Programme specification

(Notes on how to complete this template are provide in Annexe 3)

1. Overview/ factual information

Programme/award title(s)	BSc (Hons) Software with Cloud Development with Data Science (Top-Up)
Teaching Institution	Belfast Metropolitan College
Awarding Institution	The Open University (OU)
Date of first OU validation	14th May 2021
Date of latest OU (re)validation	N/R
Next revalidation	N/R
Credit points for the award	120
UCAS Code	N/R
HECoS Code	100374
LDCS Code (FE Colleges)	N/R
Programme start date and cycle of starts if appropriate.	September 2021
Underpinning QAA subject benchmark(s)	• QAA Computing – October 2019 • CSE C2017 - CyberSecurity • IT 2017 – Information Technology
Other external and internal reference points used to inform programme outcomes. For apprenticeships, the standard or framework against which it will be delivered.	N/R
Professional/statutory recognition	N/R
For apprenticeships fully or partially integrated Assessment.	N/R
Mode(s) of Study (PT, FT, DL, Mix of DL & Face-to-Face) Apprenticeship	FT and PT
Duration of the programme for each mode of study	FT (1 year) and PT (1 ½ years)
Dual accreditation (if applicable)	N/R
Date of production/revision of this specification	18/06/2021

Please note: This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided.

More detailed information on the learning outcomes, content, and teaching, learning and assessment methods of each module can be found in student module guide(s) and the students handbook.

The accuracy of the information contained in this document is reviewed by the University and may be verified by the Quality Assurance Agency for Higher Education.

Educational aims and objectives

Belfast Metropolitan College (the College) currently offers a Foundation Degree in Software, Cloud and Application Development validated by the Open University. This programme took initial enrolments in September 2018. The enrolments were for Part Time, Full Time and Higher Level Apprenticeship pathways. There are 91 students/apprentices enrolled on these courses. Currently students and apprentices that successfully achieve these foundation degrees have a number of Level 6 articulated routes that are documented in the programme specifications, these are:-

- Students are able to enrol on an Open University Top Up Degree IT offered through the Open University and complete four Level 6 modules.
- Students are able to enrol on year 3 IT programme at Napier University.
- Students are able to enrol on year 3 IT programmes at Ravensbourne University.

Other possible articulation routes are:-

- Students can apply for Level 6 courses at the other two local Universities (Ulster University or Queens University) but will only gain entry onto to year 1 or year 2 (under consideration with distinctions in all Level 4 and Level 5 modules).
- Other UK Universities that the College is currently exploring articulation agreements. The College's aims to ensure that creativity; innovation and commitment to excellence underpin its provision of skills and programmes

necessary to help learners to gain employment, progress in their employment and support employers. This proposed programme embraces these core aims and objectives.

Modes of Delivery/Student Pathways

The BSc (Hons) Top-Up Degree will be offered in two different modes of delivery:

- Full Time (1 year in duration)
- Part time (1 ½ years in duration)

2.4 List of all exit awards
BSc Software, Cloud and Application Development BSc (Hons) Software, Cloud and Application Development

3. Programme structure and learning outcomes

(The structure for any part-time delivery should be presented separately in this section.)

Programme Structure - LEVEL 6					
Compulsory modules	**Credit points**	**Optional modules**	**Credit points**	**Is module compensatable?**	**Semester runs in**
Advanced Cloud Development Technologies	40				2
Data Science & Engineering	40				1
Final Year Research project	40				1&2

Intended learning outcomes at Level 6 are listed below:

Learning Outcomes – LEVEL 6	
3A. Knowledge and understanding	
Learning outcomes:	**Learning and teaching strategy/ assessment methods**
A1 : Computational thinking: Abstract and solve unseen problems and deliver tested working solutions. **A2 :** An appraisal and justification of scientific methods and their application to problem-solving in this area. **A3 :** Knowledge and understanding: Evaluate and defend concepts, principles and theories relating to computing and computer applications as appropriate to the field of study. **A4 :** Modelling: modelling and design of computer-based systems for the purposes of interpretation, communication, prediction and the understanding of interdependencies. **A5 :** Analyse, compare and justify the characteristics of cloud systems.	• Teaching and Learning Methods: Lectures, tutor directed tutorials, supervised practical sessions, student led seminars and use of the College's Virtual Learning Environment. • Assessment Methods: Coursework related to assignments, case studies and projects, written unseen examinations, open book assessments, presentations, practical examination/observation and project reports. • Application and use of online virtual labs that enable students to construct real-life scenarios to experiment and test out practical approaches to simulate advanced network configurations.

3B. Cognitive skills	
Learning outcomes:	**Learning and teaching strategy/ assessment methods**
B1 : Recognise and apply knowledge in unfamiliar contexts, synthesising ideas or information to specific problems, and plan strategies for their solutions. **B2 :** Critical evaluation and testing: analyse the extent to which a computer-based system meets the criteria defined for its current use and future development. **B3 :** Methods and tools: Identifies, selects and uses investigative strategies and techniques, practices and tools for the specification, design, implementation and evaluation of computer-based systems. **B4 :** Professional considerations: recognise and judge the professional, economic, social, environmental, moral and ethical issues involved in the sustainable exploitation of computer technology and be guided by the adoption of appropriate professional, ethical and legal practices. **B5 :** Identify, assess and design cloud applications and understand data sources.	• Teaching and Learning Methods: Lectures, tutor directed tutorials, supervised practical sessions, student led seminars and use of the College's Virtual Learning Environment. • Assessment Methods: Coursework related to assignments, case studies and projects, written unseen examinations, open book assessments, presentations, practical examination/observation and project reports. • Application and use of online virtual labs that enable students to construct real-life scenarios to experiment and test out practical approaches to simulate advanced network configurations.

3C. Practical and professional skills	
Learning outcomes:	**Learning and teaching strategy/ assessment methods**
C1: The ability to specify, design and construct reliable, secure and usable computer-based systems. **C2:** The ability to evaluate systems in terms of quality attributes and negotiate possible trade-offs presented within the given problem. **C3:** The ability to support and manage projects to deliver computing systems within constraints of requirements, timescale and budget. **C4:** the ability to identify and categorise any risks and security aspects that may be involved in the deployment of computing systems within a given context. **C5:** The ability to analyse and critique the tools used for the process involved in the effective deployment of systems to solve problems in a wide range of situations. **C6:** The ability to critically evaluate and analyse complex problems, including those with incomplete information, and devise appropriate solutions, within the constraints of a budget.	• Teaching and Learning Methods: Lectures, tutor directed tutorials, student led seminars, supervised practical sessions and self-directed learning employing study packs and use of the College's Virtual Learning Environment. • Assessment Methods: Coursework related to assignments, case studies and projects, written unseen examinations, open book assessments, presentations, practical examination/observation and project reports. • Application and use of online virtual labs that enable students to construct real-life scenarios to experiment and test out practical approaches to simulate advanced network configurations. • Site visits to organisation and companies to reflect on industry standards, procedures, best practice and current trends. • Use of project based module and case studies to build on knowledge and apply theoretical concepts and practical skills to real life situations. • Employ case studies in online virtual laboratories to test out advanced network security concepts.

3D. Key/transferable skills	
Learning outcomes:	**Learning and teaching strategy/ assessment methods**
D1 : Students are expected to develop a wide range of generic skills to ensure they become effective in the workplace, to the benefit of themselves, their employer and the wider economy. **D2 :** Intellectual skills: The ability to locate and retrieve relevant ideas, and ensure these are correctly and accurately referenced and attributed. **D3 :** Self-management: Takes responsibility for own learning and development using reflection and feedback to analyse own capabilities, appraises alternatives and plans and implements actions. **D4 :** Interaction: Sets criteria for, and is effective in, professional and interpersonal communication in a wide range of situations. **D5 :** Team working and management: Works effectively within a team, supports or is proactive in leadership, negotiates in a professional context and manages conflict. Proactively seeks to resolve conflict. **D6 :** Contextual awareness: the ability to assess and meet the needs of individuals, business and the community, and to appraise how workplaces and organisations are governed.	• Teaching and Learning Methods: Lectures, tutor directed tutorials, supervised practical sessions, student led seminars and use of the College's Virtual Learning Environment. • Assessment Methods: Coursework related to assignments, case studies and projects, written unseen examinations, open book assessments, presentations, practical examination/observation and project reports. • Application and use of online virtual labs that enable students to construct real-life scenarios to experiment and test out practical approaches to simulate advanced network configurations.

3D. Key/transferable skills	
D7 : Sustainability: Interpret and explain factors in environmental and societal contexts relating to the opportunities and challenges created by computing systems across a range of human activities.	

Programme model

Programme Pathway	Years of Study	Semesters per year	Target group
Full Time	1 year	2	Aimed at full time students who will attend the college on a full time basis.
Part Time	1 ½ years	2	Aimed at students enrolling on a Higher Level Apprenticeship. These will be employed apprentices progressing from the Level 5 HLA programme.

Annexe 1 - Curriculum map

This table indicates which study units assume responsibility for delivering (shaded) and assessing (✓) particular programme learning outcomes.

Level	Study module/Unit	Programme Outcomes																						
		A 1	A 2	A 3	A 4	A 5	B 1	B 2	B 3	B 4	B 5	C 1	C 2	C 3	C 4	C 5	C 6	D 1	D 2	D 3	D 4	D 5	D 6	D 7
6	Advanced Cloud Development Technologies	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	Data Science and Engineering	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	Final Year Project	X	X	X	X	X	X		X	X	X	X		X		X	X			X	X		X	X