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# **CAREER PATHWAYS**

**LIFE SCIENCES SECTOR : NORTH WALES**

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# CAREER PATHWAYS

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## OVERVIEW: TRENDS

Life sciences is a broad sector encompassing chemicals, biotechnology, medical technology, pharmaceuticals, and food production, incorporating both human (medical and food) and agricultural life science.

Important trends include the increasing use of IT to deliver healthcare, for example through IT-based diagnostic tools. In Wales there are strong links between agriculture and life sciences, for example applied research at Bangor and Aberystwyth universities on chemical extraction from plants.

More information about regional trends in this sector are to be found in the **Meet the Ambassadors: Life Sciences factsheet** available on the Shaping the Future website.

Readers with interests in the Life Sciences sector should also access the **Pathways Plus** and other LMI resources for the Advance Materials and Manufacturing, and Energy and Environment sectors as there is significant crossover between these sectors.

**TABLE 1:****SECTOR- WIDE OVERVIEW OF NECESSARY QUALIFICATIONS AND SKILLS**

Key example: Senior Technician

<b>Experience</b>	<b>5 years</b>	<b>5 to 10 years</b>	<b>15 years+</b>
Essential qualifications	BTEC L3 Applied science or Relevant A levels	BTEC L3 Applied science or Relevant A levels	BTEC L3 Applied science or Relevant A levels
Desirable qualifications	NEBOSH Diploma in Safety, health and environment for the process industries  Further sector- specific specialisms if required (see table 2)	NEBOSH Diploma in Safety, health and environment for the process industries  L2 ILM Certificate in Team leading QCF  Further sector- specific specialisms if required (see table 2)	NEBOSH Diploma in Safety, health and environment for the process industries  L2 ILM Certificate in Team leading QCF  Further sector- specific specialisms if required (see table 2)
Key competencies/ skills	Responsible  Problem solving and logistics skills  Innovative and Adaptable  Teamwork skills  STEM skills and qualifications	As for 5 years, plus:  Some team leadership and/or project management experience	As for 10 years, plus:  Leadership and management experience  Project management experience
Budget responsibilities	Some budget responsibility	Some budget responsibility	Experience of project budget management
Staffing responsibilities	Evidence of good team work	Some experience of team leadership/ management	Significant experience of staff management and team leadership
Experience / milestones / highlights that are expected to support each level of experience. i.e., What evidence should be on the CV?	Qualifications evidence  Evidence of continuing professional development (e.g. accredited courses)	Evidence of continuing professional development (e.g. accredited courses)  Evidence of experience in relevant industry roles  Membership of relevant professional body	Evidence of continuing professional development (e.g. accredited courses)  Track record of key role played in successful project delivery; management and team leadership examples  Membership of relevant professional body

**TABLE 2:****INDUSTRY SUB-SECTOR SPECIFIC SPECIALIST TRAINING**

	<b>Chemicals</b>	<b>Pharmaceuticals</b>	<b>Biotechnology</b>	<b>Medical Technology</b>	<b>Food Production</b>
Licence to practice	BTEC L3 Applied science or relevant A levels	BTEC L3 Applied science or relevant A levels	BTEC L3 Applied science or relevant A levels	BTEC L3 Applied science or relevant A levels	BTEC L3 Applied science or relevant A levels
Gold standard	NEBOSH Award in Safety, health & environment for the process industries PAAWQSET L3 Diploma in Operations and technical support in the process industries QCF City & Guilds L3 Diploma in Process Technology (QCF)	L2 NEBOSH Award in Workplace health & safety L2 NEBOSH Award in Management & control of environmental hazards L3 Certificate in Laboratory technical skills L3 NVQ Laboratory and associated technical activities	L2 NEBOSH Award in Workplace health & safety L2 NEBOSH Award in Management & control of environmental hazards L3 Certificate in Laboratory technical skills L3 NVQ Laboratory and associated technical activities	Foundation degree in Health and social care FdSc L2 NEBOSH Award in Workplace health & safety L3 NVQ Laboratory and associated technical activities	BTEC National Certificate in Food science and manufacturing technology NEBOSH Award in Safety, health & environment for the process industries PAAWQSET L3 Diploma in Operations and technical support in the process industries (QCF)
Examples of further specialist qualifications and courses	BTEC L4 HNC Diploma in Applied chemistry BTEC L5 HND Diploma in Applied chemistry BTEC L5 HND in Chemical science for industry	BTEC L5 HND Diploma in Biological sciences for industry Foundation Degree in Pharmaceutical and chemical sciences FdSc	BTEC L5 HND Diploma in Biological sciences for industry BSc Biology BSc Biotechnology	BTEC L5 HND Diploma in Biological sciences for industry BSc Computer science or Bioinformatics	BTEC L5 HND Diploma in Biological sciences for industry BSc Food science

Further examples of required skills, qualifications, training and competencies related to selected job roles in this sector can be found in the **Career Pathways** briefings on the Shaping the Future website and on relevant pages of the National Careers Service website:  
<http://tinyurl.com/NCS-medtech> <http://tinyurl.com/NCS-sci-research>

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## REGIONAL SKILLS AND QUALIFICATIONS GAPS

A recent report **Current and Future Demand for Skills in the Science Based Industries: Wales**, (2011) by the Sector Skills Council, Cogent, found that *The majority of employers (79%; base: 380) declared their sector well-served by qualifications from entry to professional levels, but more than half suggested that they needed to make better use of vocational pathways.* (p30).

The report gave the following summary of skills and qualifications (p34):

- Significant overseas recruitment in R&D skills.
- Skills gaps are most evident in the higher skilled levels.
- Hard-to-fill vacancies are also mostly experienced at professional and technical level.
- Skills gaps in the supply from education include chemistry, pharmacology and toxicology.

The report also notes that *Across the sector the existing integrated skills gap is slightly higher than the UK average, with particularly high levels amongst Managers and Sales and Customer services. The latter reflects the requirement for a combination of marketing skills and customer focus together with a high degree of technical knowledge.* (p5).

Further information about specific skills gaps in Wales - the Sector Skills Councils Working in Wales Thematic Report - can be found on the LMI page of the Shaping the Future Website: <http://tinyurl.com/STF-LMI>

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## REGIONAL TRAINING PROVISION

A wide range of HND, BTEC, under and post graduate degree level courses are available in the North Wales region, including gold standard engineering and NEBOSH courses and sector-specific specialist provision. Core providers include Bangor University, Glyndwr university, and Coleg Menai /Llandrillo.

Further information about regional training provision is available in the **Meet the Ambassadors: Life Sciences factsheet** available on the Shaping the Future website, and on key Sector Skills websites; these are listed at the end of this briefing.

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## RELEVANCE OF JOBS IN SECTOR TO EXISTING MAGNOX JOB ROLES

Jobs in this sector, many of which relate to engineering and technician roles, and health and safety or dealing with hazardous substances, are an excellent match for many Magnox jobs. Employees are likely to have skills, experience and qualifications which are highly transferrable for this sector and which will give them a competitive advantage. With additional, carefully chosen, qualifications and training, for example specialist qualifications in the use of chemicals in industry, Magnox employees are in a strong position to take advantage of opportunities in this sector.

## KEY WEBSITES

For a wide range of further information including job roles, skills, qualifications and training courses across this broad sector, see

<http://tinyurl.com/NCS-medtech>

<http://tinyurl.com/NCS-sci-research>

<http://www.cogent-ssc.com/>

[http://www.cogent-ssc.com/industry/life\\_sciences/index.php](http://www.cogent-ssc.com/industry/life_sciences/index.php)

<http://www.ukces.org.uk/>

For more Wales-specific skills gaps and shortages in this sector see the Sector Skills Wales Thematic Report at

<http://tinyurl.com/STF-LMI>

For further relevant LMI resources in Wales relating to skills and training see

<http://www.learningobservatory.com/>

For access to relevant Shaping the Future LMI resources, including Meet the Ambassador and Career Pathways briefings, see

<http://tinyurl.com/STF-LMI>



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