Glasgow Clyde College
STEM Manifesto

A COMMITMENT TO DEVELOP SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS THROUGHOUT THE COLLEGE

GLASGOW CLYDE COLLEGE

NEF
The Innovation Institute

Glasgow Clyde College | STEM Manifesto

This STEM Manifesto has been created in partnership with the NEF – The Innovation Institute who assisted with the development of our new STEM strategy.

This process has supported the college to produce a STEM strategy and action plan, moving to an integrated and coherent vision that is outward-focused and drives economic growth and prosperity. Throughout this process, our aims have been to ensure our STEM provision:

- drives excellence and quality across the college
- produces work-ready, enterprising and digitally fluent students
- generates even stronger relations with business and industry
- supports the current and future skills needs of the local, regional and national economy

The STEM Manifesto gives students, staff and stakeholders a summary of the vision we have created and makes specific pledges which we will implement over the coming months and years. This manifesto ensures Glasgow Clyde College plays a key role in meeting the needs of STEM and related employers in the region and will inform the college's planning decisions over the next 5 years.

Preparing students for a successful and sustainable career is central to our work as a college. Equally we have a responsibility to support the economy across the region with staff that possess the right knowledge and transferable skills to meet labour market needs. It is these duties that the STEM Manifesto and pledges are designed to address.

STEM Pledges – We will:

- Ensure that STEM is given prominence and status in the college and the community it serves
- Commit to building a strong STEM capability for the region
- Commit to supporting and delivering STEM progression for students from schools in the region and into further and higher education or work or training
- Ensure that we raise the level of STEM literacy, numeracy and employability skills in our students
- Provide the capacity and capability in STEM to enable employers to meet business objectives and the region's economic priorities
- Commit to build understanding, knowledge and expertise of STEM subjects with staff to support a sustainable portfolio

The College's STEM strategy identifies 5 specialist clusters where Glasgow Clyde College can develop competitive advantage – underpinning all of these will be the college wide development of Mathematics and the cross cutting themes of Enterprise, Employability and Progression.
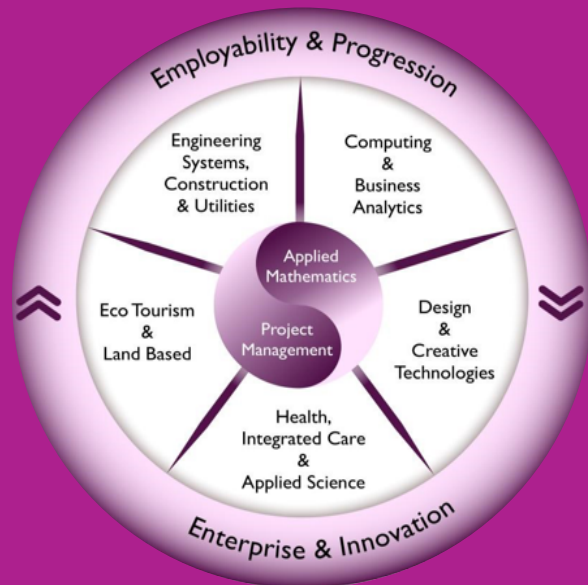
Glasgow Clyde College will focus on:

Engineering, Construction and Utilities

We will develop advanced technical skills required for the design, development, manufacture, test and maintenance of systems and structures across various Engineering sectors. These include aero and aviation, automotive, manufacturing, process and agricultural engineering, renewables and power, electrical and electronic systems and offshore and marine. Construction and Utilities focuses on areas such as the design and maintenance of buildings, materials performance, construction technology and processes, energy resource and maintenance, operation and efficiency and other new technologies.

Computing and Business Analytics

Clustering IT and Computing with Business Admin and Support will allow a focus on the digital technology sector which is forecast for growth. This will focus on applications of cloud computing, multimedia and information and communication technologies and their applications including cyber and smart systems and networks, big data and security. Other specialisms may include Project Management, Enterprise and Entrepreneurship.

Health, Integrated Care and Applied Science

Building on existing provision this cluster represents the interconnectivity of health and wellbeing and the growing demand for resource efficiency through technology use and digital management. Meeting the future skills of the healthcare sector will require interdisciplinary sciences including biological sciences, life science, medical technologies, pharmaceuticals and allied health skills including mental health, environmental health, physiotherapy and nutrition.

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Design and Creative Technologies

This cluster has two broad strands – 'hard' computing including programming, web development and networking and 'soft' creative technologies and media. Interconnectivity of these two strands will provide a more rounded and balanced learner experience and increase exposure to industry needs in STEM subjects including app development, gamification, web design, creative arts, design, music and performance.

Land based and Eco Tourism

This focuses on sustainable management of the natural environment. The interrelated Energy and Utilities industry impacts on this area alongside the need for low carbon construction and energy efficiency skills. We will also look to supplement traditional trades with a greater technology based focus on new and emerging technologies.

Mathematics

We will strengthen our teaching and learning of mathematics and ensure it is contextualised and supported by relevant industry and business applications.