Chemistry Laboratory Technician

Introduction
Chemistry laboratory technicians help and support people working in chemistry and biochemistry. They set up equipment, prepare and carry out experiments, take measurements and report on their findings. They work in a wide variety of areas, including industry, medical science, education and research organisations.

Also known as
- Laboratory Technician, Chemistry

Work Activities
Chemistry laboratory technicians are responsible for day-to-day activities in the laboratory. This involves a variety of duties, including:

- Managing equipment stocks and ordering replacements when necessary.
- Disposing of laboratory waste.
- Preparing and maintaining equipment.
- Taking and testing samples.
- Preparing solutions and reagents.
- Recording and analysing experiment results.

Chemistry laboratory technicians are involved in a wide range of areas.

In schools, colleges and universities, they set up materials and equipment for demonstrations, and prepare teaching aids such as slides, samples and models. Increasingly, they also help learners with their work, and add their ideas and experience to help teachers prepare lessons.

Laboratory technicians are involved in many types of industry. They help chemical scientists to research, develop and test new products and processes. For example, in the pharmaceutical industry, they examine how diseases develop and spread, and help scientists to test the effectiveness and possible side-effects of new drugs.

They are responsible for quality assurance in the chemical and manufacturing industries. They perform tests and experiments to check that chemical products and raw materials are safe and meet required standards.

In the food industry, technicians test products to detect contamination from toxic chemicals, for example, from cleaning fluids. In colour technology, they test chemical colorants such as dyes and pigments, to make sure they are colour-fast.

For some experiments, laboratory technicians use automated testing machines that can process thousands of samples at once. Other tests are more intricate and time-consuming, such as using processes and equipment to separate chemical compounds.

Laboratory technicians make careful, accurate notes of their findings. They present these to scientists, either verbally or in a written report.

Chemistry laboratory technicians might spend time alone doing experiments, although they are also likely to work in teams, alongside people like scientists, teachers and lecturers, other technicians and lab assistants.

Laboratory technicians work at different levels of responsibility. Senior technicians might have more responsibility for experiment work, lab management and report writing. They might have duties such as giving on-the-job training to other technicians, supervising staff, or managing health and safety procedures.

For many types of work, technicians need to wear protective clothing such as coats, gloves, eye protection and safety boots.
Technicians use a wide variety of laboratory equipment and materials in their work. They also use computers, for example, to monitor stock levels and record experiment results.

Being able to read, write and speak Welsh may be an advantage when you’re looking for work in Wales.

**Personal Qualities and Skills**

To be a chemistry laboratory technician, you’ll need:

- Observation skills and attention to detail.
- A thorough and methodical approach to your work.
- The ability to record test results accurately and write reports of your findings.
- Teamwork skills: you might work closely with scientists, technologists, teachers, lecturers and other technicians.
- Initiative and the ability to work without supervision.
- The ability to use a wide variety of laboratory equipment.
- Computer and word-processing skills.
- An enquiring mind, with willingness to learn and develop new skills.

Some technicians work with hazardous substances and potentially dangerous materials and equipment. It’s important to follow instructions carefully, learn safety procedures and wear protective clothing when needed.

**Pay and Opportunities**

**Pay**

Salaries vary depending on the company and range of responsibility. The pay rates given below are approximate.

Chemistry laboratory technicians earn in the range of £15,000 - £17,500 a year, rising to £21,500 - £28,000 with experience. Salaries of over £30,000 are possible for people in senior positions.

**Hours of work**

Chemistry laboratory technicians usually work a 35- to 39-hour week, Monday to Friday.

**Where could I work?**

Employers are companies in a wide variety of industries, including pharmaceuticals, colour technology, textiles, plastics, cosmetics, food and drink, and oil and gas. Chemistry laboratory technicians also work in forensic science departments, the NHS and government departments such as the Food and Environment Research Agency (Fera). There are opportunities in university research departments, and school and college laboratories.

Opportunities for chemistry laboratory technicians occur in towns and cities throughout the UK.

**What’s happening in this work area?**

There is a shortage of laboratory technicians, with many more people urgently needed to fill the gaps. A 2012 report by the Technician Council states that 450,000 more laboratory technicians will be needed by 2020, if we are to sustain an innovation economy.

**Where are vacancies advertised?**

Vacancies are advertised in science magazines and journals, including New Scientist (which also posts jobs on its website). They also appear on job boards, in local/national newspapers, at Jobcentre Plus and on the Universal Jobmatch website.

**Entry Routes and Training**

**Entry routes**

Most people enter a post and then have training on-the-job. It’s possible to enter and train through an Intermediate, Advanced Level or Degree Apprenticeship.

**Training**
Apart from training on-the-job, you might have part-time study by day- or block-release for relevant qualifications. These could include Edexcel (BTEC) level 3 Nationals, higher national qualifications, foundation degrees and degrees.

You might work towards a qualification such as a:

- Level 2 NVQ Certificate or level 3 NVQ Diploma in Laboratory and Associated Technical Activities.
- Level 2/3 NVQ Diploma in Laboratory Science.

The Institute of Science & Technology (IST) has developed the Certificate in Laboratory Technical Skills. This is available at levels 1-3, with a fourth level planned. The Certificate is awarded by PAA/VQ-SET, and delivered through registered centres.

Usually after some years' experience, you can take the IST's Higher Diploma. This is for specialist technicians working in specific areas of science.

The IST runs a range of other training courses, as well as continuing professional development programmes. For more information, please see the IST website.

**Registered Science Technician (RSciTech)**

The Science Council has launched a new register for professional technicians. Registration recognises technicians' vital role and raises their profile: becoming a Registered Science Technician (RSciTech) will help ensure that your expertise is properly recognised by employers and others within the science community. Registration is through membership of one of a number of recognised professional bodies.

To register, you'll usually need a relevant level 3 qualification, such as an AS or A level, level 3 NVQ or Edexcel (BTEC) level 3 National. For more information, please see the Science Council website.

**Progression**

You could progress to a supervisory, team leader or senior position.

**Rehabilitation of Offenders Act**

In some posts, for example, in schools and further education colleges, working as a laboratory technician is an exception to the Rehabilitation of Offenders Act 1974. This means that you must supply information to an employer about any spent or unspent convictions, reprimands or warnings, if they ask you to. This is different from other careers, where you only have to reveal information on unspent convictions if you are asked to.

**Qualifications**

Most employers ask for at least 4/5 GCSEs at grades A*-C, including Maths, English and Science or Chemistry, or equivalent.

To get onto an Intermediate or Advanced Level Apprenticeship, you'll usually need five GCSEs at grade C or above, possibly including English and Maths.

To get onto a Degree Apprenticeship, you will usually need at least 2 A levels.

Laboratory technicians often have higher qualifications, such as A levels or equivalent, and some have HNDs, foundation degrees or degrees.

Some universities accept the Welsh Baccalaureate as equivalent to 1 A-level.

**Adult Opportunities**

**Age limits**

It is illegal for any organisation to set age limits for entry to employment, education or training, unless they can show there is a real need to have these limits.

**Skills/experience**

Some entrants have a background in laboratory work, for example, as a routine tester or assistant.
Training

It is possible to enter and train through an Intermediate Level Apprenticeship or Advanced Level Apprenticeship (Laboratory and Science Technicians).

Statistics

- 20% of laboratory technicians work part-time.
- 16% have flexible hours.

Further Information

Contacts

- **Apprenticeships: Get In. Go Far**
  National Apprenticeship Service (NAS)
  Tel: 0800 015 0400
  Email: nationalhelpdesk@findapprenticeship.service.gov.uk
  Website: [www.apprenticeships.org.uk](http://www.apprenticeships.org.uk)

- **Skills Development Scotland - Modern Apprenticeships**
  Tel: 0800 9178000
  Email: info@skillsdevelopmentscotland.co.uk
  Website: [www.myworldofwork.co.uk/modernapprenticeships](http://www.myworldofwork.co.uk/modernapprenticeships)

- **New Scientist**
  Publisher: Reed Business Information Ltd
  Email: ns.subs@quadrantsubs.com
  Website: [www.newscientist.com](http://www.newscientist.com)

- **PAA\VQ-SET**
  Vocational qualifications
  Address: Brooke House, 24 Dam Street, Lichfield, Staffordshire WS13 6AA
  Tel: 01543 254223
  Email: info@paa-uk.org
  Website: [www.paa-uk.org](http://www.paa-uk.org)

- **Cogent Skills**
  Science industries
  Address: Unit 5, Mandarin Court, Centre Park, Warrington, Cheshire WA1 1GG
  Tel: 01925 515200
  Website: [www.cogent-ssc.com](http://www.cogent-ssc.com)

- **Institute of Science & Technology (IST)**
  Address: Kingfisher House, 90 Rockingham Road, Sheffield S1 4EB
  Tel: 0114 2763197
  Email: office@istonline.org.uk
  Website: [www.istonline.org.uk](http://www.istonline.org.uk)

- **Careers Wales - Welsh Apprenticeships**
  Tel: 0800 028 4844
  Website: [ams.careerswales.com/](http://ams.careerswales.com/)

Related Careers

- Biochemist
- Materials Scientist
- Biomedical Scientist
- Astronomer
- Biotechnologist
- Botanist
- Analytical Scientist
- Analytical Chemist
- Colour Technologist
- Ecologist
- Forensic Scientist
- Biology Laboratory Technician
- Physics Laboratory Technician
- Marine Biologist
- Microbiologist
- Acoustician
- Zoological Scientist
- Toxicologist
- Clinical Research Associate
- Process Development Technologist
- Soil Scientist
- Laboratory Technician
- Scientist
- Biologist
- Physicist