FABRICATION DEVELOPMENT CENTRE

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Renishaw Education Outreach

3D Printing and Computer Aided Design workshop

When pupils use 3D printers, they have a mind-set for better learning, one where it is okay to make mistakes. This contributes to their boldness for design, increasing their confidence and imagination. This workshop will use Computer Aided Design to design and make a 3D printed object the pupils have designed during the session.

A tour of the manufacturing facility, additive manufacturing (3D printing) labs and a careers talk will end this exciting hands on practical workshop.

Biscuits and refreshments will be served during the workshop

What are the benefits to pupils in your school attending this course?

- Develop Computer Aided Drawing skills
- Understand how 3D printing machines work
- Pupils will design with more imagination from understanding modern technologies
- Improve drawing skills on CAD software

Who should attend?

- Key stage 2 - year 6 pupils
- Key stage 3 year - 9 pupils taking technology GCSE subjects
- GCSE Design & Technology
- Engineering pupils

Curriculum links

- Develop and communicate design ideas in a variety of ways, using ICT and models where appropriate (National Curriculum for Wales – Design and Technology Key Stage 2 – Designing)
- Model and refine their design ideas in 3-D form. Develop and communicate design ideas in a range of ways including CAD (National Curriculum for Wales – Design and Technology Key Stage 3 – Designing)
- Specialist techniques and processes that can be used to shape, fabricate, construct and assemble prototypes (WJEC GCSE Design and Technology 2017 - Engineering design core skills)
- The benefits and limitations of rapid prototyping using FDM, laser sintering and stereo lithography (WJEC AS and A Level Design and Technology 2017 - Product Design Core skills

Venue: Renishaw plc, Fabrication Development Centre, Miskin Business Park, Pontyclun, RCT CF72 8XY

Time: 09:15 to 12:15 (times can be changed to suit your school day)

Cost: FREE - Just bring enthusiastic young people with an interest in engineering -15 pupils per workshop*

Date: Dates can be arranged to suit your school. Applications can be made by requesting a date directly by email or phone

*Please note - Pupils must be accompanied by a qualified teacher that is teaching a subject related to the workshop being held. We would encourage the teacher to be involved with the workshop as much as possible.

For more information, visit www.renishaw.com or contact education@renishaw.com

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Renishaw in Wales

In 2011 the purchase of the 461,000 sq ft former Bosch facility and associated land near Miskin, South Wales gave Renishaw the space and opportunity it needed to support its growth and development. By the end of 2015, Renishaw had invested nearly £40m in the site acquisition and refurbishment and in the purchase of plant and machinery. It has already created over 250 new jobs and has well developed plans for the site to support research and development and manufacturing in new areas of its business. The co-location of research and development, design, and manufacturing functions at Miskin provides many advantages. Better communication, design for manufacture, shorter product development times and more responsive design and test capabilities can be significant advantages for research and development projects.

Building on and creating new, strong relationships with research and educational organisations in Wales, Renishaw is leveraging its skills and experience in metrology and additive manufacturing to create exciting new developments in healthcare. The proximity of the Miskin site to good transport links and a wide variety of potential collaboration partners in life sciences, with support from national and local government, will give Renishaw the opportunity to create new centres of expertise and new jobs. Renishaw has opened a Healthcare Centre of Excellence at its Miskin site to provide manufacturing capacity for medical parts as well as facilities for training, demonstrations and research.

Highlights to date and future plans

- £40m outlay on site acquisition, refurbishment and production plant and machinery by the end of 2015
- Over 300 employees on site with open vacancies for a range of manufacturing and research roles
- Assembly of the only UK manufactured metal additive manufacturing (3D printing) machines
- Electronics assembly including latest surface mount technology for PCB assembly
- Metal part machining using the latest CNC (computer numerically controlled) machine tools and robot technology
- Planning application approved for development at the Renishaw Miskin site. The planned facilities provide additional capacity for Renishaw and for other businesses to establish operations at Miskin, providing many more employment opportunities

For more information, visit www.renishaw.com or contact Simon Biggs by phone (01443 221727) or email (simon.biggs@renishaw.com)

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