module. Although the University tries to ensure you are able to take the optional modules in which you have expressed interest this cannot be guaranteed.

Teaching and learning delivery
You will be taught primarily through a mixture of lectures, lab practical, tutorials and seminars, depending on the individual modules. Some modules may include group work. Reading-based modules are delivered at Reading by academic staff from the University of Reading while NUIST-based modules are delivered at NUIST by academic staff from NUIST. Students must undertake a dissertation project in the final year of this programme. Each dissertation project will be supervised by two supervisors: a supervisor from the University of Reading and a supervisor from NUIST. Detailed information about the teaching and learning delivery can be found in each specific module description. Elements of your programme will be delivered via digital technology. The scheduled teaching and learning activity hours and amount of technology enhanced learning activity for your programme will depend upon your module combination. In addition, you will undertake some self-scheduled teaching and learning activities, designed by and/or involving staff, which give some flexibility for you to choose when to complete them. You will also be expected to undertake guided independent study. Information about module study hours including contact hours and the amount of independent study which a student is normally expected to undertake for a module is indicated in the relevant module description.

Accreditation details
N/A

Assessment

The programme will be assessed through a range of assessment types, such as written examination, written coursework assignment, set exercise, dissertation, presentation and demonstration. Further information is contained in the individual module descriptions.

Progression

Progression from Year 1 to Year 2

In order to progress from Year 1 to Year 2, a student will normally be required to:

1. Obtain a mark of at least 60% in each non-credit-bearing NUIST module.
2. Obtain a mark of at least 50% in each non-credit-bearing Academic English module OR demonstrate that they have achieved an equivalent of IELTS 6.5 (with no component below 5.5) at the end of Year 1.

It is normally expected that all the modules in Year 1 are completed prior to entry to Year 2 of the programme.

Reassessment of University of Reading modules:

Students who fail to achieve a 50% pass mark are permitted one re-sit/resubmission per module at an appropriate point in the programme schedule. Resits or resubmissions will be capped at 50% at module level for the purpose of classification. Reassessment arrangements for each module are specified in the module description form.

Classification

The University's taught postgraduate marks classification is as follows:

Mark Interpretation

70 - 100% Distinction
60 - 69% Merit
50 - 59% Good standard (Pass)

Failing categories:
40 - 49% Work below threshold standard
0 - 39% Unsatisfactory Work

Master's Degree

The following conditions must be satisfied for the award of a Master's Degree:

Award of a Master's Degree

(i) an overall weighted average of 50% or more over 180 credits
(ii) a mark of 50% or more in at least 120 credits

(iii) no credits with a mark below 40%
(iv) a mark of 50% or more for the Dissertation

In addition to the threshold conditions for the award of a Master's degree, the following **further** conditions must be satisfied for a classification of Distinction or Merit:

Distinction
An overall weighted average of 70% or more over 180 credits
OR
an overall weighted average of 68% or more over 180 credits and marks of 70% in at least 90 credits
AND
Where the dissertation is included in the conditions for the award of a Master's degree, a mark of at least 60% in the Dissertation
AND
No marks below 40%.

Merit
An overall weighted average of 60% or more over 180 credits
OR
an overall average of 58% or more over 180 credits and marks of 60% in at least 90 credits
AND
No marks below 40%.

For Postgraduate Diploma

The following conditions must be satisfied for the award of a Postgraduate Diploma:

Award of a Postgraduate Diploma

(i) an overall weighted average of 50% or more over 120 credits
(ii) a mark of 50% or more in at least 80 credits
(iii) no credits with a mark below 40%

In addition to the threshold conditions for the award of a Postgraduate Diploma, the following further conditions must be satisfied for a classification of Distinction or Merit:

Distinction
An overall weighted average of 70% or more over 120 credits
OR
an overall weighted average of 68% or more over 120 credits and marks of 70% in at least 60 credits
AND
No marks below 40%.

Merit
An overall weighted average of 60% or more over 120 credits
OR
an overall average of 58% or more over 120 credits and marks of 60% in at least 60 credits

AND
No marks below 40%.

For Postgraduate Certificate

The following conditions must be satisfied for the award of a Postgraduate Certificate:

Award of a Postgraduate Certificate
(i) an overall weighted average of 50% or more over 60 credits
(ii) No credits with a mark below 40%

Details of the classification method is given in detail in the Assessment Handbook under:

- Section 19: Awards: Postgraduate Master's, Postgraduate Diploma, Postgraduate Certificate

Please note that there may be a specific version for your year of entry.

Additional costs of the programme

Students will need to fund their travel costs to and from China and the UK.

For textbooks and other learning resources, we shall recommend the students to budget up to £100, if the students prefer to have their own books rather than borrowing them from the library. Some resources to support the study, including textbooks and electronic material, are available through the library and the content management systems of the University and NUIST.

Costs are indicative and may vary according to optional modules chosen and are subject to inflation and other price fluctuations. Estimates were calculated in 2026.

Students may consider purchasing a laptop to help support their learning. Information on recommended device specifications can be found on the DTS Student Hub.

For further information about your Programme please refer to the Programme Handbook and the relevant module descriptions, which are available at http://www.reading.ac.uk/module/. The Programme Handbook and the relevant module descriptions do not form part of your Terms and Conditions with the University of Reading.

MSc Data Science (UoR-NUIST Academy, Year 1 at UoR) (full-time) for students entering in session 2027/28
5 November 2026
© The University of Reading 2026