

# Digital and Technology Solutions Specialist (Integrated Degree)

Core Technical Skills	Identify, document, review and design complex IT enabled business processes that define a set of activities that will accomplish specific organisational goals and provides a systematic approach to improving those processes;
	Design and develop technology roadmaps, implementation strategies and transformation plans focused on digital technologies to achieve improved productivity, functionality and end user experience in an area of technology specialism;
	Deliver workplace transformations through planning and implementing technology based business change programmes including setting objectives, priorities and responsibilities with others in an area of technology specialism;
	Negotiate and agree digital and technology specialism delivery budgets with those with decision-making responsibility;
	Develop and deliver management level presentations which resonate with senior stakeholders, both business and technical;
	Professionally present digital and technology solution specialism plans and solutions in a well-structured business report;
	Demonstrate self-direction and originality in solving problems, and act autonomously in planning and implementing digital and technology solutions specialist tasks at a professional level;
	Be competent at negotiating and closing techniques in a range of interactions and engagements, both with senior internal and external stakeholders;
	Evaluate the significance of human factors to leadership in the effective implementation and management of technology enabled business processes;
	Develop own leadership style and professional values that contributes to building high performing teams;
	Apply broader technical knowledge combined with an understanding of the business context, and how it is changing, to deliver to the company's business strategy;
	Demonstrate effective technology leadership and change management skills for managing technology driven change and continuous improvement;
	Create and implement innovative technological strategies to support the development of new products, processes and services that align with the company's business strategy, and develop and communicate compelling business proposals to support these.

Core Technical Knowledge	The strategic importance of technology enabled business processes, and how they are designed and managed to determine a firm's ability to compete effectively;
	The principles of business transformation and how organisations integrate different management functions in the context of technological change;
	The role of leadership in contemporary technology based organisations;
	Own employer's business objectives and strategy, its position in the market and how own employer adds value to its clients through the services and/or products they provide;
	How to justify the value of technology investments and apply benefits management and realisation;
	How to monitor technology related market trends and research and collect competitive intelligence;
	The personal leadership qualities that are required to establish and maintain an organisations technical reputation.
	The role of leaders as change agents and identify contributors to successful implementation;
	Technology road-mapping concepts and methods and how to apply them;
	The role of learning and talent management in successful business operations
Core Behaviours	Inspire and motivate others to deliver excellent technical solutions and outcomes
	Establish high levels of performance in digital and technology solutions activities
	Be results and outcomes driven to achieve high key performance outcomes for digital and technology solutions objectives
	Promote a high level of cooperation between own work group and other groups to establish a technology change led culture
	Develop and support others in developing an appropriate balance of leadership and technical skills
	Create strong positive relationships with team members to produce high performing technical teams
	Specialism Occupations
Specialism Occupations	A Digital and Technological Solutions Professional will choose one of the following technical specialisms:
	Software engineering specialist
	Data analytics specialist
Software Engineering Specialist	A software engineering specialist architects, develops and delivers complex software solutions from agreed specifications using contemporary standards and tools, to achieve a well-engineered result. They lead the design and development of bespoke secure and scalable software solutions and services for distributed web, mobile and fixed PC and mainframe platforms throughout the development lifecycle. They work across different platforms and develop software using programming languages appropriate to the applications being developed.

Job roles: Software experience lead, software engineering specialist, solution developer, analyst programmer, senior software developer.
Skills for Software Engineering Specialist - be able to:
Architect, build and support leading edge concurrent software platforms that are performant to industry standards and deliver responsive solutions with good test coverage;
Drive the technology decision-making and development process for projects of varying scales, considering current technologies including DevOps and Cloud Computing, and evaluate different technology design and implementation options making reasoned proposals and recommendations;
Develop and deliver, distributed or semi-complex software solutions that are scalable and which deliver innovative user experiences and journeys that encompass cross-functional teams, platforms and technologies;
Update current software products, improving the efficiency and functionality, and build new features to product specifications;
Accomplish planned software development tasks that deliver the expected features, within specified time constraints, security and quality requirements;
Be accountable for the quality of deliverables from one or more software development teams (source code quality, automated testing, design quality, documentation etc.) and following company standard processes (code reviews, unit testing, source code management etc.).
Technical knowledge for Software Engineering Specialist - knows and understands:
The rationale for software platform and solution development, including the organisational context;
The various inputs, statements of requirements, security considerations and constraints that guide solution architecture and the development of logical and physical systems' designs;
The methodologies designed to help create approaches for organizing the software engineering process, the activities that need to be undertaken at different stages in the life-cycle and techniques for managing risks in delivering software solutions;
The approaches used to modularise the internal structure of an application and describe the structure and behaviour of applications used in a business, with a focus on how they interact with each other and with business users;
How to design, develop and deploy software solutions that are secure and effective in delivering the requirements of stakeholders and the factors that affect the design of a successful code;
The range of metrics which might be used to evaluate a delivered software product.

Data Analytics Specialist	A data analytics specialist investigates business data requirements, and applies data selection, data curation, data quality assurance and data investigation and engineering techniques. This will help the business to most effectively organise their data and they will provide advice and guidance to database designers and others in using the data structures and associated data components efficiently. They will undertake data processing to produce data sets for study and will perform investigations using techniques including machine learning to reveal new business opportunities. They also present data and investigation results along with compelling business opportunities reports to senior stakeholders.
	Job roles: Big data analyst, data and insight analyst, data science specialist, data management specialist, analytics lead.
	Skills for Data Analytics Specialist
	Be able to:
	Identify and select the business data that needs to be collected and transitioned from a range of data systems; acquire, manage and process complex data sets, including large-scale and real-time data;
	Undertake analytical investigations of data to understand the nature, utility and quality of data, and developing data quality rule sets and guidelines for database designers;
	Formulate analysis questions and hypotheses which are answerable given the data available and come to statistically sound conclusions;
	Conduct high-quality complex investigations, employing a range of analytical software, statistical modelling & machine learning techniques to make data driven decisions solve live commercial problems;
	Document and describe the data architecture and structures using appropriate data modelling tools, and select appropriate methods to present data and results that support human understanding of complex data sets;
	Scope and deliver data analysis projects, in response to business priorities, create compelling business opportunities reports on outcomes suitable for a variety of stakeholders including senior clients and management.
	Technical knowledge for Data Analytics Specialist
	Knows and understands:
	How key algorithms and models are applied in developing analytical solutions and how analytical solutions can deliver benefits to organisations;
	The information governance requirements that exist in the UK, and the relevant organisational and legislative data protection and data security standards that exist. The legal, social and ethical concerns involved in data management and analysis;
	The principles of data driven analysis and how to apply these. Including the approach, the selected data, the fitted models and evaluations used to solve data problems;
The properties of different data storage solutions, and the transmission, processing and analytics of data from an enterprise system perspective. Including the platform choices available for designing and implementing solutions for data storage, processing and analytics in different data scenarios;	

How relevant data hierarchies or taxonomies are identified and properly documented;
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The concepts, tools and techniques for data visualisation, including how this provides a qualitative understanding of the information on which decisions can be based.
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