

Delivering technical education to address skills needs

Russell Group universities deliver technical as well as academic education to address local skills needs and ensure graduates are well-equipped to contribute to a rapid economic recovery. Our universities provide a range of technical and professional degrees, producing the doctors, dentists, engineers and others needed to address the country's skills gaps.

They are also working closely with colleges and businesses to deliver high-quality apprenticeships and Level 4 and 5 qualifications across a range of disciplines including in vital areas such as science, technology and engineering. This means they can capitalise on opportunities to drive regional growth, level up access to high-quality technical education, and meet employer demand now and in the future.

Overview

Russell Group universities provide an outstanding education for their students, helping them to learn the skills they need to enter the workforce and succeed, whatever their background. 80% of the 2018/19 cohort of students graduating from Russell Group universities were in highly skilled employment 18 months after graduation compared to 67% of those graduating from other UK universities.ⁱ These skilled graduates will be critical for economic recovery and boosting the UK's productivity in the aftermath of the coronavirus pandemic.

Our universities offer a range of technical and professional courses that are helping to address the skills gaps identified in Government's *Skills for Jobs* white paper earlier this year.ⁱⁱ For example, our universities teach more than a third of engineers and four out of five doctors and dentists.ⁱⁱⁱ Indeed, at least 20% of Russell Group graduates move on to positions in professional scientific and technical industries, this compares to only 10% of other UK university graduates.^{iv}

As well as improving access to high-value degrees, our universities work closely with further education (FE) colleges, businesses and professional, statutory, and regulatory bodies (PSRBs) to ensure their courses are designed to prepare students for the world of work, whether they are studying towards a higher apprenticeship, higher technical qualification, bachelor's or master's degree:

- 14 Russell Group universities deliver higher and degree apprenticeships ^v
- Five Russell Group universities are leading or supporting the establishment of Institutes of Technology to deliver higher technical qualifications from 2022
- Over 3,500 courses across our institutions are recognised by 154 different accrediting bodies.^{vi} The University of Birmingham alone has over 200 accredited courses, including those accredited by the Engineering Council, the Institute of Physics and the Royal Society of Biology. This represents approximately 80% of the courses offered at the University.

Higher Apprenticeships

In total, 14 Russell Group universities deliver higher and degree apprenticeships, with many having taken a lead in pioneering new provision in this space. In 2019/20, 1,654 students started higher apprenticeships at Russell Group universities.

The vast majority of these, 88%, were at level 6 or 7 (bachelor's or master's level) and 36% were in STEM disciplines. Our universities are working in collaboration with local and national employers to respond to the skills gaps identified by business in a range of areas including manufacturing, science and engineering, digital technologies and health and social care.^{vii} Many new degree apprenticeships are particularly targeted to increase participation from under-represented groups including students from less advantaged backgrounds and women in STEM disciplines.

Since 2014, the **University of Sheffield** Advanced Manufacturing Centre (AMRC) training centre has trained more than 1,500 apprentices in partnership with 300 employers across the Sheffield City Region. Across its activities the AMRC is working with over 125 industrial members ranging from global companies like Boeing, Rolls-Royce, and BAE Systems to smaller companies and specialist suppliers. The High Value Manufacturing (HVM) catapult, of which the AMRC is part, was recently appointed by the Department for Education to lead on a pilot scheme using its technological and industrial know-how to understand the future skills need for UK manufacturing. This will be done in partnership with employer-led engineering skills body Enginuity.

The **University of Leeds** worked with PwC, one of the largest graduate employers in the UK, to create a new technology undergraduate degree apprenticeship in computer science. This collaboration was in response to research from PwC showing 67% of UK chief executives found it difficult to recruit people with digital skills.^{viii} Working together with PwC, the university is using the latest research to educate apprentices who benefit from having significant workplace training in addition to the academic content. In 2018, 40 apprentices were accepted onto the newly created programme and at the end of their programme they graduated with a degree in Computer Science and a job at PwC.

Institutes of Technology

Five Russell Group universities are leading or supporting the establishment of the UK's new Institutes of Technology (IoT), including: University of Birmingham, University of Exeter, Newcastle University, Queen Mary University London and University of Sheffield.^{ix} IoTs will be the main delivery arm for higher technical qualifications from 2022. Our universities have developed IoT courses in partnership with FE colleges and employers in their regions. This approach will help ensure that the qualifications on offer meet the needs of local businesses both now and in the future and that cultural values and industry developments are at the core of the curriculum on offer.

The **University of Birmingham** is partnering with employers and other local universities and FE colleges in a region-wide collaboration to deliver the Greater Birmingham & Solihull IoT. This IoT is transforming STEM education by addressing specific technical skills gaps. It targets under-represented learners, giving them a clear progression route from education into technical jobs and providing employers with a skilled workforce. This IoT is responding to growth in hybrid technology by introducing electric and hybrid vehicle training, in consultation with Zyte Continental, and supported by the West Midlands Combined Authority.

Newcastle University acts as the higher education anchor for the Northeast IoT. This IoT is working with key regional employers, including Nissan Motor Manufacturing (UK) and Esh Group and is also supported by local partner businesses including Siemens, Northern Power Grid and Calsonic Kansei. The IoT's focus is on advanced manufacturing and engineering, construction and digital through higher technical education (at Level 4 and 5). It offers students

industry-standard training facilities and training in mechatronics, robotics and electric hybrid vehicles, alongside the digital skills required in the agriculture sector.

Partnerships with business

At the heart of the Government's *Skills for Jobs* white paper is an emphasis on giving employers a central role in working with providers to deliver technical skills for local improvement. Russell Group universities have strong links with regional industries and are trailblazers in shaping technical skill provision so that it meets the local labour market needs through all their courses, not just apprenticeships. For example, our universities work closely with employers to co-design and deliver curricula as well as offering a range of work placements, internships and careers advice to help students develop employability skills and understanding of the workplace.

The **University of Nottingham** and GlaxoSmithKline have partnered to develop Nottingham's Carbon Neutral Laboratory, the first in the UK. The facility serves as a hub to catalyse new collaborations with industry and delivers an innovative education and training programme for young scientists of the future that will ensure that new scientists from Nottingham are "industry ready", with a thorough understanding of the sustainability and environmental impact of their work.

LSE collaborates with a wide range of public and private partners to embed employability skills into curricula. The "Capstone" project, for example, is a compulsory course undertaken by all second year LSE students studying towards a masters in Public Administration (MPA) with students working in groups on real-world public policy projects. The contribution of MPA students has been highly valued by a wide range of clients including Boston Consulting Group, ARUP and the Bank of England. Capstone projects give students the chance to improve group working skills, an area that potential employers are increasingly focusing on during recruitment.

Flexible and accessible learning

Often working in partnership with FE colleges and industry, our universities look for opportunities to deliver learning in an accessible and flexible way, for example through distance or part-time study, to help ensure people have access to training and learning throughout their professional lives.

The **University of Warwick** partners with Coventry College and North Warwickshire & South Leicestershire College to deliver 2+2 degrees in 'Social Studies' and 'Health and Social Policy'. The course enables students to build skills and confidence at a local college in their first two years before transferring to a more specialised course in year 3 at the University, if they wish. The course is aimed at mature learners and entry requirements focus on life experience and motivation to study rather than formal qualifications. The 2+2 degree programme currently has over 200 students enrolled and achieved a satisfaction rate of 84.2% in the 2020 National Student Survey. The university recently celebrated its 30th year of teaching the programme and has helped over 2,000 adult learners graduate with degree awards.

Approved and funded by Northern Ireland's Department for the Economy in Autumn 2020, **Queen's University Belfast** (QUB) designed and delivered eight new part-time postgraduate programmes to aid individuals impacted by furlough or job loss due to the pandemic. The funding enabled over 400 learners to study online, for free, over a 12-week period. The flexible distance-based delivery of these courses and their affordability allowed easy access to members of the local community to help them upskill, enhance their current job roles and develop future career opportunities. The success of the scheme has led to a further £1.5 million in funding being secured to run these programmes in 2021/22.

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- i 2018/19 Graduate Outcomes Survey data. Employment by Standard Occupation Classification (SOC). Includes undergraduates who studied full-time and were in paid employment 18 months after graduation.
- ii https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/957810/Skills_for_jobs_lifelong_learning_for_opportunity_and_growth_print_version.pdf
- iii 2019/20 HESA Student data.
- iv 2018/19 Graduate Outcomes Survey data. Employment by Standard Industrial Classification (SIC). Professional scientific and technical activities include: legal and accounting, scientific research and development, veterinary, and architectural and engineering.
- v Department for Education, [2019/20 apprenticeships and traineeships dataset](#)
- vi 2019/20 Unistats data
- vii Department for Education, [2019/20 apprenticeships and traineeships dataset](#)
- viii <https://www.pwc.com/gx/en/ceo-agenda/ceosurvey/2021.html>
- ix Four Russell Group universities are part of the confirmed [wave one](#) of IoTs. The University of Sheffield is part of a consortium that is in stage 2 of the [wave two applicants competition](#)