New College of the Humanities

BSc (Hons) Digital and Technology Solutions Programme Specification

Awarding Body	NCH at Northeastern
Teaching Institution	New College of the Humanities
Apprenticeship Standard	Digital and Technology Solutions Professional (Integrated Degree) ST0119
Relevant QAA Benchmark Statement	Computing (October 2019)
HECoS	100367 100078
QAA Framework for Higher Education Qualification Level	Honours Level 6
Final Award	BSc (Hons) Digital and Technology Solutions (Software Engineer) BSc (Hons) Digital and Technology Solutions (IT Consultant) BSc (Hons) Digital and Technology Solutions (Business Analyst) BSc (Hons) Digital and Technology Solutions (Cyber Security Specialist) BSc (Hons) Digital and Technology Solutions (Data Analyst)
Exit Awards	CertHE Digital and Technology Solutions DipHE Digital and Technology Solutions
Programme Code	NCHDTSPDA
Approved Start Dates	6 July 2020
Language of Instruction	English
Language of Assessment	English
Mode of Study	Part-time blended learning; work-based learning
End point assessment	Integrated (60 credits)
End point assessment organisations	TBA
Approval effective from	June 2020

Re-approval due	June 2025

PROGRAMME OVERVIEW

Apprenticeships extend learning beyond the classroom and into the workplace. The aim is to integrate academic learning at degree level with on-the-job practical training to provide a holistic programme of education and training to meet the skills needs of employers now and in the future.

This Degree Apprenticeship programme will develop professional practice, contextualised in the workplace using industry standard technologies and approaches that are shaped by modern businesses. Apprentices studying on this programme are employed by an Employer (Hiring Business) and are working in an Information Technology role.[1]

The Apprentice (learner) will study with NCH at Northeastern (Provider) for approximately 60 days a year (or Stage) – i.e. one day per week for 42 weeks each year, and up to three five-day 'bootcamps' in any given year; for the duration of the three-year programme.

Additionally, the learner and employer will commit to a further two days per week, for 42 weeks each year, for provider-guided work-based training. The programme has five distinct routes (specialisms) – Software Engineer, IT Consultant, Business Analyst, Cyber Security Specialist and Data Analyst. Learners will study 120 credits per year and will be considered part-time learners by NCH at Northeastern. Each course, typically 15 credits, is assessed by a range of activities aligned to industry norms, i.e. almost all assessments relate to workplace activities that are expected in a technology-related occupation. The content, and consequently the learning outcomes and methods of assessment vary between courses. Where possible, assessments will be undertaken in the workplace.

The programme begins with 'Business Fundamentals' to introduce and familiarise learners with the contemporary world of business and is followed by an exploration of the 'Mathematical Structures and Methods' that form the foundation of computer science. The programme then introduces the fundamental ideas of programming principles in 'Intensive Foundations of Computer Science and Programming I', before introducing 'Data Management Systems' which explore how utilising information and leveraging IT can contribute to the diverse success of a broad range of enterprises. The subsequent 'Database Design & Management I' course examines data design and structures, and learners learn how to query and manipulate data before applying their learning and further exploring more advanced programming principles in 'Intensive Foundations of Computer Science and Programming II'. Learners then study what drives the behaviour of individuals and teams in 'Organisational Behaviour', seeing how improving business processes and preparing the workforce can make the most efficient and effective use of any information systems deployed. The first year then concludes with a two-week intensive bootcamp, exploring 'Digital Fluency in the AI-enabled Enterprise'. Throughout year 1, core knowledge is contextualised using industry-recognised

[1] A learner must be in a role that provides the opportunities to gain the knowledge, skills and behaviours needed to achieve their apprenticeship; i.e. a pathway to a competent Digital & Technology Solutions Professional (DTSP). A DTSP provides technology enabled solutions to internal and/or external customers, in a range of areas including software, business and systems analysis, cyber security, data analysis and network infrastructure. They implement technology solutions that enable businesses to develop new products and services and to increase an organisations productivity using digital technologies. They are confident, competent and capable independent Digital and Technology Solutions Professionals able to operate in a range of related roles.

cloud-based platform technology (and solution) training embedded through the courses, resulting in industry certification where applicable.

Year 2, or Stage 2, begins with an 'IT Project Management' course covering all aspects of the project lifecycle including tools and techniques. This is followed by a deeper dive into working with data in 'Database Design and Management II', exploring advanced data management issues and implementing a database schema. The programme continues with the opportunity to learn how to program utilising software used in 'Data Analytics' solutions, followed by an exploration into the 'Cybersecurity' issues affecting organisations including the significance, risk and impact of ensuring IT systems are secure and compliant. The 'IT Project Management' course introduces all aspects of the project lifecycle including tools and techniques. Learners then move on to cover the history of multimedia technology and it's uses in 'Visual Communication of Information'. Building on their understanding of data, they will learn techniques of 'Data Visualisation' to manipulate and present various types of business data to stakeholders. As with year 1, year 2 then culminates in a two-week intensive bootcamp where learners will be introduced to 'Networks and Platform Technologies', exploring the fundamentals of IT networks. Like in year 1, year 2 core knowledge is contextualised using industry-recognised cloud- based platform technology (and solution) training embedded through the courses, resulting in industry certification where applicable.

Year 3, or Stage 3, is where learners select a specialism (Software Engineer, IT Consultant, Business Analyst, Cyber Security Specialist or Data Analyst) and courses covered will depend on the selected specialism with all 3 pathways finishing with a work-based 'real-life' Synoptic Project and End Point Assessment (EPA).

Dedicated Apprenticeship Tutors/Advisors will undertake regular workplace visits (approximately every 6-8 weeks) and provide supplementary support.

STRUCTURE OF THE DIGITAL AND TECHNOLOGY PROGRAMME (360 CREDITS)

The apprenticeship is taught at undergraduate level. As per the apprenticeship standard, there are three specialisms, chosen and realised in Stage 3. The order in which the courses will be taken is shown in Appendix D.

STAGE 1 (LEVEL 4)

Optional 'work ready bootcamp' (0 credits)

Compulsory Courses

NCHNAP443 Business Fundamentals (15 credits)

NCHNAP444 Mathematical Structures and Methods (15 credits)

NCHNAP445 Intensive Foundations of Computer Science and Programming I (15 credits)
NCHNAP446 Data Management Systems (15 credits)

NCHNAP447 Database Design and Management I (15 credits)

NCHNAP448 Intensive Foundations of Computer Science and Programming II (15 credits)

NCHNAP449 Organisational Behaviour (15 credits)

NCHNAP450 Digital Fluency in the Artificial Intelligence-Enabled Enterprise (15 credits)

STAGE 2 (LEVEL 5)

Compulsory Courses

NCHNAP555 Information Technology Project Management (15 credits)

NCHNAP556 Database Design and Management II (15 credits)

NCHNAP558 Data Analytics (15 credits)

NCHNAP557 Data Visualisation (15 credits)

NCHNAP559 Visual Communication of Information (15 credits)

NCHNAP560 Information Technology Service Management (15 credits)

NCHNAP561 Cybersecurity (15 credits)

NCHNAP554 Networks and Platform Technologies (15 credits)

STAGE 3 (LEVEL 6)

SELECT ONE SPECIALISM

Software Engineer Specialism

NCHNAP6__ Object-Oriented Design and Development (15 credits) and

NCHNAP688 Software Engineering (15 credits) and

NCHNAP6__ Software and Data Security (15 credits) and

NCHNAP6__ Agile Software Development (15 credits) and

NCHNAP683 DTSP Synoptic Project and End Point Assessment (60 credits)

OR

IT Consultant Specialism

NCHNAP685 Consulting Fundamentals and Frameworks (15 credits) and

NCHNAP686 Customer Lifecycle Management (15 credits) and

NCHNAP687 Advanced Information Technology Service Management (15 credits) and

NCHNAP684 Business and Change Management (15 credits) and

NCHNAP683 DTSP Synoptic Project and End Point Assessment (60 credits)

OR

Business Analyst Specialism

NCHNAP685 Consulting Fundamentals and Frameworks (15 credits) and

NCHNAP688 Software Engineering (15 credits) and

NCHNAP689 Predictive Analytics Using Python (15 credits) and

NCHNAP684 Business and Change Management (15 credits) and

NCHNAP683 DTSP Synoptic Project and End Point Assessment (60 credits)

OR

Cyber Security Specialism

NCHNAP6__ Data and Network Protection (15 credits) and

NCHNAP688 Software Engineering (15 credits) and

NCHNAP6__ Software and Data Security (15 credits) and

NCHNAP6__ Enterprise Security Management (15 credits) and

NCHNAP683 DTSP Synoptic Project and End Point Assessment (60 credits)

OR

Data Analyst Specialism

NCHNAP690 Data Driven Decision Making (30 credits) and

NCHNAP689 Predictive Analytics Using Python (15 credits) and

NCHNAP691 Implementing Data Science (15 credits) and

NCHNAP683 DTSP Synoptic Project and End Point Assessment (60 credits)

ENRANCE REQUIREMENTS

The learner will need to apply for a degree apprenticeship role within a hiring business, or already be in employment with responsibilities to be aligned with the degree content.

Entry requirements are agreed then set, based on numerous factors including availability of additional on-the-job support, by both the Employer and Provider. As such, entrance requirements may vary between apprenticeships. Learners are selected based on their application, an interview and an assessment process which is tailored to the learner's apprenticeship position.

Typically, employers require:

- Three A levels (or equivalent at CCC or above)
- At least Grade 4/C GCSE mathematics, English and IT

Some applicants may not have traditional qualifications as listed above, and have prior learning and skills developed from the workplace, these will be considered on a case-by- case basis.

Learners will also need to meet the government's eligibility criteria:

- Have been a UK/EU/ESS resident for the past three years or more prior to starting the programme.
- Have left full-time education prior to the start date of the apprenticeship.
- Be aged at least 16 years old to meet government funding criteria.

RECOGNITION OF PRIOR LEARNING

Where a learner is eligible to apply for the recognition of prior learning on the basis of certificated or experiential learning, this will be considered in the Initial Needs Analysis, as per Education Skills and Funding Agency (ESFA) Funding Rules, and will take due consideration of the NCH at Northeastern's Recognition of Prior Learning and Credit Transfer Policy.

AIMS OF THE PROGRAMME

The overall aim of the programme is to:

- Offer specialist degree level study that underpins the Level 6, Digital and Technology Solutions Professional (Integrated Degree) apprenticeship.
- Offer a programme of study that meets the needs and expectations of businesses and organisations and supports the career development of Digital and Technology Solutions Professionals.
- Provide flexible and broad access to an incrementally structured learning experience that is designed to encourage and enable a diverse range of learners to work within a range of organisations and businesses.
- To support the development of digital and technology specialist skills that will be valued and supported within work-based contexts, i.e. the development of technology enabled solutions for both internal and external customers, in a range of areas including software, business, and data infrastructure.
- Place the specialist study of digital and technology solutions within a broad contextual framework; provide learners with an understanding of the role played by Digital and Technology Solutions Professionals and how their specific and transferable knowledge and skills are applied in a range of professional contexts.
- Develop a good understanding of the principles, theories and technologies that enable the professional practice of Digital and Technology Solutions Professionals.
- Provide learners with a rich and varied academic experience that is designed to support the integration of theory and practice within the workplace.
- Instil a strong professional work ethic that encourages independence, empathy and a strong awareness of ethical, legal and social issues that pertain to the role of Digital and Technology Solutions Professionals.
- Encourage and support self-determined, independence, critical self-reflection and advanced communication skills.
- Develop a high standard of written English, mathematics and presentation skills.
- Blend the development of business, mathematical, computing and technical understanding with a raft of related transferrable skills that enable learners to develop their careers and operate successfully as Digital and Technology Solutions Professionals within a range of professional contexts.
- Provide learners with the ability to implement technology solutions that enable organisations and businesses to develop new products and services and to increase productivity using digital technologies.

PROGRAMME LEARNING OUTCOMES

KNOWLEDGE (TECHNICAL)

A learner will be able to:

K1c Carry out the various roles, functions and activities related to technology solutions within a business or organisation, with an intimate knowledge and systematic understanding of how business invests in, and exploits, technology solutions for competitive advantage. Specifically, be able to formulate a business

case, and deliver a subsequent technology solutions project, for a new technology solution consistent with business needs.

K2c Command knowledge of how strategic decisions are made concerning acquiring technology solutions resources and capabilities including the ability to analyse and evaluate the different sourcing options; whilst systematically understanding the issues of quality, cost and time for projects, including contractual obligations and resource constraints.

K3c Command knowledge of contemporary techniques for design, development, testing, correcting, deploying and documenting software systems from specifications, using agreed standards and tools. Specifically, be able to identify common vulnerabilities in computer networks including unsecure coding and unprotected networks.

K4c Command knowledge of management systems in managing organisational data and information, and how teams work effectively to produce technology solutions using ideas and techniques, some of which are at the forefront of the discipline.

Note: for Specialism-specific Knowledge Learning Outcomes, please see the apprenticeship standard.

SUBJECT SPECIFIC SKILLS

A learner will be able to:

S1c Critically analyse a business domain/organisation in order to identify the role of information systems, highlight issues and identify business opportunities/requirements for improvement (including developing investment proposals), before then specifying, configuring and deploying an appropriate technology solution i.e. IT Project Management.

S2c Identify organisational information requirements and model, then manage data solutions, including industry-standard database management systems; being cognisant of the key concepts of data quality and data security.

S3c Undertake cyber security risk assessments for simple IT systems, before evaluating threats and proposing/implementing resolution advice.

S4c Plan, design and manage computer networks with an overall focus on the services and capabilities that network infrastructure solutions enable in an organisational context; whilst also identifying network security risks and overseeing their resolution.

Note: for Specialism-specific Skills Outcomes, please see the apprenticeship standard.

TRANSFERABLE AND PROFESSIONAL SKILLS (BEHAVIOURS)

A learner will be able to:

B1c Articulate (e.g. present) complex issues/solutions while demonstrating basic business knowledge and acumen.

B2c Deal with different, working styles and competing interests within and outside the organisation, to work effectively with and to motivate others i.e. effectively leading, influencing and persuading others.

B3c Give and receive feedback constructively and incorporate it into his/her own development and life-long learning.

B4c Apply analytical, critical-thinking and problem-solving skills.

All of the above learning outcomes are mapped to the relevant QAA Subject Benchmark threshold statements and Apprenticeship Standard.

MAP OF COURSES TO LEARNING OUTCOMES

	Knowledge and Understanding												**Subject-specific Skills**												**Transferable and Professional Skills (Behaviours)**											
Course Title	K 1 a	K 1 b	K 1 c	K 2 a	K 2 b	K 2 c	K 3 a	K 3 b	K 3 c	K 4 a	K 4 b	K 4 c	S 1 a	S 1 b	S 1 c	S 2 a	S 2 b	S 2 c	S 3 a	S 3 b	S 3 c	S 4 a	S 4 b	S 4 c	B 1 a	B 1 b	B 1 c	B 2 a	B 2 b	B 2 c	B 3 a	B 3 b	B 3 c	B 4 a	B 4 b	B 4 c
FHEQ Level 4																																				
Business Fundamentals	**X**			**X**						**X**			**X**												**X**			**X**			**X**			**X**		
Mathematical Structures and Methods							**X**									**X**									**X**			**X**			**X**			**X**		
Intensive Foundations of Computer Science and Programming I							**X**			**X**			**X**			**X**									**X**			**X**			**X**			**X**		
Data Management Systems	**X**			**X**			**X**						**X**			**X**						**X**			**X**			**X**			**X**			**X**		
Database Design and Management I							**X**			**X**			**X**			**X**			**X**						**X**			**X**			**X**			**X**		
Intensive Foundations of Computer Science and Programming II							**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**		
Organisational Behaviour	**X**			**X**						**X**			**X**												**X**			**X**			**X**			**X**		
Digital Fluency in the Artificial Intelligence-Enabled Enterprise	**X**			**X**									**X**												**X**			**X**			**X**			**X**		
FHEQ Level 5																																				
Information Technology Project Management		**X**			**X**									**X**									**X**			**X**			**X**			**X**			**X**		

	Knowledge and Understanding												Subject-specific Skills												Transferable and Professional Skills (Behaviours)											
Course Title	K 1 a	K 1 b	K 1 c	K 2 a	K 2 b	K 2 c	K 3 a	K 3 b	K 3 c	K 4 a	K 4 b	K 4 c	S 1 a	S 1 b	S 1 c	S 2 a	S 2 b	S 2 c	S 3 a	S 3 b	S 3 c	S 4 a	S 4 b	S 4 c	B 1 a	B 1 b	B 1 c	B 2 a	B 2 b	B 2 c	B 3 a	B 3 b	B 3 c	B 4 a	B 4 b	B 4 c
Database Design and Management II								**X**			**X**			**X**			**X**			**X**						**X**			**X**			**X**			**X**	
Data Analytics		**X**						**X**									**X**									**X**			**X**			**X**			**X**	
Data Visualisation		**X**									**X**			**X**			**X**									**X**			**X**			**X**			**X**	
Visual Communication of Information		**X**						**X**						**X**						**X**			**X**			**X**			**X**			**X**			**X**	
Information Technology Service Management		**X**						**X**						**X**												**X**			**X**			**X**			**X**	
Cybersecurity		**X**						**X**						**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**	
Networks and Platform Technologies		**X**			**X**			**X**						**X**						**X**			**X**			**X**			**X**			**X**			**X**	
FHEQ Level 6 (SOFTWARE ENGINEER SPECIALISM)																																				
Object-Oriented Design and Development			**X**						**X**									**X**									**X**			**X**			**X**			**X**
Software Engineering			**X**			**X**			**X**			**X**												**X**			**X**			**X**			**X**			**X**
Software and Data Security						**X**			**X**									**X**			**X**			**X**			**X**			**X**			**X**			**X**
Agile Software Development			**X**			**X**			**X**			**X**			**X**			**X**									**X**			**X**			**X**			**X**
DTSP Synoptic Project and End Point Assessment			**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**
FHEQ Level 6 (IT CONSULTANT SPECIALISM)																																				
Consulting Fundamentals and Frameworks			**X**			**X**						**X**															**X**			**X**			**X**			**X**

Customer Lifecycle Management												X															X			X			X
Advanced Information Technology Service Management			X			X			X									X			X			X			X			X			X
Business and Change Management			X			X						X			X			X									X			X			X
DTSP Synoptic Project and End Point Assessment			X			X			X			X			X			X			X			X			X			X			X
FHEQ Level 6 (BUSINESS ANALYST SPECIALISM)																																		
Consulting Fundamentals and Frameworks			X			X						X															X			X			X
Software Engineering			X			X			X			X												X			X			X			X
Predictive Analytics Using Python			X															X									X			X			X
Business and Change Management			X			X						X			X			X									X			X			X
DTSP Synoptic Project and End Point Assessment			X			X			X			X			X			X			X			X			X			X			X
FHEQ Level 6 (CYBER SECURITY SPECIALISM)																																		
Data and Network Protection									X						X			X			X			X			X			X			X
Software Engineering			X			X			X			X												X			X			X			X
Software and Data Security						X			X									X			X			X			X			X			X
Enterprise Security Management			X			X						X			X			X			X			X			X			X			X

DTSP Synoptic Project and End Point Assessment			**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**
FHEQ Level 6 (DATA ANALYST SPECIALISM)																																	
Data Driven Decision Making			**X**															**X**			**X**			**X**			**X**			**X**			**X**			**X**
Predictive Analytics Using Python			**X**						**X**									**X**									**X**			**X**			**X**			**X**
Implementing Data Science			**X**						**X**									**X**									**X**			**X**			**X**			**X**
DTSP Synoptic Project and End Point Assessment			**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**			**X**

TEACHING AND LEARNING STRATEGIES

STRATEGIES

The apprenticeship is studied through blended work-based learning, over a 3-year period, and is delivered through the online interactive virtual learning environment (VLE).

The achievement of the Programme Learning Outcomes is supported primarily through an extensive range of e-learning interactions and materials. Delivery methods include:

- Lectures (synchronous face-to-face or via over the web technology, and pre-recorded)
- Seminars for small group discussion (including online discussion)
- Informal discussion groups (including online discussion)
- Assessments
- Links to related reading material
- Individual learning plans (ILP)
- Online presentations
- Participation in online forums
- Consolidation and revision sessions
- Independent study and research
- Final project

Regular in-depth formative feedback is provided to the learner, with advice and guidance to support their achievement in summative assessments. The programme aims to progressively enhance digital and technology knowledge and skills - as well as maths, English and communication skills - as they practice and apply their newly found knowledge and skills in the workplace. Regular tri-partite reviews between the learner (apprentice), their apprenticeship advisor (provider) and workplace line manager (employer) formally monitor and evaluate the learner's progress.

The blended-learning work-based programme ensures that learners have the opportunity to explore their subject in an incrementally structured, well-managed and appropriate manner. It develops the knowledge, core and subject-specific skills, and transferable skills, required by learners and enhances their confidence. The combination of academic study and work-based learning is a key feature of the apprenticeship. Practical and theoretical experiences in the workplace, in tandem with their academic studies, develop and enhance the learner's specialist knowledge, skills and behaviours.

Assessment tasks increase in complexity and level of demand from year (or Stage) 1, where introductory tasks assess the demonstration of knowledge, skills and abilities and establish the foundations of learning. Whereas, in the final year (Stage) of the programme, the synthesis of advanced knowledge, understanding, critical thinking and professional skills, are assessed to meet the expectations of a degree level apprenticeship.

Learners are supported to acquire and practice a wide range of transferable skills. These include problem solving, analysis, strategic thinking and interpersonal and communication skills. Learners will be effective team players within their work environments and fully participate in presentation work during their studies. Importantly, they are also encouraged to balance these cooperative interpersonal skills with responsibilities and self-development within the apprenticeship. These graduate qualities are supported throughout the apprenticeship from an initial rigorous non-credit two-week block of classroom teaching (bootcamp), that includes the core computing and business skills needed to become an

effective team member in the workplace, as well as an introduction to the demands and challenges of the apprenticeship, basic study skills and needs/expectations of employers.

Induction for all new learners includes a welcome to NCH at Northeastern by the Director of Apprenticeships; introduction to key personnel including the Student and Academic Services (SAS); Programme Leader; Course Leaders; and Apprenticeship Advisers to introduce learners to the programme they are about to embark upon. There are also sessions on library services, IT and facilities, and an induction from the Quality Team.

The programme is designed to progress steadily over the three years and develop learners' conceptual sophistication through cumulative experience and knowledge. The final project will allow learners to develop their thinking in collaboration with an academic supervisor.

NCH at Northeastern recognises and has embedded the expectations of current equality legislation, by ensuring that the programme is as accessible as possible by design.

Additional alternative arrangements for learners with Inclusive Learning Plans (IncLPs)/declared disabilities will be made on an individual basis, in consultation with the relevant policies and support services.

Applicants with a disability are encouraged to declare their disability during the application process under the Initial Needs Analysis. Once declared, SAS will work with the learner to agree a support plan for the duration required. This plan will form part of the Commitment Statement and will be reviewed at the tri-partite reviews every six/eight weeks to confirm that this support is effective.

SAS facilitates all academic and learner services, and oversees learner wellbeing; careers advice is provided for learners via NCH at Northeastern Careers Team.

ASSESSMENT

Course are assessed in a variety of ways including:

FORMATIVE:

- Tests or quizzes
- Essays or reports
- Short answers and problem sets
- Oral presentations/debates/discussions

SUMMATIVE:

- Computer-based examination
- Written assignment
- Report
- Dissertation
- Oral assessment
- Presentation
- Practical skills assessment
- Set exercise
- Project

Appendix D contains the programme structure and assessment summary.

ASSESSMENT REGULATIONS

The assessment regulations can be found on the NCH at Northeastern website.

END POINT ASSESSMENT

The end-point assessment is integrated into the Digital and Technology Solutions Professional (Integrated Degree) apprenticeship as detailed in the Institute for Apprenticeships & Technical Education Assessment Plan. In summary, the apprenticeship culminates in the final synoptic project and presentation. The final synoptic project is a substantial piece of work, typically taking around six months to undertake alongside the learner's normal duties to their employer. The end point assessment integrates the project outcomes and presentation into the overall synoptic project assessment. It is this end point assessment which will be judged against the standard, and test the skills, knowledge and behaviours together as applied through the project.

AWARDS

This programme is studied over 36 months as a blended, work-based, learning programme, whereby the learner will study with the provider for approximately 60 days a year (or Stage) – i.e. one day per week for 42 weeks each year, and up to three five-day 'bootcamps' in any given year for the duration of the three-year programme; this is termed 'off-the-job' training. Additionally, the learner and employer will commit to a further two days per week, for 42 weeks each year, for provider-guided work-based tasks and training. All three years (Stages) are worth 120 credits (= 1200 hours of learning time), comprised of multiple courses. This allows seven weeks for annual leave. The final 60 credits (= 600 hours of learning time) will comprise the workplace project and EPA, spanning 18 weeks. 'Off-the-job' training (20%) will comprise 126 hours, with a further 474 hours spent on the project/EPA during the 'on-the-job' time (80%).

Learners must successfully complete each course in order to be awarded the specified number of credits for that course. One credit corresponds to approximately ten hours of 'learning time' (including all online and face-to-face delivery, all private study and research, and relevant aspects of on-the-job learning). Thus obtaining 120 credits in a year (or Stage) requires 1,200 hours of overall learning time.

Each course, and indeed the overall programme, is designed to be at a specific level. The programme comprises courses at Level 4, 5 and 6 leading to successful completion of an undergraduate degree level award. Compulsory courses are core to the programme and must be successfully taken by all learners studying the programme. Learners must choose a specialism (or pathway) in the final year (Stage). Learners must attend face-to-face course/bootcamps.

Where a learner fails a course(s) due to illness or other mitigating circumstances, such failure may not be compensated or condoned.

To be eligible for the award of an Honours degree, learners must obtain 360 credits, where 120 of which must be at Level 5, and 120 credits at Level 6.

Learners successfully completing Stage 1 of the programme who do not successfully complete Stage 2 will be eligible for the award of the Certificate (CertHE) in Digital and

Technology Solutions. Learners successfully completing Stage 1 and Stage 2 of the programme who do not successfully complete Stage 3 will be eligible for the award of the Diploma (DipHE) in Digital and Technology Solutions.

The grading of the degree award is made up of the synoptic project assessment (as detailed in the Digital and Technology Solutions Professional [Integrated Degree] Assessment Plan) together with numerous course assessments. The Honours degree award and classification is based on a weighted average mark of the assessed work (summative assessments only) the learner has completed. Being 60 credits, the Synoptic Project and EPA contributes significantly to the final year (Stage) mark. The final year (Stage 3) contribution to the overall degree grading is 75%, and the contribution of Stage 2 courses is 25% of the overall degree grade and classification. The Synoptic Project and EPA must be passed to achieve the degree award. The pass mark for a course is 40%, and all component assessments must be passed.

CLASSIFICATIONS

Learners are graded using Honours degree classifications for English universities, and follows the QAA (Quality Assurance Agency for Higher Education) Code of Practice for the Assurance of Academic Quality and Standards in Higher Education. The national degree award outcomes are shown below with apprenticeship grading equivalence.

Degree award classification	Grading equivalence	Marks level (%)
First class honours (1st)	Distinction	70+
Second-class honours, upper division (2i)	Merit	60-69
Second-class honours, lower division (2ii)	Pass	50-59
Third-class honours (3rd)	Pass	40-49

EXEMPTIONS FROM THE NCH AND NORTHEASTERN'S ACADEMIC QUALITY FRAMEWORK

None.

SPECIAL PROVISIONS FOR PROFESSIONAL STATUTORY AND REGULATORY BODY

None.

QUALITY EVALUATION AND ENHANCEMENT

REVIEW AND EVALUATION MECHANISMS

NCH at Northeastern has robust procedures, as described in AQF4 Programme and Course Approval and Modifications and AQF5 Annual Monitoring and Reporting, in place to assure the quality of the programme's development, delivery, and management, alongside the systematic monitoring, ongoing review and enhancement of all programmes awarded by NCH at Northeastern. Enhancements are made as necessary to

ensure that systems remain effective and rigorous.

NCH at Northeastern utilises constructive feedback from a variety of sources, internal and external, to inform its decision-making process to enhance the programme and the learner experience. These feedback sources include:

- Annual programme reports, written by the Programme Director, are prepared in order to enhance individual programmes and to plan ahead.
- Annual Examiner reports are prepared by independent External Examiners to confirm that a programme has been assessed in accordance with the approved documentation and that the learner performance meets the appropriate academic standards.
- Education and Skills Funding Agency Employer and Apprentice surveys.
- Formal learner feedback mechanisms consist of course and programme learner satisfaction questionnaires and Apprentice Voice Committee.
- Informal learner feedback is also valued by NCH at Northeastern and this can take the form of learners talking to their Apprenticeship Advisor (which incorporates the personal tutor role), Lecturers, professional staff, or elected learner representative.

In addition to academic progress monitoring, progression also includes checking that the learner is achieving planned levels of off-the-job learning required by the apprenticeship as set out in the Commitment Statement. This six/eight-weekly discussion between the apprenticeship advisor, line manager and learner will also confirm whether the learner is keeping pace with their plan of learning at work, and is meeting the competency progression points as part of their apprenticeship.

Learner attendance at scheduled learning opportunities, as well as monitoring periods of off-the-job training, is monitored through the use of an online Learner Management System.

ABOUT THIS DOCUMENT

Title: BSc (Hons) Digital and Technology Solutions (Software Engineer)
BSc (Hons) Digital and Technology Solutions (IT Consultant)
BSc (Hons) Digital and Technology Solutions (Business Analyst)
BSc (Hons) Digital and Technology Solutions (Cyber Security Specialist)
BSc (Hons) Digital and Technology Solutions (Data Analyst)
Approved by: Academic Board
Location: Academic Handbook/Programme specifications and Handbooks/Undergraduate Apprenticeship Programmes/BSc (Hons) Digital & Technology Solutions Programme Specification

Version number	Date approved	Date published	Head of Faculty	Proposed next review date	Modification (As per AQF4) & category number
1.3	July 2022	September 2022	Scott Wildman	April 2025	Category 3: Addition of two specialisms
1.2	April 2022	April 2022	Scott Wildman	April 2025	Category 1: Corrections/clarifications to documents which do not change approved content.
1.1	January 2021	January 2021	Scott Wildman	April 2025	Category 1: Corrections/clarifications to documents which do not change approved content.
1.0	June 2020	June 2020	Scott Wildman	April 2025	

Referenced documents	Recognition of Prior Learning and Credit Transfer Policy; AQF4 Programme and Course Approval and Modifications; AQF5 Annual Monitoring and Reporting
External Reference Point(s)	Digital and Technology Solutions Professional (Integrated Degree) ST0119; Computing (October 2019); Education Skills and Funding Agency (ESFA) Funding Rules; Institute for Apprenticeships & Technical Education Assessment Plan; QAA (Quality Assurance Agency for Higher Education) Code of Practice for the Assurance of Academic Quality and Standards in Higher Education

DISCLAIMER

NCH at Northeastern has checked the information provided in this Programme Specification and will aim to deliver this programme in keeping with this Programme Specification.

However, changes to the programme may sometimes be required arising from annual monitoring, student feedback, and the review and update of courses and programmes. Where this activity leads to significant changes to courses and programmes there will be prior consultation with students and others, wherever possible, and NCH at Northeastern will take all reasonable steps to minimise disruption to students. It is also possible that NCH at Northeastern may not be able to offer a course or programme for reasons outside of its control, for example, due to the absence of a member of staff or low student registration numbers. Where this is the case, NCH at Northeastern will aim to inform applicants and students as soon as possible, and where appropriate, will facilitate the transfer of affected students to another suitable programme.

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APPENDIX A – MAP TO QAA SUBJECT BENCHMARK

Threshold Standards	Learning Outcome
Demonstrate a requisite understanding of the main body of knowledge for their course of study.	K1-4 S1-4
Understand and apply essential concepts, principles and practices of the subject in the context of well-defined scenarios, showing judgement in the selection and application of tools and techniques.	K1-4 S1-4
Produce work involving problem identification, the analysis, design and Development of a system with accompanying documentation, recognising the important relationships between these stages and showing problem-solving and evaluation skills drawing on supporting evidence.	K1-4 S1-4 B4
Produce small, well-constructed programmes to solve well-specified problems.	K1-4 S1-4
Demonstrate generic skills, an ability to work under guidance and as a team member.	B1-4
Identify appropriate practices within a professional, legal and ethical framework and understand the need for continuing professional development.	K1-4 S1-4 B3

* This is intended to mean that all learners (taken over all years) graduating with an honours degree in this discipline will have achieved this.

QAA benchmark statement can be found here.

APPENDIX B – MAP TO APPRENTICESHIP STANDARD

Course name:	BF	MSM	IFCSP1	DMS	DDM1	IFCSP2	OB	DFAIEE	ITPM	DDM2	DA	DV	VCI	ITSM	CS	NPT	CFF	CLM	AITSM	BCM	DTSPSP+EPA	SE	PAUP	DDBM	IDS	OODD	SDS	ASD	DNP	ESM
Core skills																														
1	X		X	X	X	X		X	X	X		X	X		X	X				X	X									X
2	X			X	X					X			X	X		X			X	X	X					X	X	X		X
3		X	X	X	X	X				X	X	X			X				X	X	X		X		X		X			
4					X					X			X		X	X			X		X						X		X	X
5	X						X					X								X	X									X
6	X			X			X		X					X	X					X	X							X		X
7									X	X			X		X	X					X								X	X

Course name:	BF	MSM	IFCSP1	DMS	DDM1	IFCSP2	OB	DFAIEE	ITPM	DDM2	DA	DV	VCI	ITSM	CS	NPT	CFF	CLM	AITSM	BCM	DTSPSP+EPA	SE	PAUP	DDBM	IDS	OODD	SDS	ASD	DNP	ESM
Core knowledge																														
1	X							X		X	X	X		X	X	X			X	X	X									X
2	X			X			X		X						X				X	X	X							X		
3			X	X	X	X				X			X	X	X	X					X					X	X	X	X	X
4	X		X			X	X										X	X		X	X	X								
5	X			X	X					X		X									X									
6													X		X	X					X						X		X	X

Course name:	BF	MSM	IFCSP1	DMS	DDM1	IFCSP2	OB	DFAIEE	ITPM	DDM2	DA	DV	VCI	ITSM	CS	NPT	CFF	CLM	AITSM	BCM	DTSPSP+EPA	SE	PAUP	DDBM	IDS	OODD	SDS	ASD	DNP	ESM
7	X										X	X							X	X	X									X
8	X			X			X	X	X							X	X		X	X	X	X								
9	X			X			X	X	X								X		X	X	X	X						X		X
10	X			X			X	X	X								X		X	X	X	X								

Course name:	BF	MSM	IFCSP1	DMS	DDM1	IFCSP2	OB	DFAIEE	ITPM	DDM2	DA	DV	VCI	ITSM	CS	NPT	CFF	CLM	AITSM	BCM	DTSPSP+EPA	SE	PAUP	DDBM	IDS	OODD	SDS	ASD	DNP	ESM
Core behaviours																														
1																	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3																	X	X	X	X	X	X	X	X	X			X		X
4									X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X		X
5									X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X		X
6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X
7									X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8																	X	X	X	X	X	X	X	X	X	X	X	X	X	X
9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10																					X					X	X	X	X	X
11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Course name:	BF	MSM	IFCSP1	DMS	DDM1	IFCSP2	OB	DFAIEE	ITPM	DDM2	DA	DV	VCI	ITSM	CS	NPT	CFF	CLM	AITSM	BCM	DTSPSP+EPA	SE	PAUP	DDBM	IDS	OODD	SDS	ASD	DNP	ESM
13	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Course name:	BF	MSM	IFCSP1	DMS	DDM1	IFCSP2	OB	DFAIEE	ITPM	DDM2	DA	DV	VCI	ITSM	CS	NPT	CFF	CLM	AITSM	BCM	DTSPSP+EPA	SE	PAUP	DDBM	IDS	OODD	SDS	ASD	DNP	ESM
Specialism: Software Engineer																														
Specialism skills																														
1																					X	X				X	X			
2																					X	X				X		X		
3																					X	X				X				
4																					X	X				X				
5																					X	X				X				
6																					X	X				X		X		
Specialism knowledge																														
1																					X	X						X		
2																					X	X						X		
3																					X	X				X	X	X		
4																					X	X				X	X			
5																					X	X				X				

Course name:	BF	MSM	IFCSP1	DMS	DDM1	IFCSP2	OB	DFAIEE	ITPM	DDM2	DA	DV	VCI	ITSM	CS	NPT	CFF	CLM	AITSM	BCM	DTSPSP+EPA	SE	PAUP	DDBM	IDS	OODD	SDS	ASD	DNP	ESM
6																					**X**	**X**				**X**	**X**	**X**		

Course name:	BF	MSM	IFCSP1	DMS	DDM1	IFCSP2	OB	DFAIEE	ITPM	DDM2	DA	DV	VCI	ITSM	CS	NPT	CFF	CLM	AITSM	BCM	DTSPSP+EPA	SE	PAUP	DDBM	IDS	OODD	SDS	ASD	DNP	ESM
Specialism: IT Consultant																														
Specialism skills																														
1																	**X**	**X**	**X**	**X**	**X**									
2																	**X**	**X**	**X**	**X**	**X**									
3																	**X**	**X**	**X**	**X**	**X**									
4																	**X**	**X**	**X**	**X**	**X**									
5																	**X**	**X**		**X**										
6																	**X**		**X**	**X**	**X**									
Specialism knowledge																														
1																	**X**	**X**		**X**										
2																	**X**	**X**	**X**	**X**	**X**									
3																	**X**	**X**		**X**	**X**									
4																	**X**													
5																**X**		**X**	**X**	**X**	**X**									
6																**X**	**X**	**X**	**X**	**X**										

Course name:	BF	MSM	IFCSP1	DMS	DDM1	IFCSP2	OB	DFAIEE	ITPM	DDM2	DA	DV	VCI	ITSM	CS	NPT	CFF	CLM	AITSM	BCM	DTSPSP+EPA	SE	PAUP	DDBM	IDS	OODD	SDS	ASD	DNP	ESM
Specialism: Business Analyst																														
Specialism skills																														
1																					X		X							
2																	X			X	X	X								
3																X	X				X	X								
4																	X			X	X	X								
5																X	X			X	X	X	X							
6																	X					X	X							
Specialism knowledge																														
1																	X			X	X	X								
2																	X				X	X								
3																X	X			X	X	X	X							
4																	X				X	X	X							
5																X					X		X							
6																	X				X	X								

Course name:	BF	MSM	IFCSP1	DMS	DDM1	IFCSP2	OB	DFAIEE	ITPM	DDM2	DA	DV	VCI	ITSM	CS	NPT	CFF	CLM	AITSM	BCM	DTSPSP+EPA	SE	PAUP	DDBM	IDS	OODD	SDS	ASD	DNP	ESM
Specialism: Cyber Security Specialist																														
Specialism skills																														
1																					X						X		X	X

Course name:	BF	MSM	IFCSP1	DMS	DDM1	IFCSP2	OB	DFAIEE	ITPM	DDM2	DA	DV	VCI	ITSM	CS	NPT	CFF	CLM	AITSM	BCM	DTSPSP+EPA	SE	PAUP	DDBM	IDS	OODD	SDS	ASD	DNP	ESM
2																					X	X								
3																					X						X		X	X
4																					X						X		X	X
5																					X						X		X	X
6																					X						X		X	X
Specialism knowledge																														
1																					X						X		X	X
2																					X						X		X	
3																					X	X					X		X	X
4																					X						X		X	
5																					X	X					X			X
6																					X						X		X	X

Course name:	BF	MSM	IFCSP1	DMS	DDM1	IFCSP2	OB	DFAIEE	ITPM	DDM2	DA	DV	VCI	ITSM	CS	NPT	CFF	CLM	AITSM	BCM	DTSPSP+EPA	SE	PAUP	DDBM	IDS	OODD	SDS	ASD	DNP	ESM
Specialism: Data Analyst																														
Specialism skills																														
1																														
2																														
3																														

Course name:	BF	MSM	IFCSP1	DMS	DDM1	IFCSP2	OB	DFAIEE	ITPM	DDM2	DA	DV	VCI	ITSM	CS	NPT	CFF	CLM	AITSM	BCM	DTSPSP+EPA	SE	PAUP	DDBM	IDS	OODD	SDS	ASD	DNP	ESM
4																														
5																														
6																														
Specialism knowledge																														
1																														
2																														
3																														
4																														
5																														
6																														

APPENDIX C – EXIT AWARDS

CERTIFICATE IN HIGHER EDUCATION

In order for a learner to be awarded a Certificate in Higher Education (Cert HE), they are required to have achieved **120 Level 4 Credits**, in accordance with the NCH and Northeastern's Academic Regulations for Taught Awards.

DIPLOMA IN HIGHER EDUCATION

In order for a learner to be awarded a Diploma in Higher Education (Dip HE), they are required to have achieved **120 Level 4 Credits and 120 Level 5 Credits**, in accordance with the NCH and Northeastern's Academic Regulations for Taught Awards.

APPENDIX D - PROGRAMME STRUCTURE AND SUMMATIVE ASSESSMENT SUMMARY

Code	Order	Course Title	Credit	Type	Mode	Assessment Weighting % & Activity Type (code overleaf)			
						AE1	Activity type	AE2	Activity type
FHEQ Level 4									
NCHNAP443	1	Business Fundamentals	15	C	DL/WB	50%	A	50%	A
NCHNAP444	2	Mathematical Structures and Methods	15	C	DL/WB	60%	Set	40%	CBEx
NCHNAP445	3	Intensive Foundations of Computer Science and Programming I	15	C	DL/WB	50%	Set	50%	Pract
NCHNAP446	4	Data Management Systems	15	C	DL/WB	70%	A	30%	CBEx
NCHNAP447	5	Database Design and Management I	15	C	DL/WB	60%	Set	40%	R
NCHNAP448	6	Intensive Foundations of Computer Science and Programming II	15	C	DL/WB	50%	Set	50%	R
NCHNAP449	7	Organisational Behaviour	15	C	DL/WB	60%	A	40%	A
NCHNAP450	8	Digital Fluency in the Artificial Intelligence-Enabled Enterprise	15	C	BK/BL	70%	A	30%	Oral
FHEQ Level 5									
NCHNAP555	9	Information Technology Project Management	15	C	DL/WB	70%	A	30%	CBEx
NCHNAP556	10	Database Design and Management II	15	C	DL/WB	60%	Pract	40%	Set
NCHNAP558	11	Data Analytics	15	C	DL/WB	60%	Pract	40%	A
NCHNAP561	12	Cybersecurity	15	C	DL/WB	50%	A	50%	R
NCHNAP560	13	Information Technology Service Management	15	C	DL/WB	70%	R	30%	CBEx
NCHNAP559	14	Visual Communication of Information	15	C	DL/WB	70%	Pract	30%	A
NCHNAP557	15	Data Visualisation	15	C	DL/WB	70%	Pract	30%	A
NCHNAP554	16	Networks and Platform Technologies	15	C	BK/BL	70%	A	30%	Oral
FHEQ Level 6									
NCHNAP6**	17	Object-Oriented Design and Development	15	C for Software Engineer	DL/WB	60%	Set	40%	A

Code	Order	Course Title	Credit	Type	Mode	Assessment Weighting % & Activity Type (code overleaf)			
						AE1	Activity type	AE2	Activity type
NCHNAP685	17	Consulting Fundamentals and Frameworks	15	C for IT consultant or Business Analyst	DL/WB	70%	A	30%	Set
NCHNAP6**	17	Data and Network Protection	15	C for Cyber Security Specialist	DL/WB	60%	Set	40%	A
NCHNAP690	17&18	Data Driven Decision Making	30	C for Data Analyst	DL/WB	70%	R	30%	A
NCHNAP688	18	Software Engineering	15	C for Business Analyst or Cyber Security Specialist or Software Engineer	DL/WB	60%	R	40%	A
NCHNAP686	18	Customer Lifecycle Management	15	C for IT consultant	DL/WB	50%	A	50%	R
NCHNAP6**	19	Software and Data Security	15	C for Cyber Security Specialist or Software Engineer	DL/WB	60%	Set	40%	A
NCHNAP689	19	Predictive Analytics Using Python	15	C for Business Analyst or Data Analyst	DL/WB	60%	A	40%	Set
NCHNAP687	19	Advanced Information Technology Service Management	15	C for IT consultant	DL/WB	70%	A	30%	CBEx
NCHNAP684	20	Business and Change Management	15	C for IT consultant or Business Analyst	DL/WB	70%	R	30%	A
NCHNAP6**	20	Agile Software Development	15	C for Software Engineer	DL/WB	60%	A	40%	Set
NCHNAP6**	20	Enterprise Security Management	15	C for Cyber Security Specialist	DL/WB	60%	Set	40%	A

Code	Order	Course Title	Credit	Type	Mode	Assessment Weighting % & Activity Type (code overleaf)			
						AE1	Activity type	AE2	Activity type
NCHNAP691	20	Implementing Data Science	15	C for Data Analyst	DL/WB	70%	A	30%	Oral
NCHNAP683	21	DTSP Synoptic Project and End Point Assessment	60	C	BL/DL/ EX/WB	70%	Diss	30%	Oral

COURSE TYPE: C = Core; O = Option

COURSE MODE: CD = Campus Delivery; BK = Block Delivery; BL = Blended Learning; DL = Distance Learning and Self-Directed Learning; EL = E-Learning; EX = Experiential; PL = Placement; WB = Work Based Learning

ASSESSMENT WEIGHTING: AE1 = Assessment Element 1; AE2 = Assessment Element 2; AE3 = Assessment Element 3;

AE4 = Assessment Element 4

ASSESSMENT ACTIVITY TYPE	CODE
Written exam	Exam
Computer-based exam	CBEx
Written assignment	A
Report	R
Dissertation	Diss
Portfolio	F
Project output (other than dissertation)	P
Oral assessment and presentation	Oral
Practical skills assessment	Pract
Set exercise	Set