

# Level 3 Extended Diploma in Biomedical Science

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The UK government sees STEM skills as crucial for the country's productivity. It has spent almost £1billion over the last ten years on initiatives to encourage the uptake of STEM subjects.<sup>1</sup>

Despite this, shortages of technical-level skills in sectors that depend on STEM subjects have been identified.<sup>2</sup> These skills shortages have been described by the government as 'one of our key economic problems' and with the exit from the European Union on the horizon, there are worries that these problems could be exacerbated.<sup>3</sup>

There's a definite need for STEM skills and graduates and this course will give you the skills and knowledge to progress into a range of different scientific disciplines.

Applied Scientists are predominantly involved in highly skilled, complex work and must, as a minimum be able to:

- Apply safe systems of working
- Be confident with handling both Biological and Chemical work
- Be confident with handling primary and secondary data
- Make a technical contribution to either the design, development, quality assurance, manufacture, operation or maintenance of equipment, systems, processes or services
- Apply proven techniques and procedures to solve problems
- Demonstrate effective interpersonal skills in communicating both technical and non-technical information
- Have a commitment to continued professional development

Applied Scientists take responsibility for the quality and accuracy of the work they undertake within the limits of their personal authority. They also need to be able to demonstrate a core set of behaviours in order to be competent in their job role, complement wider business strategy and development. This will enable them to support their long-term career development.

In 2020 – 2027, there is a 5.9% expected growth in Biological scientists and biochemists required along with 40% of the current workforce expected to retire in the same time period. This equates to nearly 50,000 jobs in this one sector of Applied Science alone.<sup>4</sup>

The applied science sector is becoming increasingly diverse and many industries use these skill sets such as:

- Healthcare sector (Non-patient facing)
- Healthcare sector (Patient facing)
- Laboratory Technicians across multiple disciplines
- Veterinary Services including equine and marine disciplines
- Health and Safety officers
- Dental practitioners
- Actuaries, economists and statisticians
- Teaching and other educational professionals
- Agricultural and fishing trades

The UK Life Sciences industry had a turnover of £50billion in 2011, split between pharmaceuticals at £31billion and medical technology at £18billion. The sector was estimated to employ 165,000 people and spent £5billion per

annum on R&D.<sup>5</sup> Locally, the Life Sciences & Bio-Economy sector in New Anglia was worth approximately £1.6bn in 2015 <sup>6</sup>

By completing this course, you will gain a formal Science qualification that is recognised by universities as well as industry. It provides you with a pathway to an Apprenticeship with one of the many local employers West Suffolk College works with or the ability to progress onto numerous university course. The course is open to those progressing from Level 2 qualifications or GCSEs.

You will learn how to work effectively and practice advanced scientific skills. In addition to the practical skills you will develop, you will also improve your employability through the enhancement of your communication, numeracy and information technology abilities.

#### Course Content

Foundation knowledge of Biology and Chemistry	Mathematics including data handling and statistical processing
Human Anatomy and Physiology	Health & Safety in Science
Analytical Chemistry	Work experience, employability and careers
Investigation of Disease and Infection.	Essential skills including problem solving, working with others and ICT

**Duration and Attendance** - 2 Years, starting September

**Entry Requirements** - Grade 4 (C) in English, Grade 4 (C) mathematics and Grade 4 (C) in Science

**Further Study** - Subject to successful interview and completion of this course, you may progress to further levels of study within Science in the college, apprenticeship, university or employment.

**Career Opportunities** - Completion of this course of study and further courses can provide a stepping stone and lead to modern apprenticeships or employment as a trainee in a wide range of science sectors.

**Typical job titles** – Biotechnologist, Pharmacologist, Scientific laboratory technician, Genetic counsellor, Anatomical pathology technologist, Biomedical Scientist.

**Application Process** - You will be invited to discuss your application with us. Your application, current qualifications and interview will form part of the selection process.

#### References

1. House of Commons Committee of Public Accounts (June 2018). 'Delivering STEM skills for the economy'. <https://publications.parliament.uk/pa/cm201719/cmselect/cmpubacc/691/691.pdf>. Accessed August 2018
2. Department for Business, Energy and Industrial Strategy (January 2017). 'Building our Industrial Strategy'. [https://beisgovuk.citizenspace.com/strategy/industrial-strategy/supporting\\_documents/buildingourindustrialstrategygreenpaper.pdf](https://beisgovuk.citizenspace.com/strategy/industrial-strategy/supporting_documents/buildingourindustrialstrategygreenpaper.pdf). Accessed August 2018.
3. House of Commons Committee of Public Accounts (June 2018). op.cit.
4. Careerometer: <http://www.lmiforall.org.uk/widget/> Accessed June 2020
5. BIS (2011) [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/34762/12-p102-bis-annual-report-and-accounts-2011-12.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/34762/12-p102-bis-annual-report-and-accounts-2011-12.pdf) Accessed June 2020
6. Life Sciences & Bio-Economy Sector Data Pack, (date unknown) <https://newanglia.co.uk/sector-skills-plans/> Accessed June 2020