

Programme Specification

1	Awarding body	University of London				
2	Teaching Institution	Birkbeck College				
3	Programme Title(s)	MSc Data Science				
4	Programme Code(s)	TMSDATSC_C				
5	UCAS code	NA				
6	Home Department	Computer Science and Information Systems				
7	Exit Award(s)	PG Dip Data Science, PG Cert Computer Science				
8	Duration of Study (number of years)	1 year (full-time) 2 years (part-time)				
9	Mode of Study	FT	X	PT	X	DL
10	Level of Award (FHEQ)	7				
11	Other teaching depts or institution	N/A				
12	Professional, Statutory Regulatory Body(PSRB) details	N/A				
13	<u>QAA Benchmark Statement</u>	Computing				

14	Programme Rationale & Aims
	<p>The programme provides an intensive course in data science and software engineering for graduates of subjects other than Computer Science.</p> <p>As well as gaining a broad knowledge of data science and software engineering, students acquire practical problem-solving and analytical skills, while also having the opportunity to investigate certain areas of current research more deeply.</p> <p>For students who are new to the subject, the programme provides a foundation for a career in IT as a data scientist or analyst; for those already working in IT, it provides an opportunity to strengthen and update their knowledge and skills in the areas of data science and software engineering while obtaining a formal qualification.</p> <p>Holders of the MSc will have demonstrated a systematic understanding and a critical awareness, much of it at the forefront of the discipline, a comprehensive and practical understanding of applicable techniques, originality in the application of knowledge, the ability to evaluate current research and methodologies, and the independent learning ability required for continuing professional development.</p>

15	Entry Criteria
	A good 2nd class honours degree from a British university, or equivalent, in any subject other than single-honours Computer Science, along with demonstrated aptitude as tested during the application process.

	Applicants with less than the required level of academic qualification may be considered if they have significant experience in the IT industry.
16	Learning Outcomes <p>Subject Specific:</p> <ul style="list-style-type: none"> • a knowledge of programming (S1), • mathematical and algorithmic foundations of computing (S2), • information systems design and social, legal and professional implications (S3), • data and software engineering (S4), • computer architecture and operating systems (S5), • knowledge of data science tools, techniques and applications (S6), • an appreciation of research topics related to data science (S7). <p>Intellectual:</p> <ul style="list-style-type: none"> • the ability to develop an algorithm to carry out a specified task and to convert this into an executable program (I1), • to debug a program (I2), • to develop designs for information systems (I3), • an appreciation of the social and legal implications of the use of computers (I4), • the ability to analyse data using appropriate methods (I5), • to plan and carry out a project with a focus on data science spanning several months (I6), • to perform abstract thinking and to exhibit abstraction skills (I7). <p>Practical:</p> <ul style="list-style-type: none"> • the ability to write programs in appropriate programming languages (P1), • to create and document a design using an appropriate modelling language (P2), • to use a coherent information system development process (P3) • to use tools to analyse data (P4). <p>Personal and Social:</p> <ul style="list-style-type: none"> • to demonstrate self-direction and originality in tackling and solving problems (PS1), • to act autonomously in planning and implementing tasks at a professional level (PS2), • to conduct a critical appraisal of material synthesised from research papers (PS3), • to communicate conclusions clearly to specialist and non-specialist audiences (PS4), • to deal with complex issues systematically and creatively (PS5), • to advance further their knowledge, skills and understanding (PS6).
17	Learning, teaching and assessment methods <p>Formal lectures are the principal teaching method, but these frequently incorporate practical sessions, for example in programming, and also group exercises carried out in class.</p> <p>There is a large element of practical coursework which students carry out in their own time; some of these coursework assignments are carried out in groups.</p>

	<p>Each student also undertakes an individual project in data science (including background research) which is supervised by a member of staff. The project provides an opportunity for students to investigate in depth an aspect of data science that particularly interests them.</p> <p>Assessment is by the coursework assignments, written examinations and the project proposal and final report.</p> <p>The programme is taught in 8 half-modules (15 credits each) and 1 double module (the MSc project, 60 credits).</p>
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18	Programme Description
	<p>This conversion degree is designed for graduates who are new to computer science.</p> <p>This intensive programme in data science and computing provides an excellent grounding for working as a data scientist or analyst in industry.</p> <p>As well as gaining a broad knowledge of computing, you will acquire programming and data analysis skills and have the opportunity to investigate certain areas of current research more deeply.</p>

19	Programme Structure			
Part Time programme – 2 years				
Year 1				
Level	Module Code	Module Title	Credits	Status*
7	BUCI063H7	Principles of Programming I	15	Compulsory
7	BUCI065H7	Programming with Data	15	Compulsory
7	COIY060H7	Computer Systems	15	Compulsory
7	COIY058H7	Fundamentals of Computing	15	Compulsory
7	BUCI042H7	Big Data Analytics using R	15	Compulsory
Year 2				
Level	Module Code	Module Title	Credits	Status*
7	BUCI057H7	Data Science Techniques and Applications	15	Compulsory
7	BUCI058D7	Data Science Project	60	Core
7		Two options from the following list	30	Optional
Optional Modules List				
7	BUCI040H7	Information and Network Security	15	Optional
7	BUCI029H7	Cloud Computing	15	Optional
7	COIY059H7	Information Systems	15	Optional
7	COIY026H7	Data Warehousing and Data Mining	15	Optional
7	COIY064H7	Information Retrieval and Organisation	15	Optional
7	COIY065H7	Machine Learning	15	Optional
7	BUCI064H7	Principles of Programming II	15	Optional
7	COIY025H7	Advances in Data Management	15	Optional
7	COIY053H7	Semantic Technologies	15	Optional

Full Time programme – 1 year				
Year 1				
Level	Module Code	Module Title	Credits	Status*
7	BUCI063H7	Principles of Programming I	15	Compulsory
7	BUCI065H7	Programming with Data	15	Compulsory
7	COIY060H7	Computer Systems	15	Compulsory
7	COIY058H7	Fundamentals of Computing	15	Compulsory
7	BUCI042H7	Big Data Analytics using R	15	Compulsory
7	BUCI057H7	Data Science Techniques and Applications	15	Compulsory
7	BUCI058D7	Data Science Project	60	Core
7		Two options from the following list	30	Optional
Optional Modules List				
7	BUCI040H7	Information and Network Security	15	Optional
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7	COIY064H7	Information Retrieval and Organisation	15	Optional
7	COIY065H7	Machine Learning	15	Optional
7	BUCI064H7	Principles of Programming II	15	Optional
7	COIY025H7	Advances in Data Management	15	Optional
7	COIY053H7	Semantic Technologies	15	Optional

Status*

CORE – Module must be taken and passed by student; COMPULSORY – Module must be taken, mark can be reviewed at sub-exam board; OPTIONAL – Student can choose to take this module

20	Regulations
	<ul style="list-style-type: none"> Admissions This programme adheres to the College Admissions Policy: http://www.bbk.ac.uk/registry/policies/documents/admissions-policy.pdf Credit Transfer Accredited Prior Learning will be considered in line with the College Policy on Accredited Prior Learning http://www.bbk.ac.uk/registry/policies/documents/accreditation-prior-learning.pdf Programme Regulations This programme adheres to the College Common Awards Scheme http://www.bbk.ac.uk/registry/policies/regulations Programme Specific Regulations First year part-time students must normally pass at least 45 credits in order to proceed to the second year of study. The project is undertaken during the Spring (project proposal) and Summer (project report) terms (of the second year for part-time students), with the project report submitted in September. The project report is examined in the Autumn.

	<p>To gain the PG Dip Data Science, a candidate must pass the 8 taught modules listed in Section 20 above.</p> <p>To gain the PG Cert Computer Science, a candidate must pass Principles of Programming I, Programming with Data, and two further modules from Computer Systems, Fundamentals of Computing, and Big Data Analytics Using R.</p> <p><i>(Note: for students graduating from 2022 onwards the requirements for a PG Cert and PG Dip Data Science are revised to any 60 credits and 120 credits respectively)</i></p>
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21	Student Attendance Framework – in brief
	<p>The full version of the 'Student Attendance Framework' is available http://www.bbk.ac.uk/mybirkbeck/services/rules/Attendance-Framework.pdf.</p> <p>Principle Consistent and regular student attendance in class (or equivalent) promotes and affords student success. Inconsistent and irregular attendance is less likely to result in student success and is consistent with lower marks and degree classifications being achieved and awarded.</p> <p>Attendance expectation Birkbeck, University of London expects you to consistently attend all timetabled sessions, including lectures, seminars, group and individual tutorials, learning support sessions, workshops, laboratories, field trips, inductions and demonstrations.</p> <p>E-Registers All Birkbeck students are issued with student cards. Students are expected to take them to classes and to assessment venues and to present them to a member of staff if requested. This is for the purpose of identifying Birkbeck students.</p>

22	Student Support and Guidance
	<p>All Birkbeck students have access to a range of student support services, details can be found on our website here: http://www.bbk.ac.uk/mybirkbeck/services/facilities</p>

23	Methods of Enhancing Quality and Standards
	<p>The College has rigorous procedures in place for the monitoring and enhancing its educational provision. This includes regular monitoring of programmes drawing on feedback from various sources including external examiner's reports, student feedback, student achievement and progression data. In addition, departments are reviewed every four to five years through the internal review process that includes external input.</p> <p>For more information please see the Academic Standards and Quality website http://www.bbk.ac.uk/registry/about-us/operations-and-quality.</p>

24	Programme Director	Alessandro Provetti
25	Start Date (term/year)	October 2016
26	Date approved by TQEC	Summer 2016
27	Date approved by Academic Board	Summer 2016
28	Date(s) updated/amended	November 2017

Year of entry: 2020/21

