

STEM in Midlothian

FOR SCHOOLS



Midlothian

STEM industries are a key sector within Midlothian, where no fewer than five science and technology parks are based here: Bio Campus, Edinburgh Technopole, Pentlands Science Park, Roslin BioCentre and the University of Edinburgh's Easter Bush Campus (home to The Royal (Dick) School of Veterinary Studies, The Roslin Institute, The Riddell-Swan Veterinary Cancer Centre, the National Avian Research Facility and Scotland's Rural College). Out with the science and technology parks there are many other STEM businesses based in Midlothian (Stewart Brewing, MacTaggart Scott to name a few!), Not to mention the Edinburgh Bio Quarter, located just on the outskirts of Midlothian at the Little France site.

Midlothian Schools are ideally placed to work alongside these organisations to create STEM opportunities for our young people to ensure that we are 'Developing Scotland's Young Workforce' and creating a 'World Class Education System'. The aim of this leaflet is to document some of the opportunities open to our schools and detail how your school may become involved to ensure more young people and adults enter STEM industries within Midlothian.

Opportunities in the University of Edinburgh Easter Bush Campus

Modern Apprenticeships (MA's)

Targeted at students aged 16-19 years of age, Easter Bush Campus hosts MA's in IT Customer Service, Business Administration, Equine (Stable Hands), Digital Communication and an "apprentice style placement" scheme for veterinary nurses. A further five MA's will be on offer in: Stores, Quality Management, Accounting, Pathology and Research Imaging.

Career Ready Mentorships

The Campus participate in the Career Ready Scheme in Midlothian, offering 5 placements per year. This is a 2 year mentoring programme, which includes a 4 week paid work placement, for students entering 4th year at high school, who primarily come from underprivileged backgrounds or from areas of the country with high deprivation.

Science Insights Work Experience Programme

Science Insights is an exciting annual work experience programme designed to give 5th year high school pupils a real insight into the work of research scientists. It is run by five research Institutes from the College of Medicine and Veterinary Medicine at the University of Edinburgh. Forty places are offered to high school pupils to spend a week of their summer holidays on four different University of Edinburgh campuses, gaining a real insight into bioscience research.

Programmed activities include shadowing researchers in the lab, tours of a range of scientific facilities, presentations and discussions on a range of topics including ethics in research, the use of animals in research and careers in science, opportunities to meet current University of Edinburgh students and skills sessions to help with future university and job applications.

www.scienceinsights.ed.ac.uk

Free Massive Open Online Courses

(MOOCs) from the University of Edinburgh in Veterinary Science, Animal Behavior & Welfare, Equine Nutrition, Astrobiology & The Search for Extraterrestrial Life, Introduction to Programming etc.

Easter Bush Youth Forum provides emotional and educational support for all 16-28 year olds working or studying at Easter Bush Campus.

Staff and students from Easter Bush Campus are available to visit schools for **careers fairs/events** via the **STEM Ambassador scheme**. Staff on campus also offer **CPD to teaching staff** in partnership with SSERC, the Scottish Schools Education Research Centre.

Opening in autumn 2017, the **Easter Bush Science Outreach Centre** will provide a purpose-built teaching laboratory for the delivery of hands-on, curriculum-linked workshops for local schools.

Midlothian Science Zone

Within Midlothian we are lucky to host four large science and technology parks, hosting nearly 100 innovative different companies: Biocampus, Edinburgh Technopole, Pentlands Science Park and the Easter Bush Campus. It is these entities which form the 'Midlothian Science Zone'.

These companies have been responsible for some of the most ground breaking discoveries and innovations in the world, ranging from 'Dolly The Sheep' to the design and development of the 'Tom Tom' satellite navigation system (to name a very few!).

Across these organisations the following opportunities exist for our young people and schools to enter STEM industries:

Modern Apprenticeships in Engineering, Life Sciences and non STEM related subjects (i.e. Business Administration, Stores Person, etc.). Apprenticeships have taken place at Ingenza, Quotient, the University of Edinburgh's Easter Bush Campus, Roslin Biocentre, The NHS etc.

S6 STEM MYJET Work Experience opportunities (previous students have worked at, the NHS, Roslin Cells, The Royal Dick Vet School, Calcivitus, Edinburgh Bio Quarter etc.) which has helped students stand out in their UCAS application to pursue STEM study at university.

STEM Ambassadors are eager to promote STEM opportunities in Midlothian by attending school career fairs/events, assemblies, workshops or by inviting pupils to their organisation for an open day or a STEM Business Challenge!

At a strategic level STEM Ambassadors are willing to attend our 'Developing Young Workforce' Board to work alongside schools to create further STEM opportunities for all within Midlothian.

www.stemeast.org.uk

Marketplace

The new digital 'Marketplace' is now online and open to all schools to access STEM opportunities for their own school within Midlothian and beyond.

www.edinburghchamber.co.uk/dyw/marketplace

Small and Medium STEM Businesses

within Midlothian (e.g. MacTaggart Scott, Stewart Brewing, ICR Butts etc.) continue to play an important part in creating STEM opportunities for all within Midlothian (i.e. S4 & S6 Work Placements, Modern Apprenticeships, careers events, talks and participation in the Midlothian Science Festival etc.).

Midlothian Science Festival (MSF)

Takes place in October every year and provides an excellent opportunity for schools to work with local STEM organisations and the MSF team to shape a programme which is relevant to schools and local young people as part of their STEM curriculum. Previous organisations who have contributed include: The Roslin Institute and the Royal (Dick) School of Veterinary Studies at the University of Edinburgh, Stewart Brewing, The Wellcome Trust Centre for Cell Biology, The Forestry Commission, The National Mining Museum Scotland, Edinburgh Botanical Gardens, Cancer Research UK, MacTaggart Scott etc.).

Should your school wish to take advantage of these STEM opportunities or require any further information please feel free to contact our STEM Coordinator (see back page), who is happy to assist and has enclosed a Midlothian STEM Directory for schools to contact local organisations directly.

Edinburgh College Partnership

Edinburgh College STEM courses have been developed for senior phase pupils who are still at school and provide the essential knowledge and practical skills for progression to university or employment in a STEM discipline.

Engineering Academy S5/6

Courses are delivered by trained engineers in a real life industry standard environment and offer recognised qualifications.

There are two courses available:

- Engineering National 5
- HNC in Engineering Systems with Renewables

STEM Academy S4/5

Students will develop essential knowledge and laboratory skills to prepare for employment within the growing science science industries to gain a National Progression Award (SCQF level 4) in science and technology.

All courses involve attendance at college for two afternoons per week. A Modern Apprenticeship in Life Sciences is soon to be released! For more information please email: Schools&YoungPeopleTeam@edinburghcollege.ac.uk

Bright Green Business

Bright Green Business is not-for-profit organisation contributing to building a sustainable future. One service we offer is the provision of education programmes in schools to help increase employer engagement particularly within the STEM fields. This gives pupils, teachers and parents an insight into emerging fields and industry requirements.

1. The STEM Challenge

A half day workshop led by local employers to motivate young people to take up STEM subjects. These workshops are hands-on creative challenges which highlight the skills gained in STEM subjects and how these translate into the workplace.

2. Physical Physics

A family learning experience designed to incorporate priority areas of STEM and the gender imbalance in this sector. An interactive workshop sets challenges while Industry representatives give pupils and their families the opportunity to learn more about emerging industries.

3. Business Mentoring

Our year long mentoring programme help pupils secure positive destinations ahead of leaving school. This year we have a wide variety of participating organisations including EDF energy, Zero Waste Scotland and Scottish Forest Enterprise who all play an active role in promoting STEM for young people.

STEM Business Directory

Biobest:

A specialist veterinary virology, serology and DNA diagnostics business.
Stuart.Marshall@biobest.co.uk

Bright Green Business:

Bright Green Business is not-for-profit organisation contributing to building a sustainable future. One service we offer is the provision of education programmes in schools to help increase employer engagement particularly within the STEM fields. Please contact: Elaine@thebusinesspartnership.org.uk for further info.

Calcviv Ltd:

Specialists in preventative cavity technology.
info@calcviv.com

DUKOSI:

Pioneering battery technology specialists.
cbrookes@dukosi.com

Edinburgh Technopole:

Judith Sanderson (Park Manager)
judith.sanderson@mjmap.com

Edinburgh University's Easter Bush Campus:

Val White (Campus Operating Officer)
Val.Hughes-White@ed.ac.uk
Tel: 0131 651 9180

EPP Ltd:

Pharmaceutical company offering outreach with schools, open days and attendance of careers events at schools. No work experience or MA's available at this time.
samantha.moreton@eppltd.com

Indigovision:

Specialists in video engineering.
David Blair
d.blair@indigovision.com

Ingenza:

Industrial Biotechnology Company with a broad customer base across the chemicals, pharmaceuticals, food, feed and fuel industries.
Sarah Scott
sarah.scott@ingenza.com

MacTaggart Scott:

Engineering design of marine handling systems for ship and submarine applications.
Ian.Hay@mactag.com

NHS Lothian:

Claire Robinson
claire.robinson@nhslothian.scot.nhs.uk

Quotient:

Transfusion Diagnostics.
Brian.Williamson@quotientbd.com

Roslin Cells:

World renowned stem cell research company.
Shona McGregor
Shona.McGregor@roslincells.com

Solid Form Solutions:

Provides Solid State Contract Research Services to the pharmaceutical industry.
EmmaMcVean@solidformsolutions.co.uk
Tel: 0131 440 8000

TOM TOM:

Global leader in navigation, traffic and map products, GPS Sport Watches and fleet management solutions.
Elodie.Sellar@tomtom.com

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