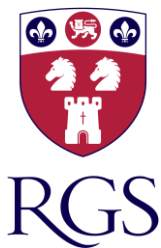


# **ENGINEERING, DESIGN AND TECHNOLOGY TECHNICIAN JOB INFORMATION**



RGS



# ENGINEERING, DESIGN AND TECHNOLOGY TECHNICIAN

## Newcastle upon Tyne Royal Grammar School

With effect from January 2021

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### THE POSITION

We seek to appoint an Engineering, Design and Technology Support Technician to provide technical support to all users of the EDT Department in this busy and vibrant school. The EDT department teaches all year groups in the Senior School and has excellent facilities. Activities include traditional woodworking and metalworking, mixed media product design, CAD/CAM, electro-mechanical and pneumatic systems, electronics and programmable digital technologies

The position is term time plus ten staff days, 40 hours per week with a salary of £23,082pa (FTE) Pro rata to £18,821 for term time + 10days. The position would suit a person with experience in a design and technology or engineering environment; experience of working in a school is not essential, but candidates must display a clear commitment to working with young people in an educational environment.

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### PERSON SPECIFICATION

The following person specification indicates those areas of skills and personal characteristics, qualifications, training and experience that we are looking for.

### QUALIFICATIONS AND TRAINING

- The school has an open mind on the balance between experience and qualifications of candidates.
- Courses of study relevant to the post.

### EXPERIENCE

- Experience working in an engineering, or design and technology environment in industry or education.
- Previous experience in a school or college is not essential, but an understanding of young people and a commitment to supporting their education is essential.

### SKILLS

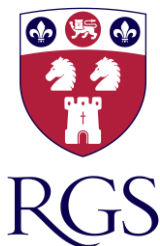
- Ability to think originally and creatively and show initiative.
- High levels of IT competency, with strengths in the use of 2D and 3D CAD software.
- Strong people management skills.
- Highly competent in the use of machine, power and hand tools.
- Ability to produce one-off metal, wood, plastic and rapid prototyped components for specific student projects at GCSE and A Level.
- A good working knowledge of, and commitment to implementing good health and safety practice and procedures, ideally including preparation of risk assessments.

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**Job description:** Engineering, Design and Technology Technician

**Deadline:** 9am Monday 2<sup>nd</sup> November, 2020

**Contact:** Head of Engineering, Design and Technology, Peter Warne  
([p.warne@rgs.newcastle.sch.uk](mailto:p.warne@rgs.newcastle.sch.uk))



- Ability to deliver 1:1 instruction to students on specialist machinery such as centre lathes, CNC routers and 3D Printers.
- Ability to deliver 1:1 instruction on hot metal working processes such as MIG welding, brazing, plasma arc cutting.
- Able to handle (with appropriate risk assessment and with assistance as necessary) large and/or heavy pieces of equipment and materials.
- Able to work to deadlines and prioritise work accordingly.
- A good level of organisational and administrative skills.

### PERSONAL CHARACTERISTICS

- A personal interest in the subject area.
- Eager and willing to help a dedicated team of teachers to inspire young minds.
- Taking a pride in the quality of workmanship, and instilling it in others.
- Self-motivated and able to work both with minimal supervision and as a member of a team.
- A natural problem-solver who is motivated by implementing processes and solutions.
- An understanding of the wider issues of working with young people (safeguarding, etc) is important.
- Understanding of, and commitment to equality of opportunity for all.
- Understanding of, and commitment to the ethos of the school as a community.
- Tact, discretion and diplomacy.
- A genuine liking of people and the ability to show warmth, good-humour, empathy and sensitivity.

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### THE SCHOOL

Tradition has it that the Royal Grammar School (RGS) was founded in 1545. The RGS continues to flourish today as the premier independent school in the North East of England and as one of the country's leading schools. We regularly lead all northern schools in national league tables and pride ourselves on academic excellence, a high level of pastoral support and involvement in a wide range of sports and other extra-curricular activities.

The RGS has grown substantially in recent years. There are now some 1,330 students, 269 of whom are in the Junior School. The Sixth Form of 350 students is one of the largest in the independent sector. In September 2001 we welcomed our first group of girls into the Sixth Form and girls have been represented in all year groups since 2008; overall, they now comprise 44% of the school.

The school is based in Jesmond, Newcastle and facilities in addition to classrooms and science laboratories include; a 25m swimming pool, two Sports Halls, a Performing Arts Centre, outdoor football/rugby pitches at Mooracres, an artificial turf pitch for hockey and the former County Cricket Ground in Osborne Avenue, which is just a short distance from the school.

In September 2019 phase three of our ambitious plans to upgrade our facilities was completed when our new state-of-the-art library building opened. The building also includes Art studios, Maths classrooms, a pastoral suite and an assembly space.

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## THE ENGINEERING, DESIGN AND TECHNOLOGY DEPARTMENT

The Engineering, Design and Technology (EDT) department has an ethos of real engineering and design (melding design, engineering, physics, maths and programmable electronics) where we encourage our students to push boundaries and develop high level design skills that will allow them to create innovative working outcomes, be that physical or a mix of physical and digital.



We enjoy a location that is close to Art and Design, Computer Science, Maths and Physics. The physical proximity of these subjects reflects our firm belief that all contribute to developing students' design and engineering skills.

Our Technician needs to be sparky and enthusiastic, innovators themselves with real passion and with the desire to inspire children.

In Sixth Form we offer students the OCR Design and Technology: Design and Engineering and Product Design courses which involve an element of co-teaching. At Key Stage 4, students are following the (9-1) OCR single title GCSE in Design and Technology specification with flexibility across teaching sets for them to bias towards Design Engineering or Product Design. We currently have four teaching sets in both Year 10 and 11.

Year 7 and 8 students have one lesson of EDT per week and teaching groups comprise 16 or 17 students. EDT is optional for Year 9, our GCSE foundation year, and we currently have six teaching groups with a total of 74 students. The Key Stage 3 program of study includes design engineering modules in electronics, programmable devices, and mechatronics, as well as a range of product design modules such as our Desk Tidy, Candleholder and Lighting projects. Stand-alone skills modules develop students free-hand sketching and 3D CAD skills in Years 7 and 9 respectively. We operate a three-way carousel in years 7 to 9.

The RGS is one of the leading schools nationally in terms of Arkwright Engineering Scholarship success: across the past three years there have been 15 full scholars and one Arkwright Associate in the Sixth Form.

The department also plays a pivotal role for the school in the Engineering Education Scheme, F1inSchools, 4x4 in Schools, and the Subsea UK competitions. We have plans to compete in the Vex Robotics challenge too.

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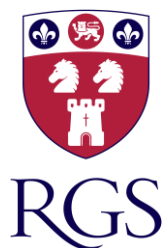


The department aims to operate to BS4163:2014 health and safety standards which is under constant review. All members of the department have current Design and Technology Association (DATA) Health and Safety training certification.

In addition, the department is working towards the 'DATA Mark' of excellence for Design and Technology teaching.

Getting out of the classroom to experience design and engineering in practice is vital to our curriculum. Visits to shops such as John Lewis and Ikea, and factories such as Nissan and SMD, feature in a normal school year.





Friendly and collaborative, the department seeks to benefit from the enthusiasms and insights of each other whilst also resisting an over-prescriptive approach. We are committed to sharing good teaching practice. The successful candidate will have a love of the subject, will be able to bring his/her creative initiatives and will want to function as a member of the departmental team.

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## ACCOMMODATION AND RESOURCES

The department operates across four locations in the Science and Technology Centre (STC) and all spaces are equipped with Prowise interactive display boards. There are two inter-connected workshops, one ICT suite, and one design engineering studio equipped with a class set of CAD specification laptop computers. The workshops are very well-equipped and the department is able to undertake work in all structural materials such as timber, metal and plastics. There is a central resource area and a subject office located between the two workshops. The design engineering studio is where the majority of electronics, programming and mechatronics lessons take place.

The Technician has their own base, which is located within the machine bay area. The department enjoys superb display facilities in both the clean rooms and in the corridor area outside all four areas.

A healthy level of funding allows continued access to a range of good quality equipment to support practical work. The department can field an impressive array of tools, apparatus, equipment and machinery. For example, we have a large CNC flat-bed router capable of accommodating a full 8' x 4' sheet of material and two high-power laser cutters able to process up to A0 size materials, such as acrylic, MDF and flexiply.

The department has both MIG and TIG welders plus a manually-operated plasma arc cutter. It also operates six 3D printers, and a 3D Scanner. We share a dual extrusion 3D printer with the Art department.

The design engineering studio is equipped with over 100 Arduino programmable device teaching kits. In addition, Meccano, Fischer Technik, Lego Technic/EV3 and Vex systems are used for teaching.

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## 2020 EXAM RESULTS

Public examination results are consistently strong.

GCSE	9	8	7	6	<6
	40%	27.5%	30%	12.5%	7.5%
Design Engineering A level	A*	A	B	C	<C
	100%	0%	0%	0%	0%
Design Engineering Product Design	A*	A	B	C	<C
	25%	50%	0%	25%	0%

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## LIVING IN THE NORTH EAST

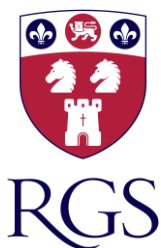
Whilst the North East is beloved and popular with so many, we know that not everyone will have had first-hand experience of it, so this is a short introduction to a city and region which we love, and believe you will too. Newcastle is a medium-sized city with an historic centre and a vibrant life of its own. There's culture and arts in the form of award-winning BALTIC Art Gallery, and The Sage, alongside several theatres that attract national touring productions. There's music from classical to club and we are home to the Royal Northern Sinfonia. There's also a growing food culture with some fantastic restaurants.

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If you like sport then there's certainly no shortage of top class entertainment: from Premier League football being played at St James' Park and EFL at the Stadium of Light to first class cricket at Durham (a mere half hour away), and great rugby at the Falcons, not to mention basketball and even ice hockey, and then there is the annual Great North Run. The North East has also produced some of the country's finest athletes in track and field and there are clubs aplenty to get involved with, most famously in Gateshead.

The coast and the hills are minutes away from the city centre. By car you can be in the middle of nowhere in 45 minutes, the Scottish Borders is only an hour away and the Lake District an hour and a half. The coast is served by the Metro (our version of the Tube), but some of the country's best beaches are up the road in Northumberland, less than 40 minutes by car. There's mountain biking, road cycling, climbing, and endless hill walks in stunning countryside. There are green spaces all over the city too, with plenty of parks for children and dogs alike to run around.

There are three local teaching hospitals, two universities in the city with another three close by. Some pioneering medical work goes on at the RVI, Great North Children's Hospital and the Freeman Hospital.

History abounds with more castles than you could count and sites of interest for almost every period of English (and border) history. Add that to a proud, independently minded and very friendly local population and we have most things you could want.

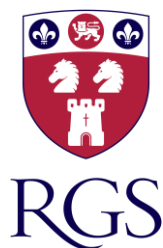
There are some really excellent primary schools in the region and city as well as some good secondary schools too, but staff do get a discount at the RGS. There are also a number of good competitor independent schools as well.

The RGS is on the edge of the city centre, a ten-minute walk from the main shopping areas. The leafy, affluent suburbs of Jesmond and Gosforth are close by with housing ranging from purpose-built flats in terraced streets and conversions of bigger houses to terraced houses, post-war semis and large, family-sized detached houses with big gardens. All of this is within walking distance of the school so no commute is needed. Properties are very affordable both within the city and the surrounding area. If you want to travel to work then you could wake up with a sea view, hop on the Metro and be at school just half an hour later. The region wins tourism and lifestyle awards for very good reasons!



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## HOW TO APPLY

If, having looked through the website ([www.rgs.newcastle.sch.uk](http://www.rgs.newcastle.sch.uk)) and read this job information pack and the Information for Applicants, you think this particular post would suit you, please say so (and why) in a covering letter of application. You must complete the application form, even if you want to also attach a CV. You are welcome to apply electronically, please email all documents to [jobs@rgs.newcastle.sch.uk](mailto:jobs@rgs.newcastle.sch.uk).

Please read the Information for Applicants with particular care before applying. And please note that the RGS is committed to the safeguarding of children and applies the Government's Safer Recruitment procedures, which will include:

- Checking that the submitted CV provides a continuous record of education and employment from age 16;
- provision of two satisfactory references, at least one of which must be from the applicant's current or most recent employer;
- completion by you of a confidential form of declaration of health (after offer of appointment) and, if necessary, a satisfactory report following a medical examination;
- evidence or other verification of your qualifications;
- a satisfactory Enhanced Disclosure Report from the DBS.

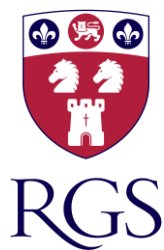
Interviews will be held shortly afterwards. We will hope to make the appointment on the day, offering the post and gaining acceptance, so applicants should arrive for interview with a clear idea of what would be involved in moving to the area (if necessary) and working at the RGS. Potential candidates are welcome to come and visit the school.

If you have any queries please do not hesitate to email or to call the Headmaster, Geoffrey Stanford on 0191 281 5711 or the Head of Engineering, Design and Technology, Peter Warne (same number).

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## CONTACT DETAILS

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