



STEM 2026 CONFERENCE



WELCOME

It is my absolute pleasure to welcome you all to Franklin Sixth Form College for our 7th annual STEM Conference, a day dedicated to curiosity, creativity, and the incredible possibilities that science, technology, engineering, and mathematics open up for all of us.

A special welcome goes to our visiting Year 10 and Year 12 students from 19 local schools. This is the highest number of schools to join us in the history of the conference. We're delighted that you've joined us, and we hope today gives you a real taste of the excitement and opportunity that STEM subjects can offer. To our own Franklin students, thank you for helping us showcase the energy and ambition that make this college such a vibrant place to learn.

Today's conference is all about exploration, through workshops, talks, demonstrations, and hands-on activities led by Franklin and university staff, and industry experts, and exhibitors, with everyone able to develop new skills, ask questions, and imagine yourself in roles that might shape the world of tomorrow. The list of possibilities is endless, as are the career opportunities, many of which are right on our doorstep, here on the Humber Estuary.

We hope that today inspires you, stretches your thinking, and maybe even surprises you. Most of all, we hope you enjoy yourselves, take part, have a go, talk to people, and make the most of the opportunities around you.

Thank you for being here, and once again, a very warm welcome to Franklin's 7th STEM Conference. Let's make it a brilliant day of discovery.

Following the STEM event, we welcome you to our annual Careers and Progression Evening, where over 90 exhibitors will be available to discuss progression to university, employment and apprenticeship opportunities.

WENDY ELLIS, PRINCIPAL & CEO



OUR PARTNER & SPONSOR

This year's STEM conference focuses on climate change, green futures, and exploring the many incredible careers within the industry.

We are extremely proud to partner with our sponsor, Our Future Starts Here – a five-year, transformational programme for our region.

Thanks to National Lottery Players, Our Future Starts Here aims to educate, inspire and support more people to take climate action in North East Lincolnshire.

It will do this through hosting creative community activities – including youth-led 'influencer' projects with the aim of increasing environmental awareness, inspiring action and generating opportunities for 'green skills' development, linking to locally-based, world-leading green industries.

Our Future Starts Here will bring new cultural experiences to people, while supporting understanding of how we might work towards 'greener, healthier and happier' futures.

The programme launches in April with the amazing free to access Helios installation at Grimsby Minster.

TO FIND OUT MORE ABOUT OUR AMAZING SPONSOR





“ We recognise that STEM is a popular career pathway in our local area, and we are committed to providing our students with the rich opportunities they deserve to explore this sector and gain valuable experience. Humberston Academy is excited to be part of the STEM conference and exhibition and proud of the positive partnership we have with Franklin College. ”

DANIEL SHOUBRIDGE,
Principal of Humberston Academy

WHAT IS STEM?

STEM stands for Science, Technology, Engineering, and Mathematics, subjects that can be linked to almost anything in our daily lives. It's where curiosity meets creativity to shape the future. Whether it's developing the next big app, designing the next clean energy technology, discovering life-saving medical breakthroughs, or exploring the incredible mysteries of space, STEM offers endless opportunities to make a difference in our world.

Studying for a future career in STEM isn't just exciting; it opens doors to endless possibilities that tackle global challenges. From working with AI and software development to creating

renewable energy systems, building robots, or pursuing careers in medicine and healthcare, STEM is interconnected, helping us to understand how the world works and offering some of the most incredible and rewarding careers.

There are 9.4 million people currently working in STEM industries, with jobs in STEM predicted to grow by 7.8% over the next 10 years. Whatever your interests and career aspirations, you'll never be short of options with STEM. See your future with us by choosing from subjects like Chemistry, Biology, Physics, Further Maths, Maths, Engineering, Computer Science, Applied Science, and Science.



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IN STEM INDUSTRIES**

SCAN HERE



**FIND OUT MORE
ABOUT OUR
AMAZING COURSES**

OUR COURSES

Studying STEM subjects at Franklin opens a world of opportunity. If you're passionate about problem-solving, excited by innovation, and keen to make a real difference in the world, our STEM courses are for you.

They will challenge you to think differently, explore key scientific ideas, and unlock your full potential. Taking your first step with us towards an exciting future in STEM will give you a head start on the journey to your dream career.

Choose from our wide range of exciting and innovative STEM subjects and find your perfect combination:

MATHS **FURTHER MATHS** **BIOLOGY** **PHYSICS** **SCIENCE**

ENGINEERING **CHEMISTRY** **CREATIVE COMPUTING** **HEALTH**

APPLIED HUMAN BIOLOGY **COMPUTER SCIENCE**

DIGITAL GAMES DESIGN **APPLIED SCIENCE**

MORE STEM COURSES!

You can also choose from these complementary STEM courses. They work well with STEM subjects and open the door to a wide range of university courses and apprenticeships when you finish your studies at Franklin:

Economics **Finance**

Health and Social Care

Digital Production, Design and Development

Applied Psychology

Sport **Psychology**

Physical Education



← **SCAN HERE**

EXPLORE OUR COURSES AND FIND OUT MORE

Meet our STEM class of

2025



LILY
Healing Academy
Biology, Chemistry, Maths & Further Maths



STEVE
Somercotes Academy
Fine Art, Russian and Games Design



CAMERON
Humberston Academy
Esports & IT



AMY
Oasis Academy Wintringham
Biology, Chemistry, Maths & Further Maths



JONATHON
Oasis Academy Wintringham
Biology, Physics, Maths & Further Maths

OVER 95%

OF OUR STUDENTS LEAVE FRANKLIN AND GO ONTO UNIVERSITY, HIGHER APPRENTICESHIPS, OR STRAIGHT INTO EMPLOYMENT

Taught by our fantastic teachers, you'll not only develop your knowledge, you'll gain the skills that universities and employers in the industry want and need. You'll also take part in our Personal and Professional Development programme, where you'll hear from guest speakers, take part in trips and visits, and have the opportunity to choose from over 70 clubs and societies, all designed to fit your future goals and aspirations.

Whether you dream of becoming an architect, want to make a difference as a doctor or are ready to explore careers in the innovative world of chemical, mechanical or electrical engineering, there has never been a more exciting time to begin your journey to a future in STEM with Franklin.

Centre for Professional Development

Working with key local and regional employers and stakeholders, we have developed our nationally recognised Centre for Professional Development (CfPD), a unique way of bridging the gap between employer needs and the skills of local young people.

Our dedicated CfPD team works with employers, universities, and apprenticeship providers to give you the professional skills, knowledge and experiences you need. From careers advice, personal and professional development opportunities, work experience and internships to mentoring, employer visits and guest speakers, we ensure that, whatever path you choose, you are fully prepared for an exciting and successful future after Franklin.

“
The STEM event is amazing. Seeing so many young people excited about STEM subjects and exploring careers that can shape a sustainable future is so inspiring.”



DISCOVER PERSONAL & PROFESSIONAL DEVELOPMENT

SCAN HERE



Within CfPD sits our Franklin Professionals Programmes, which have strong local industry connections and are specially designed to focus on your career pathways, areas of study, and aspirations. These programmes offer those interested in STEM, health & social care, business & logistics, law, teaching, and sport the opportunity to take part in a number of masterclasses, visits, careers events, and talks from industry professionals. For those interested in applying to medicine, veterinary science and dentistry, our Aspiring Future Medics programme offers dedicated workshops, guest speakers and mock interview sessions in preparation for the application process.

Whether you want to go on to university, undertake an apprenticeship or go straight into employment, the Franklin CfPD team will ensure you are fully prepared for the future and give you a head start in achieving your future goals and aspirations



STEM

- FRANKLIN LEADERSHIP ACADEMY
- FRANKLIN TEACHING ACADEMY
- MENTAL HEALTH ACADEMY
- FRANKLIN HIGH FLYERS
- ASPIRING FUTURE MEDICS
- SOCIAL SCIENCES
- ALLIED HEALTH PROFESSIONALS
- SOCIAL WORK ACADEMY
- FRANKLIN SUSTAINABILITY
- DEBATE CLUB
- GTFC Football Shadow Scholarship
- TALENTED ATHLETE PROGRAMME
- CAREER ACADEMY (Health & Social Care, Law, Business & Logistics)

SCAN HERE

FOR MORE INFORMATION ON CfPD

WORKSHOPS

FRANKLIN SIXTH FORM COLLEGE

COSMETIC SCIENCE

Do you have bath bombs, soap, and lip balms at home? Have you ever wondered how these are made? In this workshop, you'll learn the process behind cosmetic science and even get to make your own!

GAMES DEVELOPMENT

Get hands-on in our digital workshop where you'll explore the world of real-time 3D creation. Using the Unity Karting Microgame, you will learn the fundamentals of the Unity Editor, including:

- Object Manipulation: Navigating a 3D environment.
- Game Mechanics: Adjusting physics and speed variables.
- Level Design: Modifying the track to change the player experience.

This session offers a glimpse into the technical and creative careers available in the UK's thriving £7bn games industry.

SOCIAL NETWORK ANALYSIS

Did you know that within just three connections, you're linked to every single person on the planet? Prepare to be amazed as we delve into the fascinating realm of social network analysis and discover how interconnected our world truly is! From unravelling the mysteries of networks to exploring the mesmerising world of graph theory, get ready to see your friendships, communities, and interactions in a whole new light.



QUICKLINE COMMUNICATIONS

Quickline Communications is one of the UK's fastest-growing broadband providers, dedicated to delivering rapid, reliable connectivity to rural communities across Yorkshire and Lincolnshire.

THE POWER OF FIBRE

Learn how a fibre to the property installation works and take part in a hands-on activity using a home set-up demo board and a fibre splicing kit.



ORE CATAPULT

CATAPULT
Offshore Renewable Energy

The Offshore Renewable Energy (ORE) Catapult is the UK's leading technology innovation and research centre for offshore renewable energy, focusing on accelerating the development and deployment of offshore wind, wave, and tidal energy technologies.

WIND SECTOR CHALLENGE

In this hands-on workshop, you tackle real-world challenges currently faced in the offshore wind sector, such as improving the safety of turbine access from crew transfer vessels (CTVs), addressing biofouling issues, or enhancing the integration of robotics within the industry. You'll develop innovative ideas and design solutions that improve how things are done in the industry today. Throughout the session, you'll also build your problem-solving and teamwork skills and discover the many exciting careers available in offshore wind.



UNIVERSITY OF LINCOLN



Set against the backdrop of a beautiful and historic city, the University of Lincoln sits at the heart of it all on the picturesque Brayford Pool waterfront, with almost everything you'll need either on campus or just a short walk away.

The University was awarded Gold, the highest rating possible, in the national Teaching Excellence Framework (TEF) 2023 for delivering consistently outstanding standards of teaching, learning, and outcomes for students.

A range of programmes are offered including undergraduate, postgraduate and flexible learning. Many of these programmes offer the benefit of placement opportunities, and a range of opportunities to study, work, and volunteer abroad.

£400 million has been invested into the Brayford Pool Campus over the last two decades to create the best possible learning environment and a strong foundation to help students achieve their goals. No matter which courses you choose, the University of Lincoln aims to provide students with high-quality facilities and the latest equipment.

GEOGRAPHY

- Studying our changing planet: from Ice Age to Internet Age

In this workshop, you will use hands-on approaches to examine how researchers study climate and landscape changes from deep in the past all the way into the future. 3D-printed pollen models will help demonstrate the techniques scientists use to understand how climate conditions and humans have shaped the natural world over thousands of years. You will also examine the role of computer models in studying how our planet is likely to change to the end of the 21st Century and beyond.

CHEMISTRY

- How can we make materials greener?

Materials like plastics have traditionally been made from petrochemicals like oil, which are not renewable and contribute to climate change. In this session, you will learn how we can use chemicals from renewable resources, like plants. In particular, you will look at making materials from alginate salts that are extracted from seaweed, which are safer and have a lower environmental impact than traditional materials.

ENGINEERING

- Understanding Science Through Everyday Phenomena: The Magnus Effect

In this workshop, you'll be introduced to the exciting world of STEM, highlighting why science, technology, engineering, and mathematics are crucial for the future.

This session explores how careful observations can lead to new ideas, innovation, and scientific breakthroughs. Using historical examples, like Newton watching an apple fall, studying the curve of a spinning tennis ball, the Magnus Effect and the physics behind why balls curve in sports such as football and tennis. To finish, you'll take part in a hands-on activity where you use paper cups to experiment with the Magnus Effect yourself.

CATCH

Our CATCH facility in Stallingborough offers the most industry-led, employer-focused apprenticeship programme in the Yorkshire & Humber region. By utilising our industry knowledge, networks and connections and working closely with employers, we have developed specialised and enhanced apprenticeship programmes ready to deliver to the next generation of industry professionals. Encompassing Mechanical, Electrical, Instrumentation, Process Operations, Welding, Pipefitting and Plater specialisms.

HANDS-ON IN ENGINEERING

You will step into the world of Engineering in this CATCH workshop, taking part in an interactive and hands-on session giving you an insight into the manufacturing industry and the engineering roles within Process Operations.



ORSTED

Orsted is a renewable energy company that takes real action to fight climate change in the UK and all over the world and are most well known for being the global leader in offshore wind.

The East Coast Hub, on the Port of Grimsby, operates six offshore wind farms including the world's largest – Hornsea 2 – officially named the 'world's largest offshore wind farm by capacity' in the Guinness Book of World Records. There are over 130 different roles based out of the Hub, from engineers to offshore coordinators, environmental specialists to media managers, health and safety managers to project coordinators. Your job role could be onshore or offshore or a mixture of both with opportunities to work hybrid from home. Your career could take you down many different pathways right on your doorstep and apprenticeship opportunities are available from age 16+.

BUILDING A WIND FARM

What does it take to build a wind farm? We'd love to see you take on the challenge! You'll be given materials, a budget, and a countdown to see if you can work together to complete the brief. Who knows what challenges will come up on the way. A storm in the middle of the North Sea or a tight budget with ever changing prices? This challenge will test your teamwork and initiative.



Stepping into the world of innovation and problem-solving with our hands on engineering activities, you'll explore essential skills behind the modern industry.

SOLAR ROBOTICS

Using Solar robots, you'll explore solar robotics, engineering, and renewable solar energy. This science-based activity demonstrates the positive impact renewable energy can have on the future of the engineering sector.

Engineering is a high-demand sector with excellent prospects both locally and nationally, opening doors to careers in design, maintenance, manufacturing, and renewable technologies. You'll build the skills employers are looking for, with a strong mix of technical know-how, creativity, and real-world experience.

Technica is an independent Grimsby based company, made up of a dedicated and close-knit team of multi-disciplinary engineers, designers and draughts people who use their knowledge and expertise to provide frameworks for multi-million-pound gas network projects. Technica also has extensive experience in procurement, installation and measurement services that help deliver and execute every project to the highest level of precision.

FUNDAMENTALS OF ELECTRICAL, CONTROL & INSTRUMENTATION ENGINEERING

This interactive session explores the fundamentals of Electrical, Control and Instrumentation engineering through real-world problem-solving and team challenges.

You will have the chance to work alongside professional engineers and designers, gaining insights into various engineering disciplines. Ideal for future problem solvers, this inspiring workshop will give you an insight into the industry whilst promoting teamwork and critical thinking skills.



SHEFFIELD HALLAM UNIVERSITY

Sheffield Hallam University (SHU) is a leading knowledge applied university, dedicated to providing students with hands-on experience wherever possible. Our approach ensures that students are well-prepared for successful careers in their chosen industries. SHU prides itself on fostering an environment where practical skills and academic knowledge go hand in hand, setting our graduates apart in the competitive job market.

UNDERSTANDING THE AERODYNAMICS OF CARS

In this innovative workshop, you will use desktop wind tunnels to understand the importance of aerodynamics in optimising car design. The wind tunnels will help you understand complex fluid dynamic features, including smoke trails and pressure zones. By testing a range of different cars, you will investigate how the body shape affects drag and downforce. You will then showcase your newly found skills and knowledge to draw an optimised car profile.

**Sheffield
Hallam
University**

BAE SYSTEMS

BAE SYSTEMS

At BAE Systems, we provide some of the world's most advanced, technology-led defence, aerospace and security solutions. We employ a skilled workforce of around 100,000 people in more than 40 countries. Working with customers and local partners, we develop, engineer, manufacture, and support products and systems to deliver military capability, protect national security and people, and keep critical information and infrastructure secure.

BAE SYSTEMS AIRCRAFT MAINTENANCE ACADEMY

Find out all about apprenticeship opportunities with BAE Systems with apprentices currently taking part in their Aircraft Maintenance Academy! The workshop will include a presentation, Q&A, and plenty of goodies, giving you a real insight into life as an aircraft maintenance apprentice.

Based at Humberside Airport, The BAE Systems Aircraft Maintenance Academy is a worldwide recognised school of excellence for the training and development of Advanced Aircraft Mechanics. The highly sort after 30-month apprenticeship is split into two phases. Phase one focuses on theory and practical skills, including working on real aircraft and achieving City and Guilds qualifications. Phase two places apprentices at RAF airbases across the UK, maintaining active aircraft.



UNIVERSITY CAMPUS NORTH LINCOLNSHIRE

UCNL is a custom designed higher education learning facility located alongside Central Park on the outskirts of Scunthorpe town centre. We host an innovative Institute of Technology, along with industry leading equipment for our students to learn practical skills which are essential for their growth as a student and for their chosen future career path. We partner with employers, leading universities, and national training experts to offer courses that meet local and regional needs. We are proud to offer a wide choice of courses, all designed and delivered to help people from every background transform their life through the benefits of education. Our mission and passion are about helping you succeed. Join us for some exciting workshops showcasing some of our STEM focused programmes you could experience if you choose to embark on higher education at our beautiful campus in North Lincolnshire.

CONSTRUCTION, TECHNOLOGY AND THE FUTURE OF SITE SURVEYING

Step into the future of construction and see how technology is changing the way buildings and infrastructure are designed, surveyed, and delivered. In this interactive workshop, you will experience how an uncrewed aerial vehicle (UAV) and a quadruped robotic inspection platform are used on real construction sites.

Discover how UAVs support site surveying, topographical mapping, and progress monitoring, helping construction teams collect accurate data quickly, safely, and with minimal environmental impact. The quadruped robotic platform demonstrates how robotics can carry out site inspections in hazardous or difficult-to-access areas, improving safety while capturing valuable digital information.

You will explore pathways into roles such as Site Engineer, Surveyor, Quantity Surveyor, Digital Construction Technician, and Civil Engineer, and understand how innovation is helping the construction industry become safer, smarter, and more sustainable. This inspiring workshop is designed to help you see construction as a high-tech, future-focused career, empowering you to one day contribute to building a more sustainable and climate-conscious world.

ENGINEERING: MECLAB STATIONS

Step into the world of automation and experience a miniature production line for yourself! In this hands-on workshop, you'll explore the key components that make cutting-edge engineering and Industry 4.0 technologies.

In partnership with the University of Lincoln, UCNL has invested in producing a centre of excellence that supports you to study locally. Our Factory of the Future, Automation, and Mechatronics laboratories workshop will give you an insight into the latest digital engineering technologies and the future of engineering!

MEDICAL BIOSCIENCE

Ever wondered what makes life tick? In this workshop, you'll discover the extraordinary science happening at the microscopic level—and get your hands dirty in the process.

MYSTERY CELL: DETECTIVE WORK IN BIOLOGY

Think you can identify an unknown cell type using only carefully placed clues? Test your scientific reasoning skills in Mystery Cell. Analyse cellular structures, interpret microscopic evidence, and deduce which organism your mystery cell belongs to - just like a real biologist would. Who will crack the case first?

BUILD-A-MEMBRANE: STRUCTURE MEETS FUNCTION

How can something invisible keep a cell alive? In this 3D model challenge, you'll build a cell membrane from the ground up and learn how its unique structure regulates what enters and exits the cell. When you construct it yourself, you understand it - and you'll never forget it.

COMPARING AMINO ACIDS: HUNTING FOR EVOLUTIONARY CLUES

Amino acid sequences tell the story of evolution. In this molecular detective game, you'll compare amino acid chains from different organisms and uncover evolutionary relationships. Reveal the hidden links that connect all life on Earth.

DIGITAL - DESIGN A GAME THAT SAVES THE PLANET

In this hands-on session, you will take on the role of game designers and create a simple game concept based on a real environmental challenge, such as energy use, transport, waste, or climate resilience. Working in small teams, you will design rules, systems and player choices that model real world consequences.

The workshop demonstrates how skills used in game development, such as systems thinking, problem-solving, and digital creativity, are applied in green industries to influence behaviour, explore sustainability challenges, and drive positive change.



HETA



HETA is a leading training provider in the Yorkshire and Humber region, helping aspiring engineers take their very first step into the industry through apprenticeships. With over 60 years of experience under our belt, we've launched the careers of thousands of engineers and continue to work closely with hundreds of employers across the region to shape the next generation of engineering talent.

BUILD FOR THE REGION

You are part of an engineering team working in the Humber region. The Humber is home to major industries including ports and logistics, offshore wind, food manufacturing, chemical processing and advanced manufacturing.

HETA works with companies such as Blackrow, ABP, Hilton Seafoods, Allied Protek and Siemens, all of which rely on innovative engineering solutions to operate safely, efficiently and sustainably.

Your challenge is to design, justify, and build a model of an engineering solution that could benefit one of these industries and, in doing so, support the future of the Humber region.

UNITED NATIONS ASSOCIATION GREATER LINCOLNSHIRE



Over 100 billion bananas are eaten every year in the world, making them the 4th most popular agricultural product. Bananas grow in tropical regions with warm temperatures, high rainfall, fertile soil, and good drainage.

New research from the University of Exeter, published in Nature Food, has found it will be economically unsustainable by 2080 for many areas across Latin America and the Caribbean to continue growing bananas for export, because of rising temperatures caused by climate change. Bananas are a key export crop worth \$11 billion (£8.9 billion) annually and are crucial for the economies of many countries. Yet in just over half a century, 60 per cent of the regions currently producing bananas will struggle to grow the fruit unless there are urgent interventions to tackle climate change.

Sustainable development is a global approach to growth that balances present needs with future well-being, focusing on integrating economic prosperity, social inclusion, and environmental protection (the three pillars) to ensure lasting progress for all people and the planet. The 17 UN 2030 Sustainable Development Goals identify areas for action.

GOING BANANAS FOR STEM, CLIMATE CHANGE AND SUSTAINABILITY

- From picking green bananas in the tropics to seeing them yellow in a UK supermarket takes roughly two to four weeks. During this interesting workshop, you will follow the journey of bananas from producer to the local supermarket, discovering a range of STEM careers and what makes a sustainable 'Green Career.'
- You will also look at the links between banana production and climate change, including how science and technology can help reduce environmental impact. You'll also explore connections between bananas and the UN 2030 Sustainable Development Goals and learn how STEM can drive sustainable solutions globally.



RWE X LAB RASCALS



With more than 125 years of successful history behind us, RWE has undergone fundamental change and is now a leading supplier of renewables worldwide. With wind farms, solar power, and battery storage facilities in many countries. Even today, most of our core business is green electricity.

And we want to get better and better, investing €55 billion in renewables between 2024 and 2030 and entering the promising hydrogen technology at full speed. Together, we have achieved a lot and we will continue on our path: For a sustainable future, for achieving net zero emissions by 2040 - for the best energy company we can be!

ATLAS OF A CHANGING EARTH

Hosted by Lab Rascals, explore the dynamic changes shaping our planet in this 35-minute planetarium show. Using stunning satellite imagery, it reveals how rising global temperatures are melting glaciers and threatening coastlines worldwide, offering a breathtaking look at Earth's evolution.



RWE SOFIA X UKSTEM



UKSTEM is an educational consultancy founded in 2015. Working in partnership with RWE Sofia Wind Farm, UKSTEM develops and delivers high quality educational consultancy and resources that inspire young people and foster understanding of the offshore wind energy business, including Supergrid, the flagship activity that has been delivered to many thousands of students across schools, colleges and universities.

SUPERGRID CHALLENGE

Be the most competitive energy supplier in the Supergrid challenge. In this part-simulation, part-practical STEM-based business game you'll be tasked with finding the best blade number, size, angle, and shape combo that optimises your output and allows you to win by slashing your energy prices!



STEM CONFERENCE

2026

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Franklin
Sixth Form College

#SEEIFUTURE