

Inspection of Dyson Institute of Engineering and Technology

Registered as Dyson Technical Training

Inspection dates: 23 to 25 April 2024

Overall effectiveness

Outstanding

The quality of education

Outstanding

Behaviour and attitudes

Outstanding

Personal development

Outstanding

Leadership and management

Outstanding

Apprenticeships

Outstanding

Overall effectiveness at previous inspection

Not previously inspected

Information about this provider

Dyson Institute of Engineering and Technology (the Institute) is located in the UK headquarters of Dyson Technology (Dyson) in Malmesbury, Wiltshire. The Institute offers the product design and development engineer (non-integrated degree) apprenticeship at level 6. Apprentices study the programme over four years and are Dyson employees.

Apprentices take part in lectures, laboratory work, tutorials and self-study for two days each week, and work on live projects in the workplace for the remaining three days.

The Institute was given new degree-awarding powers in October 2020. Its first cohort of apprentices joined in September 2021 and are due to graduate in 2025. At the time of the inspection, there were 121 apprentices studying across the first three years of the programme, of which around one-fifth were 18 years old and one-third were female.

The Institute has been offering the degree apprenticeship since 2017 in partnership with the University of Warwick, with the final cohort in their fourth year during this inspection. However, these apprentices were not in scope for this inspection.

The Institute does not work with any subcontractors.

What is it like to be a learner with this provider?

Apprentices are passionate about engineering; they are very proud to be part of the apprenticeship programme and to work for Dyson. Apprentices are highly articulate, polite and professional. They greatly enjoy their learning and development. They demonstrate consistently high levels of respect for each other and their colleagues.

Apprentices develop substantial new expert knowledge and skills because they study a highly ambitious curriculum that is taught expertly by tutors. Apprentices begin studying a broad base of engineering skills before developing expertise in challenging and specialised aspects of engineering. For example, they design and build electronic circuits for power engineering and analyse and design thermodynamic systems and heat sinks to facilitate the successful operation of prototypes.

Apprentices are very well prepared for their next steps. The exceptionally effective careers programme means that apprentices receive frequent expert advice and guidance from staff to encourage them to make well-informed career choices, and to understand what they need to do to reach their aspirational career goals.

Apprentices achieve very well, building their confidence and resilience as they learn. Throughout the apprenticeship, they take part in a wide range of activities that successfully support their personal development and help them to develop the professional behaviours and attitudes they need to be successful engineers. For example, apprentices attend a summer programme to bridge the gap between each academic year and provide an opportunity to develop project management, communication and teamwork skills. Most significantly, this programme supports a transition from safe, known work to ambiguous problem-solving. As a result, apprentices learn to be more comfortable with ambiguity, understand and learn from failure and build something tangible from their own ideas.

Apprentices and staff are well supported and feel safe.

What does the provider do well and what does it need to do better?

Leaders have a clear strategic purpose for the apprenticeship. The programme is seen by leaders as a strategic asset for Dyson that enables it to recruit and manage a highly talented workforce. The Institute contributes to the international demand for highly proficient, innovative and well-trained engineers, who apply their expert knowledge and skills to real-life challenges and solving problems. The apprenticeship has been accredited by The Institution of Engineering and Technology and is internationally recognised, affording global mobility to its graduates.

Apprentices undertake a robust assessment and selection process prior to joining the apprenticeship. Leaders assure themselves that the candidates are able to study at level 6 and are prepared well for the challenges of the programme. Apprentices with additional learning needs are identified quickly by staff using an effective

assessment process, and their educational needs are supported very well throughout the apprenticeship. Lecturers use a wide range of software to support apprentices with reading, writing and mathematics, such as speech-to-text software.

Leaders and lecturers have designed a highly effective curriculum that is exciting, ambitious, coherently planned and sequenced well. They have designed a training programme that enables apprentices to successfully develop the knowledge, skills and behaviours they need for the project-working environment. For example, in years one and two, apprentices learn engineering mathematics and technical computing, then move on to more advanced engineering concepts, control theories and engineering processes. Towards the end of year two, apprentices learn about control systems, which brings together all the learning undertaken in the first two years of the programme. In years three and four, apprentices choose a specialism from the four areas of engineering they have studied. The curriculum content of each specialism relates closely to the knowledge and skills required by the engineering job roles at Dyson. As a result, apprentices make exceptional progress in applying the significant new knowledge and skills they have acquired, which prepares them very well for their next steps and careers. They are valued members of the team.

Lecturers teach high-quality and well-structured learning sessions to apprentices. Academic staff have a high level of technical knowledge, understanding and expertise; they are qualified to doctoral level and are experienced teachers. Apprentices are supported well by their lecturers to learn complex concepts and detailed technical content. For example, apprentices learn how to determine the forces required to push material through the cold-forging process. Lecturers expertly guide apprentices with the use of equations, helping them to reflect on the results of the calculations to understand the implications. As a result, apprentices are active in the learning process and their understanding is developed significantly.

Leaders and lecturers ensure that apprentices' learning takes place in excellent facilities and world-class workshops. For example, apprentices work with high-specification selective laser sintering facilities to create rapid prototyping. They learn up-to-date industrial skills and techniques; they are confident and competent to work with equipment and facilities alongside their expert engineer colleagues. Lecturers record learning sessions and provide apprentices with a comprehensive package of resources for each session. This provides them with a rich resource to help recap and consolidate learning. Apprentices revisit the learning to develop further new knowledge, secure understanding and review as necessary. As a result, apprentices secure new learning and knowledge in their long-term memory.

Leaders and lecturers have comprehensive processes in place for the assessment and review of apprentices' learning over time. Lecturers provide apprentices with useful feedback on their work that identifies clearly what they have done well and what they need to do to improve. At work, apprentices take part in an effective review process. Every three months, apprentices reflect on their practical, information technology, communication and teamwork skills; their line manager

provides them with helpful feedback on their performance; and their assessor comments on the progress they are making in their learning.

Apprentices make rapid and sustained progress from their starting points. They develop the skills they need to be highly successful engineers and engineering leaders of the future. Apprentices are highly motivated and produce excellent work of a high standard. A significant number of apprentices are already working at a level beyond that of the programme they are studying.

Leaders and lecturers promote equality of opportunity effectively. Apprentices thrive at work and in their studies. They work with many different staff teams at the Institute and in Singapore, during the eight-week work placement in year three of their apprenticeship.

Apprentices take part in a variety of charitable and altruistic activities that prioritise the welfare of others. For example, apprentices give time voluntarily at the local Repair Café to support the local community by providing free repairs of home appliances. Apprentices organise and lead fundraising activities for charities such as the Alzheimer's Society. As part of the James Dyson Foundation, they visit primary and secondary schools to talk to children about engineering and the associated career opportunities.

Apprentices appreciate highly their opportunity to make a significant contribution to shaping and improving the quality of the apprenticeship, as a result of their membership of many committees. They feel valued and know that their feedback is taken seriously and acted upon quickly and with purpose by the senior team and council members.

Senior leaders are very well supported by a highly skilled, experienced and knowledgeable council. Council members have an excellent understanding of their role and recognise rightly the importance of ensuring that the line between the apprenticeship provision and the employer is correctly drawn to maintain the integrity of both parties. Council members are ambitious for the Institute and challenge leaders highly effectively to ensure that the training provided to apprentices is of the highest standard and helps to create world-class engineers.

Safeguarding

The arrangements for safeguarding are effective.

Provider details

Unique reference number	2691304
Address	11 Tetbury Hill Malmesbury Wiltshire SN16 0RP
Contact number	07935 352 206
Website	www.dysoninstitute.ac.uk
Director	Professor Beverley Gibbs
Provider type	Employer provider
Date of previous inspection	Not previously inspected
Main subcontractors	None

Information about this inspection

The inspection team was assisted by the secretary and registrar, as nominee. Inspectors took account of the provider's most recent self-assessment report and development plans, and the previous monitoring visit report. The inspection was carried out using the [further education and skills inspection handbook](#) and took into account all relevant provision at the provider. Inspectors collected a wide range of evidence to inform judgements, including visiting learning sessions, scrutinising learners' work, seeking the views of learners, staff and other stakeholders, and examining the provider's documentation and records.

Inspection team

Judy Lye-Forster, lead inspector	His Majesty's Inspector
Steve Battersby	His Majesty's Inspector
Justin Hinshelwood	Ofsted Inspector
Matt Hann	His Majesty's Inspector

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Piccadilly Gate
Store Street
Manchester
M1 2WD

T: 0300 123 1231
Textphone: 0161 618 8524
E: enquiries@ofsted.gov.uk
W: www.gov.uk/ofsted

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