

Programme Specification

1	Awarding body	University of London					
2	Teaching Institution	Birkbeck College					
3	Programme Title(s)	PG Cert Applied Data Science					
4	Programme Code(s)	TPCCOMIP_C					
5	UCAS code (if applicable)	N/A					
6	Home Department	Computer Science and Information Systems					
7	Exit Award(s)	N/A					
8	Duration of Study (number of years)	1					
9	Mode of Study	FT		PT		DL	x
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 PGCert in Applied Data Science is a one year programme. It is an intensive course in applied data science for information professionals who wish to enhance their digital skills, including professionals across the cultural heritage, finance, banking, engineering, business, education, law, IT and management sectors. The programme will exhibit flexibility by providing students with skills related to the area of applied data science. The coursework and exercises of the modules will be directly related to the information professionals' area, making the programme applicable to different sectors.</p> <p>Key aspects of the programme:</p> <ul style="list-style-type: none"> • Study applied data science without having any prior experience and become a data scientist in just a year. • Learn Python and machine learning tools to support your professional career by focusing on the applied data science aspects. • Study an intensive programme in class for three months and develop your personal skills in the area of programming with Python and machine learning. • Develop your personal Applied Data Science project in applied data science with the guidance of a personal tutor. <p>The programme will provide professionals an understanding of basic programming and use of analytic tools to support them in their career. The project module will allow professionals to apply their knowledge on a topic in the area of applied data science. This module will provide an opportunity for the learner to demonstrate and apply their newly acquired knowledge of computational thinking for the benefit of the organisation. The resulting</p>

output of the project will be a data science project and a use case detailing the project requirements, realistic time frames together with the final deployment of the solution.

Students will gain broad knowledge of computer science, data science and software engineering, and acquire practical problem-solving and analytical skills, while also having the opportunity to investigate certain areas of current research more deeply. For students who are new to the subject, the programme provides a foundation for a career in the IT industry 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 analytics while obtaining a formal qualification.

15	Entry Criteria
	A good 2nd class honours degree from a British university, or equivalent, in any subject other than single-honours Computer Science. 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), • knowledge of data analysis tools, techniques and applications (S3), • an appreciation of research topics related to data science (S4). <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), • the ability to debug a program (I2), • an appreciation of security and general data protection regulations (I3), • the ability to analyse data using appropriate methods (I4), • to perform abstract thinking and to exhibit abstraction skills (I5). <p>Practical:</p> <ul style="list-style-type: none"> • the ability to write programs in an appropriate programming language (P1), • the ability to use tools to analyse data (P2). <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>The programme consists of two taught modules and a project. The taught modules are online consisting of 10 weeks of weekly 3-hour live seminar/labs with a mixture of lecturing and interactive practical lab work supported by teaching assistants via breakout rooms and one-to-one support. Weekly activities allow students to implement what they have learnt in class. Additional asynchronous support is provided by teaching assistants outside of schedule lectures. The project has a briefing session. Each student is assigned a dedicated Supervisor and is provided support in line with the College's Dissertation Supervision Policy.</p> <p>While formal lectures are the principal teaching method, these frequently incorporate practical sessions, for example in programming, and also group exercises carried out in class. 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. 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>

18	Programme Description
	<p>This programme provides an excellent grounding for working as an information technology and data analyst in related industries (e.g. cultural heritage, financial sector and other) as well as gaining a broad knowledge of computing. Students will acquire programming and data analysis skills and have the opportunity to investigate certain areas of current research more deeply based on an in-house use case study. The programme comprises two taught modules (15 credits each) and the applied data science project (30 credits).</p>

19	Programme Structure			
Part Time programme				
Year 1				
Level	Module Code	Module Title	Credits	Status*
7	BUCI081H7	Demystifying Computing with Python	15	Compulsory
7	BUCI080H7	Analytic tools for Data Science	15	Compulsory
7	BUCI082S7	PG Cert Applied Data Science Project	30	Core

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	Programme Director	Stelios Sotiriadis
21	Start Date (term/year)	October 2020
21	Date approved by Education Committee	July 2019 (Chair's Action)
22	Date approved by Academic Board	Spring 2020
23	Date(s) updated/amended	1 September 2022