

# Bristol Technology and Engineering Academy

New Road, Stoke Gifford, Bristol, BS34 8SF

**Inspection dates** 21–22 April 2015

<b>Overall effectiveness</b>	Previous inspection:	Not previously inspected
	This inspection:	<b>Good</b> <b>2</b>
Leadership and management	Good	2
Behaviour and safety of pupils	Good	2
Quality of teaching	Good	2
Achievement of pupils	Good	2
Sixth form provision	Good	2

## Summary of key findings for parents and pupils

### This is a good school.

- The principal and other senior staff provide strong leadership, so that the academy already has clear strengths less than two years after opening.
- Senior and middle leaders are supported and challenged extremely well by the academy's governing body.
- The academy is well on its way to meeting its vision of becoming a centre of excellence in teaching engineering and environmental technologies.
- Students currently in the sixth form are achieving well. Those who are following a re-sit course in GCSE English are making excellent progress.
- The most able and disadvantaged students currently in Years 10 and 11 are achieving well.
- The provision for students who are disabled or who have special educational needs is outstanding. These students are making outstanding progress.
- In sixth form lessons, and those for the most able students in Years 10 and 11, there is an exceptionally mature relationship between teachers and students that creates an excellent climate for learning.
- The quality of support for students' personal development and well-being is outstanding.
- Students' good behaviour around the site results in a very calm and orderly atmosphere.
- The links with other academies and further education colleges are used well to ensure good breadth in the curriculum while maintaining the focus on the academy's core aims.

### It is not yet an outstanding school because

- Not all teaching is at least consistently good, so some students do not achieve as well as they could.
- The attitudes of a small minority of students to their work are not good enough and limit the quality of their work.
- The academy is not yet making full use of its links with engineering employers and others to ensure that sufficient work-related learning permeates the curriculum.

## Information about this inspection

- Inspectors observed learning in a wide range of lessons in Years 10 and 11, and in the sixth form, including observations with senior leaders. In lessons, inspectors looked at students’ work and talked to students about it. They also looked at the latest information on the progress of students in the class and checked this against the quality of their work.
- Meetings were held with the principal, vice principal, other senior and middle leaders, and the academy Chair and Vice Chair of the Governing Body. Inspectors held formal meetings with two groups of students.
- Inspectors observed students’ conduct and behaviour in the academy during lesson changeovers and at break and lunch times. During these times, inspectors talked with a large number of students.
- Inspectors scrutinised a wide range of documentation, including information on students’ achievement, the academy’s self-evaluation and records relating to the monitoring of teaching, behaviour, attendance and safety. They also looked at the reports from the Department for Education adviser’s visits to the academy and the reports on the external reviews of English, mathematics and science.
- Consideration was given to 63 responses to the Ofsted online Parent View survey and 22 responses to the staff questionnaire.

## Inspection team

James Sage, Lead inspector

Her Majesty’s Inspector

Wilf Hudson

Her Majesty’s Inspector

Richard Johnson

Additional Inspector

## Full report

### Information about this school

- Bristol Technology and Engineering (BTE) Academy is a 14–19 University Technical College (UTC). It is much smaller than most secondary schools, but similar in size to other UTCs. The academy opened in September 2013 with students in Years 10 and 12 only. Subsequently, there are no validated achievement data for Year 11 and little for the sixth form.
- Students join the academy at the start of Year 10 from a very wide range of secondary schools in the west of England (currently more than 50), mainly from Bristol and South Gloucestershire. Some students also join at the start of Year 12 from other schools.
- The academy is sponsored by the University of the West of England and GKN Aerospace. It also receives significant support from Airbus, Rolls Royce and, more recently, the Royal Navy. It also has links with two local further education colleges, the City of Bristol College and South Gloucestershire and Stroud College. The academy has links with a very wide range of employers.
- The curriculum has a strong focus on engineering and environmental technologies. All students in Years 10 and 11 study engineering and environmental science. All students in the sixth form study mathematics.
- Most pupils are from White British backgrounds. The proportions of students from minority ethnic backgrounds and those who speak English as an additional language are well below the national average.
- The proportion of girls in the academy is very low, currently around 10% overall.
- Overall, around one in four students is from a disadvantaged background and so eligible for the pupil premium funding, below the national average. This is additional government funding to support pupils known to be eligible for free school meals and those in local authority care. The proportion of disabled students and those who have special educational needs is below the national average.
- As currently there are no examination results for Year 11, it is not possible to state if the academy met the government's floor standards at the end of Year 11. These standards set the minimum expectations for pupils' attainment and progress. The academy does not enter pupils early for GCSE examinations before the end of Year 11.
- In order to provide a balanced curriculum for students in Year 11, the academy contracts Abbeywood Community School, a neighbouring academy, to teach art, languages and geography. BTE Academy students are taught in separate classes in Abbeywood Community School. These subjects are now taught to Year 10 students in the academy. Physical education is taught in Abbeywood.
- The academy is part of the Concorde Partnership, a partnership of three secondary schools (Abbeywood, Bradley Stoke Community School and Patchway Community College) and South Gloucestershire and Stroud Further Education College. From September 2015, this partnership will be used to offer a wider range of subjects to students in Years 10 and 11 and to those in the sixth form.
- Many students attend work experience placements off site, but the academy does not use any timetabled off-site provision.

### What does the school need to do to improve further?

- Raise students' achievement further by making sure that all teachers for all classes:
  - use the information they have about individual students' progress to make sure that all are fully involved in lessons and achieve as well as they can
  - set and maintain high expectations for students' presentation of their work, provide good feedback to students on the quality of their written work and check that this leads to improvements
  - provide feedback that helps students to improve the quality of their work and deepen their understanding and check that students do what is expected to respond to this feedback.
- Use the academy's existing links with large engineering employers and others to establish contact with a wider range of smaller organisations to bring more work-related projects into the curriculum for students in Years 10 and 11 and in the sixth form.
- Ensure that science lessons develop students' deeper understanding of the key scientific principles needed to support their work in engineering and environmental technology.

## Inspection judgements

### The leadership and management are good

- Academy leaders have a clear vision that the academy will become a centre of excellence for teaching and learning in engineering and environmental technologies. Due to the very strong leadership of the principal, supported well by other senior leaders, sixth form leaders, key curriculum leaders and the governing body, it is well on its way to achieving this.
- The first year of opening was challenging for the academy. There were difficulties in recruiting enough students keen to focus on science, technology and engineering. The head of mathematics and most mathematics teachers had left by the end of the year. The first set of results in AS examinations were not as good as they should have been. The head of English left part way through this year. However, the academy leaders and governors undertook a detailed and incisive evaluation of what went well and what did not. The senior team was strengthened and a good head of mathematics recruited. The much improved achievement of current students is testament to the effectiveness of these changes. The evaluation is ongoing, and changes to improve the curriculum further are in place for the start of the next academic year.
- The academy leaders', and governors', self-evaluation is accurate. Senior and middle leaders know exactly what they need to do to continue the improvements in teaching and students' achievement. Those teachers who need to improve and are both willing and able are given well-focused and effective support. Those teachers either unwilling or unable to improve have left the academy.
- The excellent arrangements for checking students' progress and achievement have led to much improved achievement for current students. Extensive and rigorous checks are used to ensure that the data on students' progress are reliable and accurate. Teachers are provided with frequent reviews of the progress of students against challenging targets in Years 10 and 11 and in the sixth form. Most, but not all, teachers update this well with ongoing assessment of progress in the topics being taught at that time. The fortnightly meetings of senior and key middle leaders ensure that individual students are tracked very carefully so that appropriate support can be provided swiftly.
- Many of the students who join the academy at the start of Year 10 do so because they need a fresh start as they have not been successful in their previous schools. Consequently, not all have a strong desire to specialise in engineering, science and technology. However, leaders use a key group of teachers who are highly skilled in helping these students to become punctual, attend well and adopt the right attitudes to make the most of the opportunities the academy provides.
- The curriculum has a strong focus on mathematics, science, computer science and engineering. However, in Years 10 and 11 students can choose from a range of other options so that they have a broad and balanced curriculum. The range of options will be enhanced further next year.
- The sixth form curriculum continues the focus on these 'core' subjects, with a range of engineering options meeting all needs. The engineering options have recently been thoroughly evaluated and the changes planned for next year will strengthen the curriculum and match better the academy's core aims. Sixth form students can also choose an option to give them greater breadth, for example a language or an arts subject. Joining the Concorde Partnership means that the academy can offer a rich curriculum to all students, without losing the focus on the core aims.
- The academy provides all students with an excellent range of enrichment opportunities, such as science and engineering clubs, sports activities and a wide range of project-based activities; most make full use of these. The academy places good attention on developing students' wider employability skills through formal lessons and these enrichment activities.
- A key strand of the academy vision is a focus on environmental technologies. This works well in the sixth form. It has been less successful in Years 10 and 11 because existing environmental science qualifications do not have this focus on environmental technologies. The academy is undertaking a thorough review of this and is developing its own curriculum, working with its industrial and other partners.
- The academy has a good programme of citizenship and personal, social and health education that ensures that students' social, moral, spiritual and cultural development is good overall. Students are mostly prepared well for life in modern Britain. Developing students' understanding of other faiths is less strong.
- The academy promotes equality of opportunity well. The attention given to the personal development and well-being of all students is outstanding. This can be seen in the rapid improvements in the progress of some students who enter the academy with previously poor attendance, punctuality or attitudes.
- Good quality careers guidance is provided for students in Years 10 and 11. All students have identified post-16 destinations that seem entirely suited to their individual aspirations. Many will stay in the academy's sixth form. In 2014, the AS results were not as good as they should have been. However,

those students who progressed into Year 13 are now doing well. As a result of good guidance, those who left the academy at the end of Year 12 obtained good quality apprenticeships or transferred to a local further education college or another sixth form.

■ All statutory requirements for safeguarding are met.

■ **The governance of the school:**

- The governing body provides outstanding support and challenge to the academy’s senior leaders. The governors provide strong strategic leadership as well as supporting the running of the academy where appropriate.
- Governors have been involved since the creation of the academy and have an excellent understanding of its core aims. They have a detailed and accurate understanding of the progress that has been made since the opening and the areas that still require further improvement. They have undertaken their own evaluation of success and failures in the first year and work well with senior leaders to build on strengths and eliminate weaknesses.
- Governors fully understand the data and information about current students’ achievement and the quality of teaching, and undertake sufficient independent analysis to ask challenging questions of the academy’s senior leaders. They understand the importance of checking individual students’ progress, as well as analysing the achievement of particular groups.
- Governors fully understand how the quality of teaching is evaluated through students’ achievement, and how good performance is rewarded and weak performance is tackled.
- Governors provide good links with sponsoring employers and organisations and challenge them to support the academy as well as they can. They also use their wider links to encourage a wider range of employers and other organisations to become involved to help the academy achieve its vision. They are fully involved in the evaluation and development of the curriculum to best meet the academy’s core purpose.
- Governors provide secure financial management, including ensuring the most effective spending of additional funding through the pupil premium. The impact of this on the good achievement of disadvantaged students is clear.
- Governors ensure that all statutory requirements, including for safeguarding students, are met.

**The behaviour and safety of pupils** are good

**Behaviour**

- The behaviour of students is good.
- Students behave well around the academy site. They are mature, polite, respectful, easy to talk to and take pride in their appearance.
- There is an extremely calm and orderly atmosphere in the academy at break and lunch times and during lesson changeovers. Students move promptly to lessons and arrive well equipped and mostly ready to learn.
- In sixth form lessons and those for the most able classes, there are extremely mature relationships between students and teachers. These lessons often feel more like high-level seminars than typical school lessons. High-quality discussions probe and develop students’ understanding well. Students work effectively in groups, challenging and supporting each other well.
- In a small but significant minority of lessons, while students behave well, their attitudes to their work are less positive and result in poor presentation and incomplete work. Students do not always respond to the teacher’s feedback to improve their work. The pace of learning in these lessons is too slow.
- Sixth form students make good use of their independent study time so that they are prepared well for their lessons.
- Attendance is good, and improving. Many students travel long distances to get to the academy, but they arrive on time, except when transport problems create difficulties.

**Safety**

- The school’s work to keep students safe and secure is good, including when students are in the neighbouring academy or on off-site visits or work placements. Detailed and thorough risk assessments are undertaken and used whenever necessary.
- Staff are trained well in child protection and safeguarding arrangements.
- Students know how to keep themselves safe and adopt safe working practices in laboratories, workshops and other specialist facilities. They understand risks to their safety and well-being, including through the use of different technologies, and act appropriately. They comply with all safety requirements when off

site on visits or work placements.

- Bullying is extremely rare and dealt with effectively when it does occur.
- Students and parents raise no concerns about safety.

### The quality of teaching

is good

- Academy leaders have an accurate view of the quality of teaching across the year groups and subjects. This is now based securely on evaluations of students' progress over a period of time through rigorous tracking data, extensive checks on the quality of students' work and targeted visits to lessons by senior and curriculum leaders.
- Much teaching across the academy and in a range of subjects, including mathematics, is good or better. Mathematics lessons encourage students to develop and explain their mathematical reasoning well.
- Teaching in the sixth form is consistently good or better.
- The teaching of top ability sets in Years 10 and 11 mathematics and science is outstanding. The teaching of other groups in science is not at this high level and does not develop the depth of understanding of key scientific ideas needed to support students' work in engineering and environmental science. The use of practical work in science is not developed well.
- Teaching in English is consistently good and has improved under the direction of an assistant principal.
- All teachers have up-to-date information on the current progress of the students in their classes. This clearly indicates those students that are on track to do as well as they can, those that are doing exceptionally well and those at risk of falling behind. Many teachers use this well to plan and teach lessons that ensure all students make progress. A few staff do not, and cannot immediately, link the information to individual students in the class. This means that a few students are not sufficiently supported and/or challenged to make good progress in the lesson.
- There is a good academy-wide system for marking students' work and providing students with targets for improvement and a greater level of challenge. This is largely used well, although occasionally the targets set for students are too imprecise for them to know exactly what they are expected to do. Students in the sixth form and in higher-ability groups in Years 10 and 11 respond well to the marking and use the teachers' feedback to improve their work and deepen their understanding. This is not the case for all other students in Years 10 and 11.
- Work-related learning, using externally set industrial contexts and 'briefs', is not as well developed across the curriculum as it should be, given the nature of the academy.
- The amount of practical work undertaken in engineering is inhibited by the particular qualifications currently pursued. This will change next year to enable teachers to use more innovative approaches to teaching engineering.
- Many lessons, in Years 10 and 11 and in the sixth form, develop students' oral communication skills well. Students are encouraged to develop their thinking and ideas through discussion and debate. Many lessons also develop students' reading and writing skills, although there is still work to do for many students in Years 10 and 11 to improve the quality of their written presentation. Too many teachers are not providing high-quality feedback to students to improve their written work.

### The achievement of pupils

is good

- The academy opened in September 2013. There are no examination results for Year 11 or Year 13. There are AS-level results for the small group of students who started in Year 12 when the academy opened.
- The academy's own achievement data are reliable and accurate. They match the quality of students' work in all year groups. Students enter the academy at the start of Year 10 with achievement that is broadly in line with national averages. The school identifies the progress made by each student who joins the academy from the end of Year 6 to the end of Year 9. Detailed baseline assessments are undertaken when students join the academy. The progress they make through Years 10 and 11 is then carefully tracked against challenging targets. In many cases, this shows an improved rate of progress from early in Year 10.
- The academy's data show that the proportions on track to make nationally expected progress by the end of Year 11 in English and mathematics is above the national figures (based on 2014 national data). Similarly, the proportions on track to make even better progress than this are also higher than the national figures.
- The most able students are well on track to make outstanding progress by the end of Year 11.

- Because there are no external examination results, it is not possible to compare the attainment of disadvantaged students with others in the school or with those nationally. However, the progress of these students in English and mathematics is in line with their peers in the school. Their progress is better than that of non-disadvantaged students nationally.
- The progress made by students who are disabled and those with special educational needs is outstanding as a result of the high quality provision that meets their needs exceptionally well.
- The 2014 Year 12 AS results were not as good as expected, particularly in mathematics and physics. More than one third of students left the academy at the end of Year 12 as a consequence.
- The very large majority of those students who continued into Year 13 are on track to do well and meet the targets set for them in the subjects they are following. Very good attention has been given to supporting each individual student to help them achieve as well as they can.
- Those students currently in Year 12 are doing better because the quality of teaching and preparation for examinations has improved. They are making at least good progress against very challenging targets.
- Because of the nature of the academy, no students join the sixth form without at least a grade C in GCSE mathematics. Some need to re-sit GCSE English. These students are making excellent progress.
- Students throughout the academy have excellent oral communication skills. Good attention is given to developing their reading comprehension and writing skills to allow them to do as well as they can in examinations. There is significant variation in the quality of students' written presentation in Years 10 and 11. This is much better in the sixth form, including the work in students' engineering folders.

### The sixth form provision

### is good

- The excellent sixth form curriculum focuses well on the academy's core principles, with an emphasis on the sciences, computer science and engineering. All students have to work to a level 3 mathematics qualification and a level 3 qualification in environmental sustainability. The links with the Concorde Partnership enable the academy to offer options in a very wide range of other subjects to give good breadth. This also means that they can attract a wider range of students to the academy.
- The curriculum in engineering has been changed for next year. The current arrangements do not allow enough practical work and constrain the more innovative work the academy wants to do. It is rightly seeking to bring more industrial contexts and 'live briefs' into the curriculum to prepare students better for higher education engineering courses and advanced engineering apprenticeships. Few students undertake external work experience matched to their individual programmes.
- The curriculum ensures that all students work to a higher level of achievement than they have already attained. It meets their needs well and they develop skills that prepare them well for their next steps in education and training. This is shown by the high quality of planned progression beyond the sixth form for current Year 13 students. Many plan to study engineering at university or have applied for high-quality advanced engineering apprenticeships.
- Despite some problems in the first year following the academy's opening, students are now on track to achieve well in the sixth form as a result of high-quality provision and consistently good or better teaching. Their maturity enables teachers to run lessons that are highly engaging, with excellent interactions between students and the teacher. Teachers have high levels of subject knowledge and expertise that they use well to plan and deliver lessons that challenge and develop students' skills and understanding; they have high levels of credibility with the students.
- The academy sets its entry requirements for sixth form students at an appropriate level, so that students are not 'set up to fail'. However, it is flexible and has good procedures to evaluate each individual's potential. Those students who were disadvantaged (eligible for support from pupil premium funding when they were 16) enter the sixth form and achieve as well as their peers.
- Sixth form students attend the academy throughout the day and have an excellent resource centre for independent study when they are not in timetabled lessons. They use this extremely well so that they are prepared well for lessons. They demonstrate very positive attitudes to their studies.

## What inspection judgements mean

School	Grade	Judgement	Description
	Grade 1	Outstanding	An outstanding school is highly effective in delivering outcomes that provide exceptionally well for all its pupils' needs. This ensures that pupils are very well equipped for the next stage of their education, training or employment.
	Grade 2	Good	A good school is effective in delivering outcomes that provide well for all its pupils' needs. Pupils are well prepared for the next stage of their education, training or employment.
	Grade 3	Requires improvement	A school that requires improvement is not yet a good school, but it is not inadequate. This school will receive a full inspection within 24 months from the date of this inspection.
	Grade 4	Inadequate	<p>A school that has serious weaknesses is inadequate overall and requires significant improvement but leadership and management are judged to be Grade 3 or better. This school will receive regular monitoring by Ofsted inspectors.</p> <p>A school that requires special measures is one where the school is failing to give its pupils an acceptable standard of education and the school's leaders, managers or governors have not demonstrated that they have the capacity to secure the necessary improvement in the school. This school will receive regular monitoring by Ofsted inspectors.</p>



## School details

<b>Unique reference number</b>	139669
<b>Local authority</b>	South Gloucestershire
<b>Inspection number</b>	450223

This inspection of the school was carried out under section 5 of the Education Act 2005.

<b>Type of school</b>	Secondary
<b>School category</b>	University technical college
<b>Age range of pupils</b>	14–19
<b>Gender of pupils</b>	Mixed
<b>Gender of pupils in the sixth form</b>	Mixed
<b>Number of pupils on the school roll</b>	333
<b>Of which, number on roll in sixth form</b>	105
<b>Appropriate authority</b>	The governing body
<b>Chair</b>	Judith Stradling
<b>Principal</b>	Rhian Priest
<b>Telephone number</b>	01179 838080
<b>Email address</b>	admin@bteacademy.co.uk

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