

Aston University Engineering Academy

1 Lister Street, Birmingham, West Midlands B7 4AG

Inspection dates

13–14 February 2018

Overall effectiveness	Requires improvement
Effectiveness of leadership and management	Requires improvement
Quality of teaching, learning and assessment	Requires improvement
Personal development, behaviour and welfare	Good
Outcomes for pupils	Requires improvement
16 to 19 study programmes	Good
Overall effectiveness at previous inspection	Good

Summary of key findings for parents and pupils

This is a school that requires improvement

- Over a number of years, pupils' progress has suffered as a result of turbulence in staffing. Recently, leaders have ensured that a full, specialist teaching team is in place.
- Leaders are improving the quality of teaching over time. However, teaching is not yet good and improvements have not had enough time to ensure that pupils' progress is good overall.
- Teachers do not consistently meet the learning needs of pupils who have special educational needs (SEN) and/or disabilities.
- While it is improving, pupils' progress from when they join the school, across a range of subjects, including mathematics, English, science and languages requires improvement.
- Leaders have not made sure that the curriculum for post-16 students fully meets their needs. Students who study for a single A level alongside their BTEC engineering qualification make weak progress in these academic courses.

The school has the following strengths

- Students' progress in their BTEC engineering courses in the sixth form is exceptional and improving year on year.
- The vast majority of students leaving the sixth form go on to science, technology, engineering and mathematics (STEM) related destinations.
- Many pupils leaving Year 11 go on to STEM-related destinations as a result of their strong outcomes in this area.
- Leaders' work to develop pupils' personal development and welfare is effective. Pupils' behaviour is good.

Full report

What does the school need to do to improve further?

- Secure long-term staffing stability in all subjects so that pupils benefit from a settled, specialist teaching team.
- Improve teachers' skills so that:
 - pupils' progress from their starting points improves, especially in mathematics, English, science and languages
 - teachers better meet the needs of pupils who have SEN and/or disabilities.
- Review the curriculum for post-16 students so that their progress in the A-level part of the course matches the exceptional progress made in the vocational element of their study programme.

Inspection judgements

Effectiveness of leadership and management

Requires improvement

- Since the school's opening, there has been turbulence in staffing. Leaders have struggled to recruit and retain teachers in some subject areas. This is exacerbated by the fact that the school's engineering focus means that it needs deep specialisms in engineering, science and mathematics, subjects where there are national shortages. As a result of this, pupils' progress in some subjects has suffered over time.
- Recently, leaders have managed to fully staff most subject areas. They have supported new teachers with more experienced mentors and are beginning to improve teacher supply by training their own teachers. Consequently, pupils' progress has improved. However, this improvement is quite recent. Some pupils still have some catching up to do following the previous turbulence. Teaching is not consistently strong enough to make up for historical staffing issues and the turbulence in many pupils' previous education.
- The curriculum, while focused on engineering, also enables pupils to develop a range of skills. It also aids their social development. Leaders have developed a host of valuable extra-curricular experiences alongside the academic and vocational curriculums. This, along with a strong assemblies programme, means that pupils are well prepared for life in modern Britain.
- Leaders acknowledge that the curriculum at key stage 5 does not enable pupils to make strong progress in their academic courses. They are considering ways in which they might change this so that progress in the academic curriculum matches the strong progress in the vocational.
- Disadvantaged pupils' progress is developing well over time because leaders use this funding strategically, and reevaluate its effectiveness regularly. The extra funding for pupils who have SEN and/or disabilities is increasingly well targeted, though the school is not yet consistently effective in meeting these pupils' needs.
- Leaders have introduced a detailed system of evaluating teachers' effectiveness. This system analyses teachers' practice in a range of activities and shows clearly which elements need to improve. As a result, leaders can focus training sharply. However, for some teachers, this system is too new and based on too few observations to be useful.
- Parents and carers are very supportive of the school's work and can see early signs of improvement. A typical comment representative of the views of many other parents was: 'This school is amazing. They really care about all students and children the confidence they need to help them achieve their goals.'

Governance of the school

- Governors know the school well. They work effectively because:
 - some have been specifically chosen for their expertise in education and their ability to effectively challenge school leaders on pupils' outcomes

- others are industry experts who make sure that the school meets its remit as a university technical college
- they have required the school to provide evidence about pupils' progress in a streamlined and useful format
- they make sure that the extra funding for disadvantaged pupils is used effectively.

Safeguarding

- The arrangements for safeguarding are effective.
- Leaders use an electronic system which helps them to keep a close eye on all safeguarding incidents, spot patterns and respond swiftly when pupils need it.
- The training staff receive is effective because leaders make sure that key messages are repeated and staff have special training on safeguarding issues pertinent to the local context.
- Leaders have identified some weaknesses in the clarity of safeguarding induction arrangements. They have responded by strengthening this area of their work with a full checklist of what a member of staff needs to be trained in to begin work.
- Inspectors identified some problems with the keeping of recruitment records and the storage of emergency medical supplies during the inspection. These issues had been previously identified some time ago in a local authority audit but leaders had not fully acted to remedy them. Leaders remedied these problems during the inspection.

Quality of teaching, learning and assessment

Requires improvement

- The quality of teaching, learning and assessment requires improvement and does not consistently lead to strong outcomes for pupils in GCSE subjects or academic subjects at A level. There has been much turbulence in staffing since the last inspection and this has hampered leaders' ability to create and maintain a strong teaching team.
- Teachers do not consistently teach lessons which have the impact they need to help pupils catch up. For example, they do not use questioning or in-lesson assessment to quickly see what pupils know and can do, then follow this with adapted teaching and further support. This is the case across a range of subjects including English and mathematics.
- As a result of particular issues in science staffing, pupils' progress in this subject has been on a declining trend. It is currently improving. Leaders in science have embarked on a leadership course to strengthen their practice. New members of staff are well supported in their teaching practice, paired with buddy teachers and are developing well.
- While the SEN coordinator has a clear plan for pupils, teachers do not follow it consistently. As a result, pupils who have SEN and/or disabilities do not have their needs consistently met.
- There is evidence that teaching is improving with some teachers benefiting from leaders' work to improve their skills and impact. Teachers know which area of their teaching needs to improve and are well supported to do so. Leaders have partnered

newer teachers with more effective, experienced staff. While this approach has not yet led to good outcomes for pupils, it is starting to improve teaching over time.

- In many vocational lessons, teachers successfully embed literacy activities. This supports students to develop the communication skills they will need for the workplace. Teachers help students to develop their confidence in using technical language during both spoken responses and in producing clear evaluative written sentences in their written work. Where there are naturally occurring opportunities, students are encouraged to develop their mathematical skills.
- Students work confidently with others on collaborative projects, demonstrating good teamworking skills and attitudes that prepare them well for the world of work. For example, students work on a wide range of technically challenging engineering projects including building a microlight aircraft, designing the suspension and chassis for a sports car, and redesigning the engineering integrity and aerodynamics of a sleigh used by the Royal Air Force bobsleigh team.

Personal development, behaviour and welfare

Good

Personal development and welfare

- The school's work to promote pupils' personal development and welfare is good.
- Leaders and teachers actively prepare pupils for life in society, including developing their understanding of the qualities and skills needed to successfully make the transition into the workplace.
- The programme of weekly assemblies for all year groups covers a wide range of relevant topics and raises pupils' awareness of the fundamental British values that underpin British justice, democracy and human rights. Additionally pupils learn about healthy relationships, conflict resolution and the importance of exercise and healthy eating.
- Pupils' knowledge about differences in others' religious beliefs, cultures and sexual preferences is developed appropriately through a range of themed events. Pupils' relationships to each other and their peers are harmonious; they listen to each other's views with respect. Leaders and teachers are quick to address any inappropriate language.
- Leaders and teachers provide valued guidance to pupils on how to stay safe, including how to protect themselves from the risks associated with radicalisation, extremism, sexual exploitation and the use of the internet, particularly social media. Pupils are clear about what to do should they come across any online contact from people who they do not know.
- Pupils value the extra opportunities and activities provided for them. For example, some Year 10 pupils have gained a certificate in rail trackside working. As part of the tri-forces partnership pupils from across year groups participate in a range of events and experiences with the navy, army and air force. They develop skills such as leadership, problem-solving and teamwork.

- Over 100 pupils have joined the combined cadet force that operates within the school. Through this, they learn the importance of discipline and self-respect. They are enthusiastic about the opportunities provided through the clubs and societies in school such as the Duke of Edinburgh's Award.

Behaviour

- The behaviour of pupils is good.
- Attendance is improving and is around the national average. Persistent absence is falling.
- Fixed-term exclusions have fallen considerably since the last inspection and are currently around the national average.
- Around the school, pupils' conduct is good. They are polite, friendly and behave well. During break and lunchtime, they socialise in a calm way and they interact very well with each other and staff. Pupils move around school from lesson to lesson quickly, calmly and purposefully. They care well for the school environment which is litter free.
- Pupils arrive at lessons with suitable equipment to aid their learning. They are keen to make a positive contribution and are generally attentive in class and respond well to what they are asked to do. Disruption in lessons is rare and pupils largely concentrate and work hard throughout their lessons. They get on well together.
- Most pupils are keen to learn and clearly take a pride in the quality and presentation of work in their books. However, in a few instances pupils' work is untidy and disorganised.
- A small number of pupils are educated in alternative provision. These pupils are carefully tracked by school leaders to make sure that the alternative provision meets their needs.

Outcomes for pupils

Requires improvement

- Pupils join the school in Year 10. Many join the school having had a period of instability and poor attendance in their previous schools. Therefore, the published information does not fully reflect the progress pupils make from the point they join the school.
- There is a lack of consistency in outcomes for pupils. In some parts of the curriculum they are strong and improving, but in too many areas they are weak and improving slowly.
- Year 11 pupils' progress in English, mathematics, science and design technology in 2017 was weak. Pupils failed to make the accelerated progress they needed to meet their target grades. Across a range of other subjects pupils' progress was also weak. Disadvantaged pupils' progress was similar to that of other pupils in the school, an improvement over time.
- Leaders acknowledge that learning a language is an important part of the curriculum for pupils who aspire to work in STEM industries. However, pupils are not necessarily able to study the language they learned earlier in secondary school and have to begin a new language at GCSE. Consequently, progress in languages has been very poor.

- Leaders have introduced new, alternative level 2 courses in languages. While these do not contribute to the published school performance information, leaders have, rightly, put pupils' needs first and maintained a more appropriate languages provision for the vast majority of pupils. Pupils are making much better progress on these courses because they better meet their needs.
- Current pupils' progress in the academic curriculum is stronger than in the past. More pupils are on track to meet their potential. However, leaders acknowledge that there is a lot of intervention work to do for these pupils to meet their target grades by the summer examinations.
- Pupils' progress in the vocational curriculum is strong and improving. Over the last three years, the proportion of pupils gaining distinction grades in these courses has risen and is currently around a quarter.
- Around one third of pupils who left Year 11 in 2017 went into the sixth form. Many others went into STEM courses at other providers. The proportion of pupils who were not in education, employment and training is in line with the national average.
- In 2017, pupils who have low prior attainment made progress in line with other pupils nationally with similar starting points. Given the disruption to these pupils' education before they entered the school, this represents an excellent achievement.

16 to 19 study programmes

Good

- The sixth-form curriculum focuses strongly on the needs of students with career ambitions in engineering. The large majority of students follow vocational courses in engineering leading to assessment at levels equivalent to A level. A small minority of students follow a wholly academic curriculum at advanced level. Both pathways meet students' needs appropriately.
- The latest published information shows that students in the sixth form who follow the engineering vocational pathway achieve particularly well. Outcomes have been consistently strong over time. Similarly, students who study an A-level-only curriculum make progress similar to other students nationally with similar starting points.
- Since the previous inspection in July 2014, school leaders have further developed the sixth-form offer to ensure that it aligns well and meets the strategic skills priorities of the Birmingham and Solihull Local Enterprise Partnership. For example, leaders have collaborated with strategic partners such as High Speed Two (HS2) Ltd and a range of international automotive manufacturing companies. They have extended the curriculum to include additional learning opportunities such as virtual design, 3-D printing, railway maintenance and aeronautical engineering.
- Teachers create a positive learning environment where students are attentive and cooperative. They plan lessons well so it is clear what students are going to learn and how they are to build upon their current knowledge and understanding. Most students are interested in their studies, are keen to do well and to demonstrate their knowledge. Students value the high-quality resources and e-learning facilities available to them.
- In the great majority of lessons teachers deliver well-planned activities ensuring that students of all levels of ability make good progress. Good questioning typically deepens

students' knowledge.

- Students in the sixth form are positive about the wide range of work experience and enrichment opportunities that are available to them. All students are able to take part in relevant work experience or work-related learning that develops their employability skills well.
- Students benefit from strong links with local universities, employers as well as independent careers advisors. The most recent school information indicates that virtually all students leaving the school in 2017 went on to a range of positive education, employment or training destinations. The majority successfully progressed on to higher education securing places on STEM-related courses.
- Retention is now in line with the national average.
- Vocational students who also undertake a single subject at A-level as an additional element of their engineering course do not achieve well as their progress in the A-level element of their studies is weak. The very full study programme does not allow them the time to focus appropriately on their single A level.

School details

Unique reference number	138222
Local authority	Birmingham
Inspection number	10042911

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

Type of school	Technical
School category	University technical college
Age range of pupils	14 to 19
Gender of pupils	Mixed
Gender of pupils in 16 to 19 study programmes	Mixed
Number of pupils on the school roll	611
Of which, number on roll in 16 to 19 study programmes	343
Appropriate authority	The governing body
Chair	Neil Scott
Headteacher	Daniel Locke-Wheaton
Telephone number	0121 380 0570
Website	www.auea.co.uk
Email address	enquiries@auea.co.uk
Date of previous inspection	4–5 June 2014

Information about this school

- Aston University Engineering Academy takes pupils from Year 10. It specialises in engineering and associated work-related learning.
- At key stage 4, pupils undertake a vocational curriculum alongside an academic GCSE curriculum. At key stage 5, most pupils undertake a BTEC extended diploma and a single A level. A small number of students do an A-level-only option.
- A small number of pupils are educated in alternative provision at St George's School and the Cull Academy.
- The school does not meet the government's current floor standard, the minimum standard for pupils' progress at the end of key stage 4.

Information about this inspection

- Inspectors held meetings with the headteacher, other senior leaders, middle leaders and newly qualified teachers. They also met with the chair of governors and spoke with other governors on the phone.
- The views of pupils were evaluated through formal and informal meetings with pupils. Inspectors could not analyse results of the pupil survey because leaders did not give pupils the link to the online questionnaire.
- Parents' views were evaluated through the 39 responses to Parent View, Ofsted's online questionnaire, and the 34 free-text responses.
- Inspectors visited lessons to evaluate the quality of teaching, learning and assessment. They scrutinised pupils' work, spoke to pupils about their learning and analysed teachers' planning.
- Various aspects of the school's activities were evaluated through the scrutiny of documentation, including assessment information, safeguarding and recruitment information, risk assessments and records of staff training.

Inspection team

Dan Owen, lead inspector	Her Majesty's Inspector
Victor Reid	Her Majesty's Inspector
Michael Onyon	Ofsted Inspector

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