BSc (Hons) in Digital & Technology Solutions (IT-C)

Insert Mandtory Award (e.g. BSc in ...)

Insert Course Description (content may be taken from external web page: https://www.shu.ac.uk/business/training-and-development/degree-apprenticeships/apprenticeship-subjects (check acuracy)
E.g. The course normally takes XX years (XX months) part-time to complete, This includes XX months on programme, up to the gateway for End Point Assessment (EPA) and X months for EPA. The EPA is integrated with the Degree so is delivered by the University [or] The EPA is deliverd after the full award of credit, by a third party independent organisation registered with the ESFA as an EPA Organisation.
Course Delivery is a blended mode of INSERT, INSERT INSERT. Apprentices attend the programme through a mix of PART TIME DAY RELEASE over XX semesters / BLOCK DELIVERY (tyically XX blocks per year, XX days in each block]. Teaching & learning will be face to face and online, with workplace learning supported with online anytime access resources. Applied work-based projects and 12 wekly Progress reviews equip and support you with the requisite knowledge, skills, and behaviours to meet the Apprenticeship Standard.

		Module Duration (Start)	Module Duration (End))	Employer-led activities *before* modules	Employer-led activities *during* modules	Employer-led activities *after* modules
Level 4	(A) System Analysis and Design	1	4	Expose your apprentice to your company's business processes, explaining information flows between departments and the role of business systems in daily operations. Shadowing (e.g., IT staff, business analysts) is beneficial in appreciating how IT systems and tools that are used in practice. Share with them business documents, flow charts, and system guides for them to appreciate company workflows. Encourage them to review system modelling techniques and provide real examples of UML diagrams used in your company such as activity diagrams, class diagrams and use case diagrams.	Examples of projects that your apprentice should be involved in would include business process analysis, requirement gathering through engaging with clients, and developing conceptual and logical and physical UML models. Working in teams, particularly being engaged in meetings, discussions, and decisions is particularly beneficial.	After the module, you should encourage them to engage in a process of reflection on aims, objectives and KSBs of the module: the extent to which these have been met, identifying gaps, leading to plans for further development. Continuing to work on projects that include business process analysis, business process improvement, business transformation, and IT process management is essential.
	(A) Programming Fundamentals	1	4	Before the module, your apprentice: Must be able to use a PC competently, understand the place of the operating system, and particularly be able to navigate a file system using both the GUI file explorer (such as Windows Explorer) and the command line. Self-study programming using resource such as w3schools. Shadow a software developer and explore what software developers do, what software development process is, and explore design diagrams that are used.	During the module your apprentice must be involved in projects that require: Application of theory, designing solutions, and comprehension of theory in code. Problem solving, particularly with coding as the intended solution. Writing code. Using software development toolkits that are used in your organisation.	After the module, your apprentice should be: Encouraged to reflect on their achievement of the module's KSBs. The apprentice should be encouraged to review their achievement of KSBs, identify areas for improvement, and plan for further development and applications of the KSBs in the workplace. Actively engaged in projects that require programming skills with strong elements of software design and development using your standard toolkits. Working with others: Pair program switching between being the driver and navigator.
	(A) Reflective and Personal Development Skills with Work Based Review	1	8	Before the module your apprentice: Must undertake the prereading and preparation suggested on Blackboard. Must complete the Skills Skan & Starting Point Exercise. Must self-study about learning styles and reflective learning.	During the module your apprentice should be encouraged to: Reflect on and design own approach to work-based learning, develop E-portfoluio and process for benefiting from your mentoring. Engage with the training plan, the knowledge, skills, and behaviours of the standard to comprehend the organisation of the course and the sequence of the modules. Demonstrate the use of British values in the workplace.	After the module your apprentice should be: Encouraged to reflect on their achievement of the module's KSBs. The apprentice should be encouraged to review their achievement of KSBs, identify areas for improvement, and plan for further development and applications of the KSBs in the workplace. Actively recognising and reflecting on own use of well-designed process for career development and recognising the relevance of the module to behaviour at work.
	(A) Introduction to Computer Networks and Security	1	4	Before the start of the module your apprentice must: Cover pre-reading for the module. Self-familiarise to computer network technology. Self-study Cyber Security Principles using free account on TryHackme to complete the following rooms: https://tryhackme.com/room/networkingconcepts https://tryhackme.com/room/whatisnetworking https://tryhackme.com/room/offensivesecurityintro https://tryhackme.com/room/defensivesecurityintro	To support your apprentice's learning and development during this module you should: Assign to them projects that require knowledge and application of Computer Networks and Cyber Security such as analysing Packet Capture (PCAP) files, malware analysis, dealing with security policies, secure design of applications (SDLC), vulnerability scanning and assessment, and RISK assessment. Have them work in collaboration and in teams, participation in sprints and in code reviews. Expose them to relevant toolkits and frameworks used in vulnerability scanning, network analysis, penetration testing, malware analysis helping them build secure systems and applications.	Following this module, you should encourage and provide opportunity for your apprentice to: Reflect on KSBs for this module, to evaluate their achievement, the gaps, and opportunities for further development. Get them involved in projects with strong elements of Computer Networks and Cyber Security using industry toolkits and frameworks.
Level 5	(A) Reflective Skills for Professional Performance and Work Based Project (Dig Tech Sols Prof)	1	8	Before the module you should encourage your apprentice to engage in self-study to: Explore the significance of project management in ensuring the efficient and timely delivery of products and services. Research the importance of goal setting in maintaining focus and direction, as well as the role of resilience in overcoming challenges and adapting to setbacks.	During the module your apprentice would benefit from: Reflecting on their knowledge and understanding of their performance in their role, not only in your workplace but also in their future career development. Practicing action planning for career progression. Exposure to projects that require applied research. Exposure to projects that require project management skills.	Following the module your apprentice should be: Encouraged to reflect on their achievement of the module's KSBs. The apprentice should be encouraged to review their achievement of KSBs, identify areas for improvement, and plan for further development and applications of the KSBs in the workplace. Engaged in projects in which deliverables have strict time limits and deadlines and expected to actively apply and practice their project management skills.
	(A) Business Analysis for Enterprise Systems	9	10	Before the module your apprentice should be encouraged to explore the significance of Enterprise Systems and their role in helping companies integrate and streamline core business processes, enhancing efficiency and enabling data-driven decision-making.	During the module your apprentice should have exposure to work, best as part of team, or at least shadowing others, that involves: Examination and transformation of business processes. Use of tool and techniques for analysis of business processes. Identifying and mitigating business and process risks. Business process transformation and exploring its benefits. What a business analyst does.	After this module, there should be: Reflection on KSBs for this module: Apprentice should be encouraged to review their achievement of KSBs, identify areas for improvement, and plan for further development. Involvement in projects with strong elements of analysis of business processes, and design for business transformation, for example using ERP solutions and Smart Technologies is required for further development.
	(A) Database Administration and Security	1	4	There is pre-reading on this module's Blackboard site that your apprentice must complete. The module relies on developing skills in SQL and that maybe time consuming. Practice beforehand will help your apprentice focus on coverage of modelling. A good, accessible resource is SQL in w3schools: Clauses used with select to retrieve data, that is: where, group by, join. We use Microsoft SQL Server on a virtual machine. If you can provide the student the opportunity to use SQL Server, it will improve their experience.	There are two main ways you can support your apprentice's learning: Expose them to projects (directly assigned or as observers) that use relational databases, preferably using SQL Server. Expose them to projects that use other forms of persistent data tools and storage (e.g., ERP systems, NoSQL databases, business intelligence...). Their role in these projects should include design and development.	Following this module, there should be: Reflection on KSBs for this module: Apprentice should be encouraged to review their achievement of KSBs, identify areas for improvement, and plan for further development. Further development of your apprentice could be through exposure to other systems you may be working with, for example no-SQL. Encourage them to reflect on the differences between systems and their comparative advantages for different use cases, comparing relational databases to alternatives, and SQL server to alternatives.
	(A) IT Infrastructure Solutions	5	6	Before the module: It is essential that your apprentice has awareness of emerging technologies related to the area of industry 4.0, such as cloud, IOT and mobile technologies. Your apprentice should have knowledge of aspects of IT Infrastructure and how it can be utilised as a strategic business function. Involve your apprentice in change projects related to addressing strategic business issues, ideally those which require implementation of IT solutions.	During the module, to support your apprentice's learning and development you should: Assign projects that require them to identify business requirements and then consider strategies for improvements which utilise emerging technologies. Reinforce their learning by exposing them to projects that assess the implementation of IT solutions that support business strategy.	Following this module there should be: Reflection on KSBs for this module: Apprentice should be encouraged to review their achievement of KSB's, identify areas for improvement, and plan further development. Involvement in projects which requires identifying technological solutions to specific business problems, utilising cloud computing and other industry 4.0 technologies.
Level 6	(A) STRATEGIC COMMUNICATIONS WITH DATA INFRASTRUCTURES	1	4	Before the module, your apprentice must: Undertake the pre-reading and preparation suggested on Blackboard. Engage in self-study to explore functions of communication within organisational settings including socio-cultural and technological factors.	During the module, your apprentice, ideally as member of teams or in shadowing a leader, must be exposed to projects that have strong elements of: Developing organisational strategy in context of communication, use of data, and technology. Role of technology in data in managing organisational communication. Use of technology and frameworks for managing information.	Following this module there must be: Reflection on KSBs for this module: Apprentice should be encouraged to review their achievement of KSBs, identify areas for improvement, and plan further development. Involvement in projects with strong elements of well-designed use of technology for supporting business processes and managing process of change for aligning IT and business strategies.
	(A) Reflective Practice for Apprentice Professional Development	1	4	Before the module you should encourage your apprentice to: Reflect on and recall their understanding of fundamental project management concepts introduced at previous level. Recall and further familiarise with key reflective concepts and frameworks introduced at previous level.	During the module your apprentice would benefit from: Engagement in a project that requires producing documentation, and in particular a Project Initiation Document (PID). Skill scan and reflecting on gaps in their portfolio. Engaging in projects that require knowledge, skills and behaviours for the standard and help develop the artefacts and evidence that will complete their portfolio.	Following the module your apprentice should be: Encouraged to reflect on their achievement of the module's KSBs. The apprentice should be encouraged to review their achievement of KSBs, identify areas for improvement, and plan for further development and applications of the KSBs in the workplace. Engaged in projects in which apprentice practices developing organisational strategies and models for organisational development. Engaged in projects in which apprentice supports others' personal development.

	(A) Work Based Report (EPA - DTSP)	6	10	Before the module, encourage your apprentice to: Engage in skill scan and an evaluation of gaps in standard's KSBs and identify areas for improvement. Engage in a thorough evaluation of the portfolio and body of evidence. Have in place the project plan and necessary ethical approvals in place for the final EPA project.	During the module, your apprentice would benefit from exposure to projects that have elements of: Research using various sources for information including online databases and learning centre resources. Data collection, cost-benefit analysis, and legal, ethical, and regulatory requirements. Using methodologies and applications of numeracy, literacy and digital skills. Scoping for identified aims, objectives, targets, and stakeholders..	Following the module your apprentice should be: Encouraged to reflect on their achievement of the standard's KSBs. The apprentice should be encouraged to review their achievement as a whole, reflect on own personal development, leading to action planning for further career development.
	End Point Assessment					