

## Programme Specification: Undergraduate

### For Academic Year 2026/27

#### 1. Course Summary

|                                                                                |                                                                                                        |
|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Names of programme and award title(s)</b>                                   | BSc (Hons) Data Science                                                                                |
| <b>Award type</b>                                                              | Single Honours                                                                                         |
| <b>Mode of study</b>                                                           | Full-time                                                                                              |
| <b>Framework of Higher Education Qualification (FHEQ) level of final award</b> | Level 6                                                                                                |
| <b>Normal length of the programme</b>                                          | 3 years                                                                                                |
| <b>Maximum period of registration</b>                                          | The normal length as specified above plus 3 years                                                      |
| <b>Location of study</b>                                                       | The British International College, Nepal                                                               |
| <b>Accreditation (if applicable)</b>                                           | Not applicable                                                                                         |
| <b>Regulator</b>                                                               | Office for Students (OfS)                                                                              |
| <b>Tuition Fees</b>                                                            | Please refer to the British International College webpages for information in relation to Tuition Fees |

**How this information might change:** Please read the important information at <http://www.keele.ac.uk/student-agreement/>. This explains how and why we may need to make changes to the information provided in this document and to help you understand how we will communicate with you if this happens.

#### 2. What is a Single Honours programme?

The Single Honours programme described in this document allows you to focus more or less exclusively on this subject. In keeping with Keele's commitment to breadth in the curriculum, the programme also gives you the opportunity to take some modules in other disciplines and in modern foreign languages as part of a 360-credit Honours degree. Thus it enables you to gain, and be able to demonstrate, a distinctive range of graduate attributes.

#### 3. Overview of the Programme

With the increasing reliance on data-driven decision making across industries, data scientists are in high demand. Our industry-informed BSc blends theoretical foundations with practical experience to equip you with the statistical knowledge, technical, problem-solving, computational and communication skills to implement an ethical approach to analysing real-world data and creating visualisations to effectively communicate your findings.

This programme provides you with a unique blend of sound mathematical and computational skills, including statistical techniques combined with extensive use of AI and machine learning, required to thrive within the rapidly expanding area of Data Science. Data driven systems are now vital to business, government, science and society, and there is an increasing demand for graduates with required practical skills able to implement an ethical and well-organised approach to analysis of real-world data, present its visualisations and explain the associated business implications.

The programme assumes no prior experience of computer programming or programming. You will start your degree by exploring the theoretical underpinnings of the data science discipline, providing a solid foundation in mathematics, statistics and programming, along with a strong emphasis on practical skills of data analyst. This focus will become even more pronounced with your progress along the programme, when studying various

aspects of AI and machine learning, ethical handling of data, as well as developing presentation, communication and visualisation skills, and reaching the culmination within the final year project. The programme also benefits from industry links, e.g. guest lectures.

## 4. Aims of the programme

The broad aims of the programme are to:

- Develop your intellectual, practical and additional transferable skills, to enable you to gain a sound academic background in Data Science and relevant aspects of Computer Science and Mathematics.
- Develop the required professional skills of a data scientist, including technical, problem-solving and communication skills.
- Acquire knowledge from the forefront of Data Science, as informed by subject research, discipline and industry trends and market requirements.

## 5. What you will learn

The intended learning outcomes of the programme (what students should know, understand and be able to do at the end of the programme), can be described under the following headings:

- Subject knowledge and understanding
- Subject specific skills
- Key or transferable skills (including employability skills)

### Subject knowledge and understanding

Successful students will be able to demonstrate knowledge and understanding of:

- the context of data science area in relation to computer science, mathematics, statistics and software engineering;
- the science of data investigation and data visualisation and the applications of statistics to data analysis;
- the relevant mathematical concepts and techniques;
- probability-based models, hypothesis testing, statistical inference and likelihood;
- handling data within the context of data governance, data security, and communications;
- applications of data science to improve an organisation's processes, operations and outputs;
- the context of professional, economic, social, environmental, moral and ethical considerations involved in data analysis;
- systematic data handling, through an awareness of key platforms for data and analysis in an organisation, including data processing/storage and database systems;
- designing, implementing and optimising analytical algorithms - as prototypes and at production scale - using statistical and mathematical models and methods, advanced and predictive analytics, machine learning and artificial intelligence techniques, simulations, optimisation, and automation;
- the computational and organisational resource constraints and trade-offs involved in selecting models, algorithms and tools;
- development standards, including programming practice, testing, source control;
- the data landscape, involving critical analysis and interpretation of complex information from diverse dataset, as well as data formats, structures and data delivery methods including "unstructured" data, observing common patterns in real-world data.

### Subject specific skills

Successful students will be able to:

- Identify appropriate problems an organisation faces and reformulate them into data science problems. Devise solutions and make decisions in context by seeking feedback from stakeholders. Apply scientific methods through experiment design, measurement, hypothesis testing and delivery of results. Collaborate with colleagues to gather requirements.
- Perform data engineering: create and handle datasets for analysis. Use tools and techniques to source, access, explore, profile, pipeline, combine, transform and store data, and apply governance (quality control, security, privacy) to data.
- Identify and use an appropriate range of programming languages and mathematical tools for data manipulation, analysis, visualisation, and system integration. Select appropriate data structures and algorithms for the problem. Develop reproducible analysis and robust code, working in accordance with software development standards, including security, accessibility, code quality and version control.
- Design, implement and optimise analytical algorithms - as prototypes and at production scale - using statistical and mathematical models and methods.
- Use analysis and models to inform and improve organisational outcomes, building models and validating

results with statistical testing: perform statistical analysis, correlation vs causation, feature selection and engineering, machine learning, optimisation, and simulations, using the appropriate techniques for the problem.

- Implement data solutions, using relevant software engineering architectures and design patterns. Evaluate cloud vs. on premise deployment. Determine the implicit and explicit value of data. Assess value for money and return on investment. Scale a system up/out. Evaluate emerging trends and new approaches. Compare the pros and cons of software applications and techniques.
- Find, present, communicate and disseminate outputs effectively and with high impact through creative storytelling, tailoring the message for the audience. Use the best medium for each audience, such as technical writing, reporting and dashboards. Visualise data to tell compelling and actionable narratives. Make recommendations to decision makers to contribute towards the achievement of organisation goals.
- Develop and maintain collaborative relationships at strategic and operational levels, using methods of organisational empathy (human, organisation and technical) and build relationships through active listening and trust development.
- Use project delivery techniques and tools appropriate to their data science project and organisation. Plan, organise and manage resources to successfully run a small data science project, achieve organisational goals and enable effective change.

## Key or transferable skills (including employability skills)

Successful students will be able to:

- follow an inquisitive approach and have the curiosity to explore new questions, opportunities, data, and techniques along with tenacity to improve methods and maximise insights and relentless creativity in their approach to solutions.
- demonstrate empathy and positive engagement to enable working and collaborating in multi-disciplinary teams, championing and highlighting ethics and diversity in data work.
- show adaptability and dynamism when responding to varied tasks and organisational timescales, and pragmatism in the face of real-world scenarios.
- demonstrate problem-solving skills in the context of organisation goals.
- follow an impartial, scientific, hypothesis-driven approach to work, rigorous data analysis methods, and integrity in presenting data and conclusions in a truthful and appropriate manner.
- have commitment to keeping up to date with current thinking and maintaining personal development. Including collaborating with the data science community.
- construct well-argued and grammatically correct documents, locate and retrieve relevant ideas, and ensure these are correctly and accurately referenced and attributed.
- recognise factors in environmental and societal contexts relating to the opportunities and challenges created by data analytics and computing systems across a range of human activities.
- apply academic theory learnt as part of the taught degree to real-world scenarios.
- Reflect on their study activities and experiences and evaluate their learning in the context of the real world.
- Explain how the professional data science and analytics sector operates and identify the skills required to pursue careers within the sector.

## Keele Graduate Attributes

The Keele Graduate Attributes are the qualities (skills, values and mindsets) which you will have the opportunity to develop during your time studying with Keele through both the formal curriculum and also through co- and extra-curricular activities (e.g., work experience, and engagement with the wider University community such as acting as ambassadors, volunteering, peer mentoring, student representation, membership and leadership of clubs and societies). Our Graduate Attributes consist of four themes: **academic expertise, professional skills, personal effectiveness, and social, environmental and ethical responsibility**. You will have opportunities to engage actively with the range of attributes throughout your time studying with Keele: through your academic studies, through self-assessing your own strengths, weaknesses, and development needs, and by setting personal development goals. You will have opportunities to discuss your progress in developing graduate attributes with, for example, Academic Mentors, to prepare for your future career and lives beyond Keele.

## 6. How is the programme taught?

The programme is taught at the British International College in Nepal. Each module is delivered in accordance with Keele's quality and standards expectations, using the same materials and teaching methods. Where appropriate and agreed in advance, examples and case studies are adapted to the local context without altering core content. British International College Associate Tutors approved by Keele work in close partnership with Keele Module Tutors to deliver each module using the same teaching materials, session plans and assessment briefs. The modules will be taught in the same way as they (or equivalent modules) are taught at Keele.

Learning and teaching methods used on the programme vary according to the subject matter and level of the module. They include the following:

- **Traditional lectures** providing students with detailed notes, often supported by copies of lecture slides in print or electronic form.
- **Practical sessions** in computer laboratories often supported by copies of laboratory instruction sheets.
- **Web-based learning** using the University's virtual learning environment (KLE).
- **Tutorials** and **directed reading** on specific topics under the supervision of a member of academic staff.
- **Group project sessions** in which students develop a design for a software item to a level sufficient to allow implementation to follow.

Apart from these formal activities, students are also provided with regular opportunities to talk through particular areas of difficulty, and any special learning needs they may have, with their Academic Mentors or module lecturers on a one-to-one basis.

These learning and teaching methods enable students to achieve the learning outcomes of the programme in a variety of ways. For example:

- Lectures allow students to gain a systematic knowledge and understanding of data science concepts and ideas and how to apply them to the development of software and information systems.
- Web-based learning and directed reading allow students to develop their interest in data science, their ability to reflect on their own learning and to take responsibility for its development.
- Group sessions enable students to develop their written and oral communication skills.
- Practical sessions and group work encourages students to work both independently and in collaboration with others as well as enabling them to solve problems in new or unfamiliar environments.

## 7. Teaching Staff

The programme is taught at British International College, in Nepal, by Associate Tutors who are approved by Keele University, who work closely with Keele Module Tutors to deliver each module according to Keele's quality and standards expectations.

The Data Science academic staff at Keele University are comprised of Professors, Readers, Senior Lecturers and Lecturers, most of which are active in research and also hold teaching qualifications.. Some of the staff on the programme both at Keele and British International College have relevant industry links and will be employing these to benefit the programme delivery. Teaching will also involve demonstrators and session teachers who have significant experience in data science and computer science research and delivering practicals to data science and/or computer science students. More information about the Data Science staff based at Keele is available at <http://www.keele.ac.uk/scm/staff/>

The University will attempt to minimise changes to our core teaching teams, however, delivery of the programme depends on having a sufficient number of staff with the relevant expertise to ensure that the programme is taught to the appropriate academic standard.

Staff turnover, for example where key members of staff leave, fall ill or go on research leave, may result in changes to the programme's content. The University will endeavour to ensure that any impact on students is limited if such changes occur.

## 8. What is the structure of the Programme?

The academic year runs from September to June and is divided into two semesters. The number of weeks of teaching will vary from programme to programme, but you can generally expect to attend scheduled teaching sessions between the end of September and mid-December, and from mid-January to the end of April. Our degree courses are organised into modules. Each module is usually a self-contained unit of study and each is usually assessed separately with the award of credits on the basis of 1 credit = 10 hours of student effort. An outline of the structure of the programme is provided in the tables below.

All modules are compulsory on this programme.

For further information on the content of modules currently offered, please visit:  
<https://www.keele.ac.uk/recordsandexams/modulecatalogue/>

A summary of the credit requirements per year is as follows:

| Year    | Compulsory | Optional |     |
|---------|------------|----------|-----|
|         |            | Min      | Max |
| Level 4 | 120        | 0        | 0   |
| Level 5 | 120        | 0        | 0   |
| Level 6 | 120        | 0        | 0   |

## Module Lists

### ***Level 4***

| Compulsory modules                                | Module Code | Credits | Period       |
|---------------------------------------------------|-------------|---------|--------------|
| Introduction to Programming                       | CSC-10070   | 15      | Semester 1   |
| Limits, Series and Calculus                       | MAT-10079   | 15      | Semester 1   |
| Introductory Mathematics for Data Scientists      | MAT-10081   | 15      | Semester 1   |
| Professional Practices in Data Science            | CSC-10081   | 30      | Semester 1-2 |
| Linear algebra                                    | MAT-10073   | 15      | Semester 2   |
| Differential Equations and Multivariable Calculus | MAT-10075   | 15      | Semester 2   |
| Statistics with Applications in R                 | MAT-10077   | 15      | Semester 2   |

### ***Level 5***

| Compulsory modules                          | Module Code | Credits | Period     |
|---------------------------------------------|-------------|---------|------------|
| Database Systems                            | CSC-20002   | 15      | Semester 1 |
| Visualisation for Data Science              | CSC-20069   | 15      | Semester 1 |
| Data Science Techniques                     | CSC-20095   | 15      | Semester 1 |
| Probability                                 | MAT-20023   | 15      | Semester 1 |
| Computational and Artificial Intelligence I | CSC-20043   | 15      | Semester 2 |
| Applied Deep Learning                       | CSC-20071   | 15      | Semester 2 |
| Computer Graphics and Animation             | CSC-20079   | 15      | Semester 2 |
| Data Science Projects for Employability     | MAT-20045   | 15      | Semester 2 |

### ***Level 6***

| Compulsory modules                           | Module Code | Credits | Period       |
|----------------------------------------------|-------------|---------|--------------|
| Machine Learning Applications                | CSC-30041   | 15      | Semester 1   |
| Data Mining                                  | CSC-30043   | 15      | Semester 1   |
| Data Ethics and Security                     | CSC-30045   | 15      | Semester 1   |
| Data Science Project                         | CSC-30065   | 30      | Semester 1-2 |
| Advanced Databases and Applications          | CSC-30002   | 15      | Semester 2   |
| Communications and Networks                  | CSC-30012   | 15      | Semester 2   |
| Computational and Artificial Intelligence II | CSC-30027   | 15      | Semester 2   |

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## Learning Outcomes

The table below sets out what students learn in the programme and the modules in which that learning takes place. Details of how learning outcomes are assessed through these modules can be found in module specifications.

### ***Level 4***

| <b>Subject Knowledge and Understanding</b>                                                                                                                                                                                                                                                          |                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Learning Outcome</b>                                                                                                                                                                                                                                                                             | <b>Module in which this is delivered</b>                                                                                               |
| the context of data science area in relation to computer science, mathematics, statistics and software engineering                                                                                                                                                                                  | Introduction to Programming - CSC-10070<br>Professional Practices in Data Science - CSC-10081                                          |
| the science of data investigation and data visualisation and the applications of statistics to data analysis                                                                                                                                                                                        | Professional Practices in Data Science - CSC-10081<br>Statistics with Applications in R - MAT-10077                                    |
| the relevant mathematical concepts and techniques                                                                                                                                                                                                                                                   | Linear algebra - MAT-10073<br>Differential Equations and Multivariable Calculus - MAT-10075<br>Limits, Series and Calculus - MAT-10079 |
| probability-based models, hypothesis testing, statistical inference and likelihood                                                                                                                                                                                                                  | Professional Practices in Data Science - CSC-10081<br>Statistics with Applications in R - MAT-10077                                    |
| handling data within the context of data governance, data security, and communications                                                                                                                                                                                                              | Professional Practices in Data Science - CSC-10081                                                                                     |
| applications of data science to improve an organisation's processes, operations and outputs                                                                                                                                                                                                         | Professional Practices in Data Science - CSC-10081                                                                                     |
| the context of professional, economic, social, environmental, moral and ethical considerations involved in data analysis                                                                                                                                                                            | Professional Practices in Data Science - CSC-10081                                                                                     |
| systematic data handling, through an awareness of key platforms for data and analysis in an organisation, including data processing/storage and database systems                                                                                                                                    | Professional Practices in Data Science - CSC-10081                                                                                     |
| designing, implementing and optimising analytical algorithms - as prototypes and at production scale - using statistical and mathematical models and methods, advanced and predictive analytics, machine learning and artificial intelligence techniques, simulations, optimisation, and automation | Introduction to Programming - CSC-10070<br>Professional Practices in Data Science - CSC-10081                                          |
| the computational and organisational resource constraints and trade-offs involved in selecting models, algorithms and tools                                                                                                                                                                         | Introduction to Programming - CSC-10070<br>Professional Practices in Data Science - CSC-10081                                          |
| development standards, including programming practice, testing, source control                                                                                                                                                                                                                      | Introduction to Programming - CSC-10070<br>Professional Practices in Data Science - CSC-10081                                          |
| the data landscape, involving critical analysis and interpretation of complex information from diverse dataset, as well as data formats, structures and data delivery methods including "unstructured" data, observing common patterns in real-world data                                           | Introduction to Programming - CSC-10070<br>Professional Practices in Data Science - CSC-10081                                          |

| <b>Subject Specific Skills</b>                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Learning Outcome</b>                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Module in which this is delivered</b>                                                                                                       |
| Identify appropriate problems an organisation faces and reformulate them into data science problems. Devise solutions and make decisions in context by seeking feedback from stakeholders. Apply scientific methods through experiment design, measurement, hypothesis testing and delivery of results. Collaborate with colleagues to gather requirements.                                                              | Professional Practices in Data Science - CSC-10081<br>Statistics with Applications in R - MAT-10077                                            |
| Perform data engineering: create and handle datasets for analysis. Use tools and techniques to source, access, explore, profile, pipeline, combine, transform and store data, and apply governance (quality control, security, privacy) to data.                                                                                                                                                                         | Professional Practices in Data Science - CSC-10081<br>Statistics with Applications in R - MAT-10077                                            |
| Identify and use an appropriate range of programming languages and mathematical tools for data manipulation, analysis, visualisation, and system integration. Select appropriate data structures and algorithms for the problem. Develop reproducible analysis and robust code, working in accordance with software development standards, including security, accessibility, code quality and version control.          | All Level 4 modules                                                                                                                            |
| design, implement and optimise analytical algorithms - as prototypes and at production scale - using statistical and mathematical models and methods.                                                                                                                                                                                                                                                                    | All Level 4 modules                                                                                                                            |
| Use analysis and models to inform and improve organisational outcomes, building models and validating results with statistical testing: perform statistical analysis, correlation vs causation, feature selection and engineering, machine learning, optimisation, and simulations, using the appropriate techniques for the problem.                                                                                    | Professional Practices in Data Science - CSC-10081<br>Statistics with Applications in R - MAT-10077                                            |
| Implement data solutions, using relevant software engineering architectures and design patterns. Evaluate cloud vs. on premise deployment. Determine the implicit and explicit value of data. Assess value for money and return on investment. Scale a system up/out. Evaluate emerging trends and new approaches. Compare the pros and cons of software applications and techniques.                                    | Introduction to Programming - CSC-10070<br>Professional Practices in Data Science - CSC-10081                                                  |
| Find, present, communicate and disseminate outputs effectively and with high impact through creative storytelling, tailoring the message for the audience. Use the best medium for each audience, such as technical writing, reporting and dashboards. Visualise data to tell compelling and actionable narratives. Make recommendations to decision makers to contribute towards the achievement of organisation goals. | Introduction to Programming - CSC-10070<br>Professional Practices in Data Science - CSC-10081<br>Statistics with Applications in R - MAT-10077 |
| Develop and maintain collaborative relationships at strategic and operational levels, using methods of organisational empathy (human, organisation and technical) and build relationships through active listening and trust development.                                                                                                                                                                                | Professional Practices in Data Science - CSC-10081                                                                                             |
| Use project delivery techniques and tools appropriate to their data science project and organisation. Plan, organise and manage resources to successfully run a small data science project, achieve organisational goals and enable effective change.                                                                                                                                                                    | Professional Practices in Data Science - CSC-10081                                                                                             |

| <b>Key or Transferable Skills (graduate attributes)</b>                                                                                                                                                                                    |                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Learning Outcome</b>                                                                                                                                                                                                                    | <b>Module in which this is delivered</b>                                                                                                       |
| follow an inquisitive approach and have the curiosity to explore new questions, opportunities, data, and techniques along with tenacity to improve methods and maximise insights and relentless creativity in their approach to solutions. | All Level 4 modules                                                                                                                            |
| demonstrate empathy and positive engagement to enable working and collaborating in multi-disciplinary teams, championing and highlighting ethics and diversity in data work.                                                               | All Level 4 modules                                                                                                                            |
| show adaptability and dynamism when responding to varied tasks and organisational timescales, and pragmatism in the face of real-world scenarios.                                                                                          | All Level 4 modules                                                                                                                            |
| follow an impartial, scientific, hypothesis-driven approach to work, rigorous data analysis methods, and integrity in presenting data and conclusions in a truthful and appropriate manner.                                                | All Level 4 modules                                                                                                                            |
| have commitment to keeping up to date with current thinking and maintaining personal development, including collaborating with the data science community.                                                                                 | All Level 4 modules                                                                                                                            |
| construct well-argued and grammatically correct documents, locate and retrieve relevant ideas, and ensure these are correctly and accurately referenced and attributed.                                                                    | Introduction to Programming - CSC-10070<br>Professional Practices in Data Science - CSC-10081<br>Statistics with Applications in R - MAT-10077 |
| recognise factors in environmental and societal contexts relating to the opportunities and challenges created by data analytics and computing systems across a range of human activities.                                                  | Professional Practices in Data Science - CSC-10081                                                                                             |
| apply academic theory learnt as part of the taught degree to real-world scenarios.                                                                                                                                                         | All Level 4 modules                                                                                                                            |
| reflect on their study activities and experiences and evaluate their learning in the context of the real world.                                                                                                                            | All Level 4 modules                                                                                                                            |
| explain how the professional data science and analytics sector operates and identify the skills required to pursue careers within the sector.                                                                                              | Professional Practices in Data Science - CSC-10081                                                                                             |

## **Level 5**

| <b>Subject Knowledge and Understanding</b>                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Learning Outcome</b>                                                                                                                                                                                                                                                                             | <b>Module in which this is delivered</b>                                                                                                                                                                                                                                                            |
| the context of data science area in relation to computer science, mathematics, statistics and software engineering                                                                                                                                                                                  | Database Systems - CSC-20002<br>Computational and Artificial Intelligence I - CSC-20043<br>Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Data Science Techniques - CSC-20095<br>Probability - MAT-20023<br>Data Science Projects for Employability - MAT-20045 |
| the science of data investigation and data visualisation and the applications of statistics to data analysis                                                                                                                                                                                        | Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Computer Graphics and Animation - CSC-20079<br>Data Science Projects for Employability - MAT-20045                                                                                                               |
| the relevant mathematical concepts and techniques                                                                                                                                                                                                                                                   | Probability - MAT-20023                                                                                                                                                                                                                                                                             |
| probability-based models, hypothesis testing, statistical inference and likelihood                                                                                                                                                                                                                  | Probability - MAT-20023                                                                                                                                                                                                                                                                             |
| handling data within the context of data governance, data security, and communications                                                                                                                                                                                                              | Data Science Techniques - CSC-20095<br>Data Science Projects for Employability - MAT-20045                                                                                                                                                                                                          |
| applications of data science to improve an organisation's processes, operations and outputs                                                                                                                                                                                                         | Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Data Science Techniques - CSC-20095<br>Data Science Projects for Employability - MAT-20045                                                                                                                       |
| the context of professional, economic, social, environmental, moral and ethical considerations involved in data analysis                                                                                                                                                                            | Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Data Science Techniques - CSC-20095<br>Data Science Projects for Employability - MAT-20045                                                                                                                       |
| systematic data handling, through an awareness of key platforms for data and analysis in an organisation, including data processing/storage and database systems                                                                                                                                    | Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Data Science Techniques - CSC-20095<br>Data Science Projects for Employability - MAT-20045                                                                                                                       |
| designing, implementing and optimising analytical algorithms - as prototypes and at production scale - using statistical and mathematical models and methods, advanced and predictive analytics, machine learning and artificial intelligence techniques, simulations, optimisation, and automation | Computational and Artificial Intelligence I - CSC-20043<br>Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Data Science Techniques - CSC-20095<br>Data Science Projects for Employability - MAT-20045                                                            |
| the computational and organisational resource constraints and trade-offs involved in selecting models, algorithms and tools                                                                                                                                                                         | Computational and Artificial Intelligence I - CSC-20043<br>Computer Graphics and Animation - CSC-20079<br>Data Science Techniques - CSC-20095                                                                                                                                                       |
| development standards, including programming practice, testing, source control                                                                                                                                                                                                                      | Data Science Techniques - CSC-20095                                                                                                                                                                                                                                                                 |
| the data landscape, involving critical analysis and interpretation of complex information from diverse dataset, as well as data formats, structures and data delivery methods including "unstructured" data, observing common patterns in real-world data                                           | Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Data Science Techniques - CSC-20095<br>Data Science Projects for Employability - MAT-20045                                                                                                                       |

| <b>Subject Specific Skills</b>                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Learning Outcome</b>                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Module in which this is delivered</b>                                                                                                                                                                                                                                                                                                           |
| Identify appropriate problems an organisation faces and reformulate them into data science problems. Devise solutions and make decisions in context by seeking feedback from stakeholders. Apply scientific methods through experiment design, measurement, hypothesis testing and delivery of results. Collaborate with colleagues to gather requirements.                                                              | Database Systems - CSC-20002<br>Computational and Artificial Intelligence I - CSC-20043<br>Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Computer Graphics and Animation - CSC-20079<br>Data Science Techniques - CSC-20095<br>Data Science Projects for Employability - MAT-20045                            |
| Perform data engineering: create and handle datasets for analysis. Use tools and techniques to source, access, explore, profile, pipeline, combine, transform and store data, and apply governance (quality control, security, privacy) to data.                                                                                                                                                                         | Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Data Science Techniques - CSC-20095<br>Data Science Projects for Employability - MAT-20045                                                                                                                                                                      |
| Identify and use an appropriate range of programming languages and mathematical tools for data manipulation, analysis, visualisation, and system integration. Select appropriate data structures and algorithms for the problem. Develop reproducible analysis and robust code, working in accordance with software development standards, including security, accessibility, code quality and version control.          | Database Systems - CSC-20002<br>Computational and Artificial Intelligence I - CSC-20043<br>Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Computer Graphics and Animation - CSC-20079<br>Data Science Techniques - CSC-20095<br>Probability - MAT-20023<br>Data Science Projects for Employability - MAT-20045 |
| design, implement and optimise analytical algorithms - as prototypes and at production scale - using statistical and mathematical models and methods.                                                                                                                                                                                                                                                                    | Probability - MAT-20023                                                                                                                                                                                                                                                                                                                            |
| Use analysis and models to inform and improve organisational outcomes, building models and validating results with statistical testing: perform statistical analysis, correlation vs causation, feature selection and engineering, machine learning, optimisation, and simulations, using the appropriate techniques for the problem.                                                                                    | Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Data Science Techniques - CSC-20095<br>Probability - MAT-20023<br>Data Science Projects for Employability - MAT-20045                                                                                                                                           |
| Implement data solutions, using relevant software engineering architectures and design patterns. Evaluate cloud vs. on premise deployment. Determine the implicit and explicit value of data. Assess value for money and return on investment. Scale a system up/out. Evaluate emerging trends and new approaches. Compare the pros and cons of software applications and techniques.                                    | Database Systems - CSC-20002<br>Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Data Science Techniques - CSC-20095<br>Data Science Projects for Employability - MAT-20045                                                                                                                                      |
| Find, present, communicate and disseminate outputs effectively and with high impact through creative storytelling, tailoring the message for the audience. Use the best medium for each audience, such as technical writing, reporting and dashboards. Visualise data to tell compelling and actionable narratives. Make recommendations to decision makers to contribute towards the achievement of organisation goals. | Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Data Science Techniques - CSC-20095<br>Data Science Projects for Employability - MAT-20045                                                                                                                                                                      |
| Develop and maintain collaborative relationships at strategic and operational levels, using methods of organisational empathy (human, organisation and technical) and build relationships through active listening and trust development.                                                                                                                                                                                | Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Data Science Techniques - CSC-20095<br>Data Science Projects for Employability - MAT-20045                                                                                                                                                                      |
| Use project delivery techniques and tools appropriate to their data science project and organisation. Plan, organise and manage resources to successfully run a small data science project, achieve organisational goals and enable effective change.                                                                                                                                                                    | Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Data Science Techniques - CSC-20095<br>Data Science Projects for Employability - MAT-20045                                                                                                                                                                      |

| <b>Key or Transferable Skills (graduate attributes)</b>                                                                                                                                                                                    |                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Learning Outcome</b>                                                                                                                                                                                                                    | <b>Module in which this is delivered</b>                                                                                                                                      |
| follow an inquisitive approach and have the curiosity to explore new questions, opportunities, data, and techniques along with tenacity to improve methods and maximise insights and relentless creativity in their approach to solutions. | All Level 5 modules                                                                                                                                                           |
| demonstrate empathy and positive engagement to enable working and collaborating in multi-disciplinary teams, championing and highlighting ethics and diversity in data work.                                                               | All Level 5 modules                                                                                                                                                           |
| show adaptability and dynamism when responding to varied tasks and organisational timescales, and pragmatism in the face of real-world scenarios.                                                                                          | All Level 5 modules                                                                                                                                                           |
| follow an impartial, scientific, hypothesis-driven approach to work, rigorous data analysis methods, and integrity in presenting data and conclusions in a truthful and appropriate manner.                                                | All Level 5 modules                                                                                                                                                           |
| have commitment to keeping up to date with current thinking and maintaining personal development, including collaborating with the data science community.                                                                                 | All Level 5 modules                                                                                                                                                           |
| construct well-argued and grammatically correct documents, locate and retrieve relevant ideas, and ensure these are correctly and accurately referenced and attributed.                                                                    | Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Data Science Techniques - CSC-20095<br>Data Science Projects for Employability - MAT-20045 |
| recognise factors in environmental and societal contexts relating to the opportunities and challenges created by data analytics and computing systems across a range of human activities.                                                  | Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Data Science Techniques - CSC-20095<br>Data Science Projects for Employability - MAT-20045 |
| apply academic theory learnt as part of the taught degree to real-world scenarios.                                                                                                                                                         | All Level 5 modules                                                                                                                                                           |
| reflect on their study activities and experiences and evaluate their learning in the context of the real world.                                                                                                                            | All Level 5 modules                                                                                                                                                           |
| explain how the professional data science and analytics sector operates and identify the skills required to pursue careers within the sector.                                                                                              | Visualisation for Data Science - CSC-20069<br>Applied Deep Learning - CSC-20071<br>Data Science Techniques - CSC-20095<br>Data Science Projects for Employability - MAT-20045 |

## **Level 6**

| <b>Subject Knowledge and Understanding</b>                                                                         |                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Learning Outcome</b>                                                                                            | <b>Module in which this is delivered</b>                                                                                                                                 |
| the context of data science area in relation to computer science, mathematics, statistics and software engineering | Computational and Artificial Intelligence II - CSC-30027<br>Machine Learning Applications - CSC-30041<br>Data Mining - CSC-30043<br>Data Ethics and Security - CSC-30045 |
| the science of data investigation and data visualisation and the applications of statistics to data analysis       | Machine Learning Applications - CSC-30041<br>Data Ethics and Security - CSC-30045                                                                                        |
| the relevant mathematical concepts and techniques                                                                  | Data Mining - CSC-30043                                                                                                                                                  |
| handling data within the context of data governance, data security, and communications                             | Machine Learning Applications - CSC-30041<br>Data Ethics and Security - CSC-30045<br>Data Science Project - CSC-30065                                                    |

| <b>Subject Knowledge and Understanding</b>                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Learning Outcome</b>                                                                                                                                                                                                                                                                             | <b>Module in which this is delivered</b>                                                                                                                                                                                                                        |
| applications of data science to improve an organisation's processes, operations and outputs                                                                                                                                                                                                         | Advanced Databases and Applications - CSC-30002<br>Computational and Artificial Intelligence II - CSC-30027<br>Machine Learning Applications - CSC-30041<br>Data Ethics and Security - CSC-30045<br>Data Science Project - CSC-30065                            |
| the context of professional, economic, social, environmental, moral and ethical considerations involved in data analysis                                                                                                                                                                            | Advanced Databases and Applications - CSC-30002<br>Computational and Artificial Intelligence II - CSC-30027<br>Machine Learning Applications - CSC-30041<br>Data Ethics and Security - CSC-30045<br>Data Science Project - CSC-30065                            |
| systematic data handling, through an awareness of key platforms for data and analysis in an organisation, including data processing/storage and database systems                                                                                                                                    | Advanced Databases and Applications - CSC-30002<br>Computational and Artificial Intelligence II - CSC-30027<br>Machine Learning Applications - CSC-30041<br>Data Ethics and Security - CSC-30045<br>Data Science Project - CSC-30065                            |
| designing, implementing and optimising analytical algorithms - as prototypes and at production scale - using statistical and mathematical models and methods, advanced and predictive analytics, machine learning and artificial intelligence techniques, simulations, optimisation, and automation | Advanced Databases and Applications - CSC-30002<br>Computational and Artificial Intelligence II - CSC-30027<br>Machine Learning Applications - CSC-30041<br>Data Mining - CSC-30043<br>Data Ethics and Security - CSC-30045<br>Data Science Project - CSC-30065 |
| the computational and organisational resource constraints and trade-offs involved in selecting models, algorithms and tools                                                                                                                                                                         | Advanced Databases and Applications - CSC-30002<br>Computational and Artificial Intelligence II - CSC-30027<br>Machine Learning Applications - CSC-30041<br>Data Ethics and Security - CSC-30045<br>Data Science Project - CSC-30065                            |
| development standards, including programming practice, testing, source control                                                                                                                                                                                                                      | Computational and Artificial Intelligence II - CSC-30027<br>Machine Learning Applications - CSC-30041<br>Data Ethics and Security - CSC-30045<br>Data Science Project - CSC-30065                                                                               |
| the data landscape, involving critical analysis and interpretation of complex information from diverse dataset, as well as data formats, structures and data delivery methods including "unstructured" data, observing common patterns in real-world data                                           | Advanced Databases and Applications - CSC-30002<br>Computational and Artificial Intelligence II - CSC-30027<br>Machine Learning Applications - CSC-30041<br>Data Ethics and Security - CSC-30045<br>Data Science Project - CSC-30065                            |
| the computational and organisational resource constraints and trade-offs involved in selecting models, algorithms and tools                                                                                                                                                                         | Computational and Artificial Intelligence II - CSC-30027<br>Machine Learning Applications - CSC-30041<br>Data Ethics and Security - CSC-30045<br>Data Science Project - CSC-30065                                                                               |
| development standards, including programming practice, testing, source control                                                                                                                                                                                                                      | Advanced Databases and Applications - CSC-30002<br>Computational and Artificial Intelligence II - CSC-30027<br>Machine Learning Applications - CSC-30041<br>Data Ethics and Security - CSC-30045<br>Data Science Project - CSC-30065                            |
| the data landscape, involving critical analysis and interpretation of complex information from diverse dataset, as well as data formats, structures and data delivery methods including "unstructured" data, observing common patterns in real-world data                                           | Advanced Databases and Applications - CSC-30002<br>Computational and Artificial Intelligence II - CSC-30027<br>Machine Learning Applications - CSC-30041<br>Data Ethics and Security - CSC-30045<br>Data Science Project - CSC-30065                            |

| <b>Subject Specific Skills</b>                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Learning Outcome</b>                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Module in which this is delivered</b>                                                                                                                                                                                             |
| Identify appropriate problems an organisation faces and reformulate them into data science problems. Devise solutions and make decisions in context by seeking feedback from stakeholders. Apply scientific methods through experiment design, measurement, hypothesis testing and delivery of results. Collaborate with colleagues to gather requirements.                                                              | Advanced Databases and Applications - CSC-30002<br>Computational and Artificial Intelligence II - CSC-30027<br>Machine Learning Applications - CSC-30041<br>Data Ethics and Security - CSC-30045<br>Data Science Project - CSC-30065 |
| Perform data engineering: create and handle datasets for analysis. Use tools and techniques to source, access, explore, profile, pipeline, combine, transform and store data, and apply governance (quality control, security, privacy) to data.                                                                                                                                                                         | All Level 6 modules                                                                                                                                                                                                                  |
| Identify and use an appropriate range of programming languages and mathematical tools for data manipulation, analysis, visualisation, and system integration. Select appropriate data structures and algorithms for the problem. Develop reproducible analysis and robust code, working in accordance with software development standards, including security, accessibility, code quality and version control.          | All Level 6 modules                                                                                                                                                                                                                  |
| design, implement and optimise analytical algorithms - as prototypes and at production scale - using statistical and mathematical models and methods.                                                                                                                                                                                                                                                                    | All Level 6 modules                                                                                                                                                                                                                  |
| Use analysis and models to inform and improve organisational outcomes, building models and validating results with statistical testing: perform statistical analysis, correlation vs causation, feature selection and engineering, machine learning, optimisation, and simulations, using the appropriate techniques for the problem.                                                                                    | Machine Learning Applications - CSC-30041<br>Data Mining - CSC-30043<br>Data Ethics and Security - CSC-30045<br>Data Science Project - CSC-30065                                                                                     |
| Implement data solutions, using relevant software engineering architectures and design patterns. Evaluate cloud vs. on premise deployment. Determine the implicit and explicit value of data. Assess value for money and return on investment. Scale a system up/out. Evaluate emerging trends and new approaches. Compare the pros and cons of software applications and techniques.                                    | Advanced Databases and Applications - CSC-30002<br>Data Science Project - CSC-30065                                                                                                                                                  |
| Find, present, communicate and disseminate outputs effectively and with high impact through creative storytelling, tailoring the message for the audience. Use the best medium for each audience, such as technical writing, reporting and dashboards. Visualise data to tell compelling and actionable narratives. Make recommendations to decision makers to contribute towards the achievement of organisation goals. | Computational and Artificial Intelligence II - CSC-30027<br>Machine Learning Applications - CSC-30041<br>Data Ethics and Security - CSC-30045<br>Data Science Project - CSC-30065                                                    |
| Develop and maintain collaborative relationships at strategic and operational levels, using methods of organisational empathy (human, organisation and technical) and build relationships through active listening and trust development.                                                                                                                                                                                | All Level 6 modules                                                                                                                                                                                                                  |
| Use project delivery techniques and tools appropriate to their data science project and organisation. Plan, organise and manage resources to successfully run a small data science project, achieve organisational goals and enable effective change.                                                                                                                                                                    | Machine Learning Applications - CSC-30041<br>Data Science Project - CSC-30065                                                                                                                                                        |

| <b>Key or Transferable Skills (graduate attributes)</b>                                                                                                                                                                                    |                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Learning Outcome</b>                                                                                                                                                                                                                    | <b>Module in which this is delivered</b>                                                                                                                                          |
| follow an inquisitive approach and have the curiosity to explore new questions, opportunities, data, and techniques along with tenacity to improve methods and maximise insights and relentless creativity in their approach to solutions. | All Level 6 modules                                                                                                                                                               |
| demonstrate empathy and positive engagement to enable working and collaborating in multi-disciplinary teams, championing and highlighting ethics and diversity in data work.                                                               | All Level 6 modules                                                                                                                                                               |
| show adaptability and dynamism when responding to varied tasks and organisational timescales, and pragmatism in the face of real-world scenarios.                                                                                          | All Level 6 modules                                                                                                                                                               |
| follow an impartial, scientific, hypothesis-driven approach to work, rigorous data analysis methods, and integrity in presenting data and conclusions in a truthful and appropriate manner.                                                | All Level 6 modules                                                                                                                                                               |
| have commitment to keeping up to date with current thinking and maintaining personal development, including collaborating with the data science community.                                                                                 | All Level 6 modules                                                                                                                                                               |
| construct well-argued and grammatically correct documents, locate and retrieve relevant ideas, and ensure these are correctly and accurately referenced and attributed.                                                                    | All Level 6 modules                                                                                                                                                               |
| recognise factors in environmental and societal contexts relating to the opportunities and challenges created by data analytics and computing systems across a range of human activities.                                                  | Computational and Artificial Intelligence II - CSC-30027<br>Machine Learning Applications - CSC-30041<br>Data Ethics and Security - CSC-30045<br>Data Science Project - CSC-30065 |
| apply academic theory learnt as part of the taught degree to real-world scenarios.                                                                                                                                                         | All Level 6 modules                                                                                                                                                               |
| reflect on their study activities and experiences and evaluate their learning in the context of the real world.                                                                                                                            | All Level 6 modules                                                                                                                                                               |
| explain how the professional data science and analytics sector operates and identify the skills required to pursue careers within the sector.                                                                                              | Computational and Artificial Intelligence II - CSC-30027<br>Machine Learning Applications - CSC-30041<br>Data Ethics and Security - CSC-30045<br>Data Science Project - CSC-30065 |

## 9. Final and intermediate awards

Credits required for each level of academic award are as follows:

|                                        |             |                                                                                                          |
|----------------------------------------|-------------|----------------------------------------------------------------------------------------------------------|
| <b>BSc (Hons) Data Science</b>         | 360 credits | You will require at least 120 credits at levels 4, 5 and 6                                               |
| <b>Diploma in Higher Education</b>     | 240 credits | You will require at least 120 credits at level 4 or higher and at least 120 credits at level 5 or higher |
| <b>Certificate in Higher Education</b> | 120 credits | You will require at least 120 credits at level 4 or higher                                               |

## 10. How is the Programme Assessed?

The wide variety of assessment methods used on this programme at Keele reflects the broad range of knowledge and skills that are developed as you progress through the degree programme. Teaching staff pay

particular attention to specifying clear assessment criteria and providing timely, regular and constructive feedback that helps to clarify things you did not understand and helps you to improve your performance. The following list is representative of the variety of assessment methods used on your programme:

- **Unseen examinations:** test a student's knowledge and understanding of the subject, mostly applicable to mathematics aspects of the discipline. They are the usual, primary mode of assessment in mathematics programmes across the HE sector. Such examinations are typically of two hours in length. Some taught modules have unseen examinations as part of the assessment profile.
- **Class tests:** these are taken during the course of a module, usually in a lecture slot. They are intended to assess a student's current understanding and subject knowledge in that module in a structured and focused manner. Some taught modules have class tests as part of the assessment profile. In some modules the class tests are computer-based.
- **Coursework:** normally consists of regular short assignments designed to assess, in more depth than class tests, a student's knowledge and understanding of the course material. Some of these assignments may be computer-based, and some may take the form of short reports.
- **Short reports:** for which students are required to write up their own account of small group studies and discussions on particular topics.
- **Project Reports:** are formal summaries of the work done by a student undertaking a project. Projects would typically involve the analysis of real-world data and the report will test the student's ability to make critical judgements concerning the appropriateness of different strategies for the collection and analysis of such data.
- **Video presentations:** where students produce an informative video presentation suitable for a general audience which explains their project, its purpose and the outcomes. These videos are presented to the class and can be live, animated, or a combination of both.
- **Oral presentations:** assess a student's ability to communicate their knowledge and understanding, both visually and orally, to both general and academic audiences.

Marks are awarded for summative assessments designed to assess your achievement of learning outcomes. You will also be assessed formatively to enable you to monitor your own progress and to assist staff in identifying and addressing any specific learning needs. Feedback, including guidance on how you can improve the quality of your work, is also provided on all summative assessments within three working weeks of submission, unless there are compelling circumstances that make this impossible, and more informally in the course of tutorial and seminar discussions.

## 11. Contact Time and Expected Workload

This contact time measure is intended to provide you with an indication of the type of activity you are likely to undertake during this programme. The data is compiled based on module choices and learning patterns of students on similar programmes in previous years. Every effort is made to ensure this data is a realistic representation of what you are likely to experience, but changes to programmes, teaching methods and assessment methods mean this data is representative and not specific.

Keele University undergraduate programmes typically contain an element of module choice; therefore, individual students will experience a different mix of contact time and assessment types dependent upon their own individual choice of modules. The figures below are an example of activities that a student may expect on your chosen course by year stage of study. Contact time includes scheduled activities such as: lecture, seminar, tutorial, project supervision, demonstration, practical classes and labs, supervised time in labs/workshop, fieldwork and external visits. The figures are based on 1,200 hours of student effort each year for full-time students.

### Activity

|                         | Scheduled learning and teaching activities | Guided independent Study | Placements |
|-------------------------|--------------------------------------------|--------------------------|------------|
| <b>Year 1 (Level 4)</b> | 27.4%                                      | 72.6%                    | 0%         |
| <b>Year 2 (Level 5)</b> | 26.1%                                      | 72.1%                    | 1.8%       |
| <b>Year 3 (Level 6)</b> | 15.7%                                      | 84.3%                    | 0%         |

## 12. Accreditation

This programme does not have accreditation from an external body.

### 13. University Regulations

The University Regulations form the framework for learning, teaching and assessment and other aspects of the student experience. Further information about the University Regulations can be found at:

<http://www.keele.ac.uk/student-agreement/>

If this programme has any exemptions, variations or additions to the University Regulations these will be detailed in an Annex at the end of this document titled 'Programme-specific regulations'.

### 14. What are the typical admission requirements for the Programme?

See the relevant programme page on the British International College website for the admission requirements relevant to this programme.

**Recognition of Prior Learning (RPL)** is considered on a case-by-case basis and those interested should contact the Programme Director. The University's guidelines on this can be found here:

<https://www.keele.ac.uk/qa/programmesandmodules/recognitionofpriorlearning/>

### 15. How are students supported on the programme?

Support for student learning on the Programme is provided in the following ways:

All students have an Academic Mentor assigned from the British International College Associate Tutors. Students will see their Academic Mentor on a regular basis throughout the semester, and they will also be available at specific times during their working week, as necessary. There is also a dedicated British International College Programme Leader. There is also support from a team of administrators based at British International College who will provide you with support regarding the programme and its delivery. In addition, you can access academic and pastoral support from the British International College Student Services Department as well as Keele Student Services and the Student Experience and Support Team for the Keele Faculty of Natural Sciences.

- British International College Associate Tutors are responsible for providing support for learning on the modules. They also give individual feedback on coursework assignments and more general feedback on examinations.
- The members of academic staff in the British International College Computer Science Department operate an open-door policy whereby lecturers and tutors are happy to see and advise students at any reasonable time or by mutually convenient appointment.

### 16. Learning Resources

Data Science is taught, primarily, in lecture theatres, teaching rooms and computer laboratories.

Support materials, programme regulations and module handbooks will be available electronically on the Keele Learning Environment (Blackboard). All students will be registered with the Keele University library and have digital access to reading lists whilst based in British International College, as well as physical learning resources at British International College, including computing and printing facilities. All students have access to additional study skills support through the Student Learning section of Keele's Student Services.

The learning resources available to students on the programme include:

- dedicated networked PC laboratories, which use the Microsoft Windows and GNU/Linux operating systems and provide a wide range of supported software;. Students have individual email accounts and file stores on University and School servers. Additional facilities are provided for final year projects.
- the Keele Learning Environment (KLE) which provides easy online access to a range of learning resources including lecture notes and other resources supplied in modules;
- the extensive collection of books and journals relevant to undergraduate study held in the University Library. Much of this material is also accessible online to Keele students from anywhere in the world with a University username and password.

### 17. Additional Costs

#### Optional costs

There may be optional costs that students can choose to incur to enhance their learning experience. These are not required to complete the programme.

Students may also incur general expenses related to university study, such as for printing, textbooks and other materials.

## 18. Quality management and enhancement

The quality and standards of learning in this programme are subject to a continuous process of monitoring, review and enhancement.

- The School Education Committee is responsible for reviewing and monitoring quality management and enhancement procedures and activities across the School.
- Individual modules and the programme and its delivery through the partnership with Keele University and British International College are reviewed and enhanced every year in the annual programme review and annual partnership review which takes place at the end of the academic year.
- The programme is run in accordance with the University's Quality Assurance procedures and are subject to periodic reviews under the Revalidation process.
- The partnership between Keele University and British International College is subject to Keele's Educational Partnerships Code of Practice, which sets out how Keele works with its partners and manages the quality and standards of its provision and that of the student experience.

Student evaluation of, and feedback on, the quality of learning on every module takes place every year using a variety of different methods:

- The results of student evaluations of all modules are reported to Associate Tutors at British International College and module leaders at Keele University, and reviewed by the partnership's joint committees.
- Findings related to the programme from regular surveys of the student experience conducted by British International College are subjected to careful analysis and a planned response at programme level.
- Feedback received from representatives of students of the programme is considered and acted on at regular meetings of the Student Staff Voice Committee.

The University appoints senior members of academic staff from other universities to act as external examiners on all programmes. They are responsible for:

- Approving examination questions
- Confirming all marks which contribute to a student's degree
- Reviewing and giving advice on the structure and content of the programme and assessment procedures

Information about current external examiner(s) can be found here:

<http://www.keele.ac.uk/qa/externalexaminers/currentexternalexaminers/>

## 19. The principles of programme design

The programme described in this document has been drawn up with reference to, and in accordance with the guidance set out in, the following documents:

**a.** UK Quality Code for Higher Education, Quality Assurance Agency for Higher Education:

<http://www.qaa.ac.uk/quality-code>

**b.** Keele University Regulations and Guidance for Students and Staff: <http://www.keele.ac.uk/regulations>

## Version History

### This document

**Date Approved:** 16 September 2026

### Previous documents

| Version No | Year | Owner | Date Approved | Summary of and rationale for changes |
|------------|------|-------|---------------|--------------------------------------|
|------------|------|-------|---------------|--------------------------------------|