

Digital and Technology Solutions Professional

Degree Apprenticeship



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mmu.ac.uk/apprenticeships

Award-winning Degree Apprenticeships

Manchester Metropolitan University is one of the most popular universities in the UK, currently educating over 39,000* students. The University takes its responsibility for creating work-ready graduates very seriously and maintains close industry and business links.

Our Degree Apprenticeships are practice-focused. They equip our apprentices with the skills to ensure they are ready to take on the industrial challenges of tomorrow and make their mark. We develop our programmes in partnership with employers, to meet the needs of industry and individuals.

As pioneers of degree apprenticeships, we have become industry leaders, allowing us to build unrivalled partnerships with some of the UK's largest employers and innovative small and medium-sized enterprises (SMEs).



*HESA data 2020/21, includes students on distance learning and accredited courses at partner institutions

2,400
apprentices
on 18 programmes

**Top university
in the UK**
for degree apprenticeships

RateMyApprenticeship
Awards 2019, 2020, 2021, 2022

92%

merit or distinction
at EPA in 2022

110+

apprentices
recognised
at regional and
national awards

Winner
**University
of the Year**
at the Multicultural
Apprenticeship Awards 2022

540+
Employer
partners

★ Rated ★
'Outstanding'

by Ofsted 2018 and 2022

**Training Provider
of the Year**
North West Apprenticeship
Awards 2023

About the programme

Developed in partnership with leading employers and academics, this programme is designed to equip apprentices with the necessary skills required for a career in the digital and technology sectors.

The programme's broad purpose is to develop apprentices to evaluate, initiate, create and support business solutions using digital technology. Apprentices learn a broad set of skills and knowledge across the main areas of the digital and technology landscape enabling them to understand the complexity of information systems, systems development, data, cyber security, business organisation, IT project management and computer and network infrastructures. They view all of this with a rigorous approach to commerciality and budget to deliver quality solutions before specialising in their chosen pathway.

Taught units are supported by work-based projects that, where possible, will focus on live business scenarios and real-world problem solving.

Apprentices could work in a variety of roles including:

- Business Analyst
- Cyber Security Analyst
- Data Analyst
- Database Specialist
- IT Consultant
- IT Project Manager
- Software Developer
- Software Engineer

A strong emphasis is placed on developing reflective practitioners – professionals who can plan and manage their own future progression.

The qualification

Upon successful completion of the programme, participants will achieve a BSc (Hons) Digital and Technology Solutions degree by Manchester Met University, as well as a Level 6 degree apprenticeship qualification.

The qualification will formally recognise the apprentice's specialist area of study:

- IT Consultant
- Software Engineer
- Software Engineer Mainframe
- Cyber Security Analyst
- Data Analyst

Pathway options

In addition to this broad set of skills and knowledge apprentices specialise in one of the following areas:

- IT Consultant - bridging the gap between users and technology, using their consulting skills to get to the root of a problem and advising clients, both externally and internally, on how to best utilise technology to meet their business objectives, overcome problems and increase productivity.
- Software Engineer - undertaking all requirements during the solution development life-cycle from gathering requirements to analysis, design, code, build, test, implementation and support.
- Software Engineer (Mainframe), focusing on the principles of computing that underpin the effective use of mainframe technologies.



- Cyber Security Analyst - implementing and maintaining security products and systems within an organisation's policies and service level agreements .
- Data Analyst - collecting, organising and studying data to provide new business insight to a range of stakeholders

Core skills, knowledge and behaviours

While on the programme, apprentices will develop the knowledge, skills and behaviours of the apprenticeship standard, including:

- How businesses exploit technology solutions for competitive advantage.
- Analyse business and technical requirements to select and specify appropriate technology solutions.
- Undertake a security risk assessment for a simple IT system to identify, analyse and evaluate security threats.
- The concepts and principles of leadership.
- Plan, design and manage computer networks with an overall focus on the services and capabilities that network infrastructure solutions enable in an organisational context.
- Design, build and test high-quality software solutions.
- Communicate effectively with a range of stakeholders both technical and non-technical at all levels of influence and responsibility.

- Apply engineering principles to all stages of the software development process, from requirements, analysis and design, development and data requirements.
- Apply skills of knowledge of systems development, cyber security, data, AI and infrastructure in the creation of digital solutions.
- The issues of quality, cost and time for projects, including contractual obligations and resource constraints.
- Analyse ethical and legal implications of digital and technology solutions and make recommendations as a result of this analysis.
- Initiate, design, code, test and debug a software component for a digital and technology solution.
- Critically analyse a business domain to identify opportunities for improvement.
- Mentor others in the development of digital and technology solutions.
- Follow a systematic methodology for initiating, planning, controlling and closing technology solutions projects using industry standard processes, methods, techniques and tools to execute and manage projects.



Success stories

The biggest impact for me has not just been professionally, it's also been on a personal level. I've learned so much about myself.

On a professional level I've had three promotions in four years. My main achievements during the degree apprenticeship are getting 100% on Enterprise Programming, 99% on my UX ID unit and also winning 'highly commended' in both the National and BAME Apprenticeship Awards. I would 100% recommend a degree apprenticeship to others. I think it's an absolutely fantastic programme, especially for women in tech, getting them on the digital ladder.

Sabreen Anwar
Digital and Technology Solutions Alumna
Lloyds Banking Group



Manchester Met stood out to us because of the quality and level of flexibility available. It felt very much that it would be a partnership between Manchester Met and AJ Bell. There was no necessity to have that background in technology, which meant that we were opening up these opportunities to people from all different backgrounds.

The female digital degree apprentices we have brought into the business have increased the number of women in the technology services department by 20 percent. And what that means is not only are we increasing diversity now at entry level, but it means we're going to have more diversity in leadership roles in the future.



The impact of having digital degree apprentices in our business has actually been bigger than we could have really hoped for.

Angela Davies
Head of Learning and Development
AJ Bell

Creating a supportive environment

In order to create an environment where apprentices will be able to achieve successful outcomes, both academically and within their organisations, the University has put in place a wide range of support.

Apprentices

Dedicated skills coach

A dedicated Skills Coach will conduct quarterly reviews with the apprentice and employer, and advise on University regulations and procedures, and provide pastoral support.

Functional skills

Provision of Functional Skills if required.

Personal learning plan

Where additional learning support requirements are identified, they will be met through a Personal Learning Plan.

University services

Full access to University services – including disability services, wellbeing, the library, IT services and sports facilities.

Online study environment

Study materials can be accessed 24/7 via our online study environment, Moodle. Moodle enables apprentices to access reading lists, download journal articles, contribute to online discussion groups, email tutors, listen to podcasts and submit assignments.

Cutting-edge facilities

From September 2023, all Digital and Technology Solutions apprentices will be taught from either our Business School or our new Science and Engineering Building.

Our Business School is triple accredited by EQUIS, AACSB and AMBA, placing us among the best business schools in the world. The awarding of these accreditations is testament to our high standards of excellence in teaching and research.

Our new £115 million Science and Engineering Building is a direct investment into STEM education and research, transforming the way we teach and how our students learn.

We have state-of-the-art modern networked laboratories, housing both PCs (running Linux and Windows) and Apple Mac computers. All machines provide industry-standard software, professional operating systems and have additional specialist, discipline-specific software and hardware. Some of these are tailored for particular specialisms, such as our Networking labs, Games Lab and Computer Animation Lab.

Apprentices also have access to specialist equipment, for example iOS or Android phones and tablets, and games consoles.

University library

The main University Library is located on the All Saints Campus and is open 24/7 during the academic year.

The Library provides access to a wide range of books, texts, journals, and business information and statistics. It also runs a number of workshops for mature students on study and research skills.

Many of the Library's resources are available online. For example, apprentices can search the library catalogue, renew and reserve books, and download journal articles and research information.

Employers, line managers and mentors

Apprenticeships Team support

The Manchester Met Apprenticeships Team is available to support employers throughout the apprenticeships process, including:

- Holding meetings with staff and managers to understand operational challenges and training needs.
- A dedicated account manager, providing a single point of contact with the University.
- Working in partnership to tailor content and delivery.
- Sending regular reports of apprentice progress.

Progress reviews

Line managers and mentors are supported through regular progress reviews to set, monitor and evaluate objectives and targets.

Delivery and structure



Our Digital and Technology Solutions Degree Apprenticeship programme is supporting employers throughout the UK to meet their IT skills requirements.

Created in collaboration with employers, the Tech Industry Gold accredited, and award-winning programme, integrates the best of an academic IT education with practical work-based learning. Designed specifically for the apprenticeship, the programme brings together academic expertise from the University's Business School and Department of Computing and Mathematics.

Delivery

Apprentices attend University for one day a week during the academic year, over a period of four years.

Apprentices are full-time members of staff, who will utilise their new knowledge and skills to make an impact for their employer. Apprentices will need to be supported by a supervisor in the workplace and there will be regular reviews of progress, conducted by Manchester Met staff.

Teaching is delivered face-to-face one day a week during the academic year.

Customised delivery options

We may be able to offer a customised programme to meet employer requirements, dependent on enrolling minimum numbers. Please contact us to discuss requirements.

Assessment

Assessments measure apprentice progress and reflect their learning on each unit. A varied assessment pattern gives apprentices the opportunity to utilise technologies and create outputs, providing added value to their organisational context.

Apprentices construct an evidential record of professional development demonstrating clear evidence of critical reflective practice, learning on the programme and action planning for future developments.

Off-the-job training:

Apprenticeship funding rules state that apprentices should spend at least 6 hours per week on developing relevant skills, knowledge and behaviours. This means that apprentices must undertake University tuition, online learning and assessments in combination with a range of other eligible activities undertaken in the workplace.

End-point assessment (EPA)

The comprehensive, project-based end-point assessment will focus on the apprentice's chosen specialism and comprises of a written report, presentation and Q&A. Completion of the project and presentation signify the completion of, not only the degree, but the overall programme.



Programme content

Core units

Apprentices will develop the fundamental skills and competencies for a career in IT. The core units comprise 60% of the programme and include:

- Database Fundamentals
- Digital Technology in Organisations and Society
- Introduction to Business Systems
- Introduction to Programming
- IT Project Management
- Computer Networks and Security
- Reflective Practice for Digital and Technology Solutions Professionals
- Synoptic Project

Pathway units and negotiated business projects allow apprentices to study a specialist route, listed below.

Specialisms

IT consultant

An IT consultant bridges the gap between users and technology: they reinvent the digital world of the future. They require a broad set of skills in business analysis, solutions development, network infrastructure, data, cyber security etc. They use their consulting skills to get to the root of a problem and advise clients, both externally and internally, on how to best utilise technology to meet their business objectives, overcome problems and increase productivity. They provide strategic guidance and training to clients, both externally and internally, about digital and technology solutions. They facilitate changing business processes, improved structure, and efficiency through enhancements to digital and technology solutions. They design, build and install innovative customer experiences using the latest technologies to win business for their organisation.

Specialist units covered are:

- Business Analytics
- Customer Life-cycle Management
- Emerging Technologies
- Information Technology Consultancy
- Operations Management
- Strategic Information Systems
- Technology Ethics and Regulations

Data analyst

The primary role of a data analyst is to collect, organise and study data to provide new business insight to a range of stakeholders. They are responsible for leading the provision of up-to-date, accurate and relevant data analysis for the organisation. They are typically involved with managing, cleansing, abstracting and aggregating data across the network infrastructure. They look for opportunities to build data driven insights into decision making. They have a current understanding of data structures, software development procedures and the range of analytical tools used to undertake a wide range of standard and custom analytical studies, providing data solutions to a range of business issues. They are comfortable supporting teams and colleagues with analytics and report the results of data analysis activities making recommendations to improve business performance.

Specialist units covered are:

- Advanced Relational Databases
- Data Science Ethics
- Data Visualisation and Dashboard Design
- Machine Learning
- Mathematics for Data Science
- Python for Data Science
- Unstructured Data

Cyber security analyst

A Cyber Security Analyst leads in the work to define, implement and maintain security products and systems within an organisation's policies and service level agreements. They will need to analyse and understand the points of vulnerability within IT and develop a proactive and agile approach to maintain high levels of systems and organisational security. They will monitor security performance using tools, statistical reporting and analysis, using the output of monitoring to problem solve, propose improvements and implement changes to meet service level requirements. A Cyber Security Analyst leads technical implementation of security infrastructures and technical designs, including producing cost and timescale estimates and identifying risks. After implementation they take ownership for obtaining the information required to diagnose and resolve more complex problems and escalations such as security incidents and business recovery. They engage with third parties to jointly resolve in-depth product issues where necessary and complete cyber risk assessments.

Specialist units are:

- Advanced Networks
- Applied Cryptography and Information Security
- Emerging Issues in Security, Privacy and Forensics
- Incidence Response
- Penetration Testing and Vulnerability Management
- Security Fundamentals
- Security Governance, Policy and Auditing



Software engineer

The primary role of the Software Engineer is to undertake all requirements during the solution development life-cycle from gathering requirements to analysis, design, code, build, test, implementation and support. They may also be required to supervise the work of junior software developers and others who may be working on elements of the solution and work with product managers and UX designers in implementing solutions. They will apply software engineering principles to all stages of the solution life-cycle, from gathering requirements, undertaking analysis and design, development of code and data requirements whilst also ensuring security features are addressed. As well as creating new code, they can support existing code by troubleshooting, reverse engineering and conducting root cause analysis. They typically work as part of a large collaborative team and will have responsibility for significant elements of software solutions.

Specialist units covered are:

- Advanced Programming
- Enterprise Programming
- Full Stack Web Development
- Introduction to Web Development
- Operating Systems
- Software Design and Architecture
- Software Testing and Quality Assurance

Software engineer (mainframe pathway)

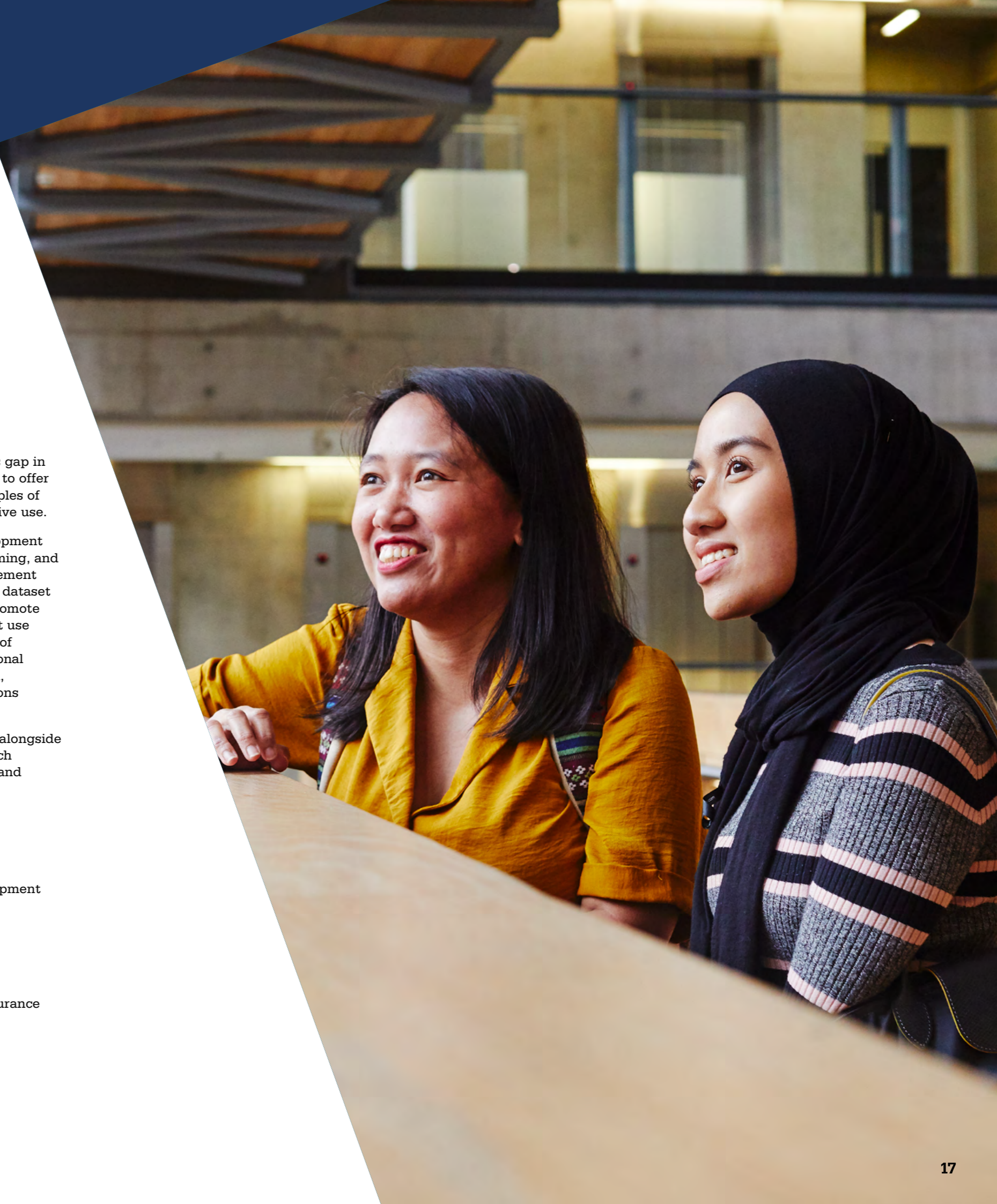
In recognition of a considerable skills gap in mainframe technologies, we are able to offer a pathway that focuses on the principles of computing that underpin their effective use.

The pathway includes COBOL development for batch and online (CICS) programming, and the opportunities to consider management of mainframe data (including various dataset types and databases) in ways that promote resilience, data integrity and efficient use of resources. The mainframe aspects of the programme consider both traditional and modern ways of interacting with, and supporting, mainframe applications and functions.

Mainframe specialist units are taken alongside a broader computing curriculum which covers both business considerations and technical skills.

Specialist units are:

- Enterprise Systems
- Full Stack Web Development
- Introduction to Mainframe Development
- Introduction to Web Development
- Mainframe Application Servers
- Managing Mainframe Data
- Operating Systems
- Software Testing and Quality Assurance



Application information

This programme is designed with professionals in mind, and this is reflected in our entry requirements. All applicants need to be employed with a supporting organisation in order to be eligible.

We welcome applicants who meet the following criteria:

Entry requirements

Candidates for the Digital and Technology Solutions Degree Apprenticeship should have a minimum of 104 points at A2 (grades BCC) or an equivalent, e.g. BTEC DMM.

We will individually evaluate candidates who do not meet these requirements, but have workplace experience.

Level 2 English and maths requirements

It is a condition of apprenticeship funding, at any level, that all applicants are able to evidence GCSE English Language and Maths passes at grade A*-C/9-4 or commit to completing Functional Skills Level 2, in addition to the programme. If required, this is provided at no additional cost.

How to apply

Once an employer has confirmed that they will support their apprentice(s) on the programme, we will issue an application pack to interested applicants which includes the necessary forms and guidance.

The application form enables us to build up a picture of the candidate, their experience and the knowledge and skill areas they are looking to develop.

Employer next steps

If you would like to discuss how this programme could work for your organisation, or if you have any further questions, please contact our dedicated Apprenticeships Team.

E: apprenticeships-employer@mmu.ac.uk

T: 0161 247 3720

From a young age I've been around technology. My mum and dad both work in IT and seeing technology all around me really sparked my interest in a career in technology. In today's society there are so many technological advancements, it's ever changing, which is reflected in my job role as no two days are the same.

I would definitely recommend a degree apprenticeship as it gives you four years of being able to study as a university student, as well as gaining four years of work experience, which sets you apart from other candidates who haven't done a degree apprenticeship.



During the five months I've been at Bentley Motors on my degree apprenticeship, I've already had two pay rises and I'm excited to see what the future holds.

Jerold Stevenson
Digital and Technology Solutions
Degree Apprentice
Bentley Motors

Get in touch

Our growing portfolio of undergraduate and postgraduate apprenticeships include programmes in the following areas:

- digital and technology
- digital marketing, creative design and UX
- health and social care
- leadership, management and HR
- retail

If you think one of our programmes could work for your organisation, please get in touch. We will be happy to provide further information and guide you through the next steps.

Contact us:

Apprenticeships team

E: apprenticeships-employer@mmu.ac.uk

T: 0161 247 3720

W: mmu.ac.uk/apprenticeships

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