Programme Specification
BSc Data Science (NUIST-UoR Academy) NUIST-based (full-time)
For students entering Part 0 in September 2021   **AFDATAJJ**

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	4 years
Length of Programme with placement/year abroad	
Accreditation	N/A

Programme information and content	
The foundation year (Part 0) is designed for foundation year students at NUIST who intend to progress on to a three-year undergraduate programme within the NUIST-University of Reading Academy. Successful completion of the NUIST Foundation Programme gives the student admission to one of the University of Reading undergraduate programmes. It also contributes, through credit transfer, to the first year of an award of NUIST. On completion of Part 0, students will have the general academic language and study skills required to begin their Year 1 degree studies. The programme aims to provide students with the preparation for a career in the software and computing industry or for further study at a postgraduate level to pursue an academic career. The course is designed to develop students' knowledge of the theory and practice of modern computer science, necessary for students to secure employment as a professional software engineer or a computer system engineer in a wide variety of industries. The programme also encourages and supports students to develop professional skills, such as critical thinking, analytical skills, problem solving, team working, and effective communication as well as skills in applying theoretical concepts to the practice in the information age. Students will be well qualified to play a disciplined and creative part in a research, development or support environment.	
Foundation year:	- listen to and understand spontaneous speech in both group and one-tone settings, and to contribute orally in both contexts in a relevant and constructive way; - deliver extended formal presentations, and respond effectively to questions; - study independently e.g. planning their work, managing their time, finding additional language learning resources and additional sources relevant to their academic assignments working effectively in groups.

	*Language knowledge: in all parts of the programme, there will be an emphasis on expanding the students' range and control of English vocabulary, grammar, language functions and academic style. **Content will include:** Reading skills and strategies, including survey reading, close reading, selecting information, summarising, monitoring comprehension, summarising, synthesising. Listening skills and strategies, including identifying main and supporting points, note-taking, decoding connected speech, monitoring comprehension; listening and responding appropriately in interactive situations. Speaking skills, including oral presentations, group discussions, oral fluency, communicative strategies, negotiating meaning by checking understanding and asking for clarification, pronunciation. Writing skills, including paragraphing, text organisation, introductions and conclusions, analysing essay questions, paraphrasing, avoiding plagiarism, referencing; the process of writing i.e. planning, drafting, receiving feedback, redrafting. Language knowledge: (a) vocabulary – General Service List, Oxford 3000, Academic Word List (b) grammatical structures and functional language relevant to general academic English. Studied at NUIST
Part 1:	Introduces students to the fundamentals of computer science with a set of compulsory modules to build basic knowledge of computer systems, algorithms, mathematics, programming in C/C++, and software engineering fundamentals and professional development. Studied at NUIST
Part 2:	Provides students with core computer science knowledge and skills through a range of compulsory modules in relation to the subjects of computer architecture, operating systems and compilers, advanced algorithms, databases, information security, computer networking, programming in JAVA and Python, software system design with UML, and HCI and web applications. Studied at UoR or NUIST
Part 3:	Gives you the opportunity to select a set of modules, which may fit a direction leading to your career path in the computing industry or pursue a higher degree in computer science, data science, and related disciplines. The 40 credit compulsory degree project module provides you with a unique opportunity to integrate the CS knowledge and skills learned and to explore innovations for creating sustainable computing solutions.

	Studied at UoR or NUIST

Module information

Each part comprises 120 credits, allocated across a range of compulsory and optional modules as shown below. Compulsory modules are listed.

Foundation modules:

Module	Name	Credits	Level
IF0NU1	English for Academic Purposes 1	60	0
IF0NU2	English for Academic Purposes 2	40	0
IF0NUP	English for Academic Purposes Project	20	0

Part 1 Modules:

Module	Name	Credits	Level
CS1AC16NU	Applications of Computer Science	20	4
CS1FC16NU	Fundamentals of Computer Science	20	4
CS1MA20NU	Mathematics and Computation	20	4
CS1PC20NU	Programming in C/C++	20	4
CS1SE20NU	Software Engineering: Fundamentals and Professional Development	20	4
IF1NUCS	English for Data Scientists	20	4

Part 2 Modules:

Module	Name	Credits	Level
CS2AO17NU	Algorithms and Operating Systems	20	5
CS2CA17NU	Computer Architecture and Networking	20	5
CS2CO16NU	Compilers	10	5
CS2DI17NU	Databases and Information Security	20	5
CS2HW22NU	HCI and Web Applications	10	5
CS2PJ20NU	Programming in Java	20	5
CS2PP22NU	Programming in Python for Data Science	10	5
CS2SS20NU	Software System Design with UML	10	5

If you take a year-long placement or study abroad, Part 3 as described below may be subject to variation.

Part 3 Modules:

Module	Name	Credits	Level
CS2AINU	Artificial Intelligence	20	5
CS3IPNU	Degree Project	40	6

The above modules will be studied at NUIST.

Students must select a further 60 credits from a set of core topic modules. The list of modules will be available from the Programme Director.

Part 3 Modules (studied at UoR):

Module	Name	Credits	Level
CS2AI	Artificial Intelligence	20	5
CS3IP	Degree Project	40	6

Students must select a further 60 credits from a list available in the Department of Computer Science.

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.

Additional costs of the programme

During the programme of study students will incur some additional costs.

Students will need an approved scientific calculator (approximate cost £12).

At NUIST: There will be some additional costs if students require printing facilities at NUIST, there may also be additional costs if the programme involves a field trip whilst at NUIST. Details of costs can be found at the NUIST help desk.

At UoR: For textbooks and similar learning resources, we recommend that a student budget up to £200 per year, depending on his/her preference to have his/her own books rather than borrow from the Library. Some books may be available second-hand, which will reduce costs. A range of resources to support the curriculum, including textbooks and electronic resources, are available through the library. Reading lists and module specific costs are listed on the individual module descriptions.

Costs are indicative and may vary according to optional modules chosen and are subject to inflation and other price fluctuations.

The estimates were calculated in 2020.

Placement opportunities

N/A

Teaching and learning delivery:

In Part 0 students will be taught through classes, using a communicative approach to language learning, with an emphasis on meaning, task completion, interaction and feedback. Students will also have a number of tutorials and carry out supervised project work. Total study hours for Part 0 will be a minimum of 1200 hours.

Modules in Part 0 are taught by Academy staff in NUIST.

For Part 1, 2 and 3 students will be taught through lectures, tutorials, computer labs and supervised project work.

Modules in NUIST are taught by a combination of Academy staff and visiting staff from the University of Reading.

Total study hours for each Part of the programme will be a minimum of 1200 hours. The contact hours for the programme will depend upon his/her module combination; an average for Part 3 of - 204 hours (for student studying at UoR).

For students studying at NUIST contact hours will vary, in general a 10 credit module will have 3 contact hours per week over 16 weeks.

Students will be taught through lectures, practical classes, seminars and tutorials.

In addition to his/her scheduled contact hours, students will be expected to undertake guided independent study. Information about module 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 combination of written exams and coursework. Some modules may be assessed by 100% coursework whereas others contain a mixture of both coursework and exam at varying ratios.

Progression

Part 0 Foundation year

In order to complete Part 0 successfully, students are required to:

1. obtain a mark of at least 40% in IF0NU1 and IF0NUP
2. obtain a mark of at least 5.5 in IF0NU2 with no element (Speaking, Listening, Reading and Writing) below 5.0. The summative assessment for this module wil be through the TEEP.

Students who obtain 6.0 in IF0NU2, with no element (Speaking, Listening, Reading and Writing) below 5.5 will be deemed to have met the English language progression requirement to Part 2 and will be exempted from the mandatory Year 1 non-credit EAP module.

Successful completion of these modules will lead to progression to Year 1 of the student's chosen degree programme

The University-wide rules relating to 'threshold performance' as follows

Part 1

To gain a threshold performance at Part 1, a student shall normally be required to:

1. obtain an overall average of 40% in 120 credits; and
2. obtain a mark of at least 30% in individual modules amounting to at least 100 credits taken in Part 1.
3. obtain 6.0 in TEEP on IF1NU3A (where taken), with no element (Speaking, Listening, Reading and Writing) below 5.5.

In order to progress from Part 1 to Part 2, a student must achieve a threshold performance and

1. obtain a mark of at least 30% in the following computer Science compulsory modules of CS1PC20NU, CS1SE20NU, CS1AC16NU and CS1FC16NU.

The achievement of a threshold performance at Part 1 qualifies a student for a Certificate of Higher Education if they leave the University before completing the subsequent Part.

Part 2

To gain a threshold performance at Part 2, a student shall normally be required to:

1. obtain a weighted average of 40% over 120 credits taken at Part 2; and
2. obtain marks of at least 40% in individual modules amounting to at least 80 credits; and
3. obtain marks of at least 30% in individual modules amounting to at least 120 credits, except that a mark below 30% may be condoned in no more than 20 credits of modules owned by the Department of Mathematics and Statistics.

In order to progress from Part 2 to Part 3, a student must achieve a threshold performance.

The achievement of a threshold performance at Part 2 qualifies a student for a Diploma of Higher Education if they leave the University before completing the subsequent Part.

To be eligible for Honours, students must achieve at least 40% in modules amounting to 80 credits in Part 3, including the Degree Project (CS3IPNU/CS3IP).

Classification

Bachelors' degrees

The University's honours classification scheme is based on the following:

Mark	Interpretation
70% - 100%	First class
60% - 69%	Upper Second class
50% - 59%	Lower Second class
40% - 49%	Third class
35% - 39%	Below Honours Standard
0% - 34%	Fail

The weighting of the Parts/Years in the calculation of the degree classification is:
Part 2: one-third
Part 3: two-thirds

Dual Awards

Successful completion of the Programme will lead to the award of degrees by both the University of Reading and Nanjing University of Information Science and Technology. Modules completed at Part 2 and Part 3 regardless of place of study, will contribute to the classification of degrees.

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.

BSc Data Science (NUIST-UoR Academy) NUIST-based (full-time) for students entering Part 1 in session 2021/22
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