

**LEVEL 3 NVQ DIPLOMA IN LABORATORY AND ASSOCIATED TECHNICAL ACTIVITIES (QCF) INDUSTRIAL SCIENCE**

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**CONTENT OF THE QUALIFICATION****MANDATORY UNITS**

<b>UNIT LAT3-001</b>	<b>MAINTAIN HEALTH AND SAFETY IN A SCIENTIFIC OR TECHNICAL WORKPLACE</b>
LEVEL	3
CREDIT VALUE	5
GUIDED LEARNING HOURS	35

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**Unit Overview**

This unit covers the skills and knowledge needed to prove the competences required to maintain health and safety in a workplace where scientific or technical activities are performed. The learner is required to observe all legal, statutory and organisational requirements, and they must be able to identify any hazards and potential risks to health and safety. They must also know what actions to take in case of an emergency and, as well as ensuring their own safety, they must show responsibility towards their colleagues and others. They will be expected to initiate and complete tasks and procedures as well as exercise autonomy and judgement within specified parameters. They will also be aware of different perspectives or approaches used within the workplace.

On completion of workplace activities, the learner will be required to show they have addressed problems that, whilst well defined, may be complex and non-routine. They will be expected to show they have identified, selected and used appropriate scientific or technical skills, methods and procedures. They will use appropriate investigation to inform actions and review how effective these methods have been.

The learner's responsibilities will require them to comply with organisational policy and procedures for the scientific or technical activities undertaken, and to report any problems with the activities, materials or equipment that they cannot personally resolve, or that are outside their permitted authority, to the relevant people. They will be expected to initiate and complete scientific or technical tasks and procedures, including, where relevant, responsibility for supervising or guiding others. They will be expected to exercise autonomy and judgement within limited parameters, taking personal responsibility for their own actions and for the quality and accuracy of the work that they carry out. They will be expected to work to instructions, with a minimum of supervision, either on their own or as part of a team

The learner's underpinning knowledge will enable them to use factual, procedural and theoretical understanding to complete workplace tasks and address problems that, whilst well defined, may be complex and non-routine. They will be able to interpret and evaluate relevant workplace information and ideas. They will have an understanding of the scientific or technical process used, and its application, and will know about the equipment, materials and consumables in adequate depth to provide a sound background for carrying out the activities to the required specification.

They will understand the safety precautions required when carrying out scientific or technical activities. They will be required to demonstrate safe working practices throughout, and will understand the responsibility they owe to themselves and others in the workplace.

**Assessment Guidance and Evidence Requirements****Evidence Requirements**

The Evidence Requirements for this unit are identified in the Assessment Criteria.

**Assessment Guidance**

- This unit must be assessed in a work environment and must be assessed in accordance with the 'Common Requirements for National Vocational Qualifications (NVQ) in the QCF' which can be found on the Laboratory and Associated Technical Activities Centre CD.
- This unit is subject to the requirements set out in Semta's Science Level 2 QCF Unit Assessment Strategy which can be found on Page 9 of the Laboratory and Associated Technical Activities Qualification Handbook.

**Learning Outcome and Assessment Criteria**

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Maintain health and safety in a scientific or technical workplace	1.1. Ensure that their work is carried out in accordance with workplace procedures 1.2. Identify health and safety workplace procedures for all of the following: <ul style="list-style-type: none"> <li>• Workplace hazards</li> <li>• Manual handling</li> <li>• Unsafe practices</li> <li>• VDU and RSI policies</li> <li>• Spillages</li> <li>• Other (please specify)</li> </ul> 1.3. Comply with established procedures for both of the following: <ul style="list-style-type: none"> <li>• Workplace emergency (e.g. injury, spillage)</li> <li>• Workplace evacuation (e.g. fire, gas leak)</li> </ul> 1.4. Accurately assess health and safety in relation to their work and the workplace 1.5. Use safe practices and the appropriate personal protective clothing and equipment for the work 1.6. Use safe handling practices for three of the following, in accordance with approved procedures: <ul style="list-style-type: none"> <li>• Flammables (liquid or solid)</li> <li>• Corrosive material</li> <li>• Equipment or tools</li> <li>• Toxic/harmful material</li> <li>• Biological material</li> <li>• Radioactive material</li> <li>• Water reactive material</li> <li>• Explosive material</li> <li>• Extreme temperature</li> <li>• Compressed gas</li> <li>• Pyrophoric material</li> <li>• Oxidiser</li> <li>• Unstable reactive</li> <li>• Sensitising/irritant substance</li> <li>• Manual handling/lifting loads</li> </ul> 1.7. Identify and rectify any breaches to health and safety procedures and report them to the appropriate person as soon as possible

	<p>1.8. Make recommendations on, or if appropriate, take action on both of the following:</p> <ul style="list-style-type: none"> <li>• Areas where the work practices do not fully comply with health and safety requirements</li> <li>• Improvements to handling and/or storage of materials, substances or equipment</li> </ul> <p>1.9. Maintain the security of the workplace, in accordance with organisational requirements</p> <p>1.10. Maintain and keep tidy their work area to a standard of health and safety which is consistent with local policies and legal requirements</p> <p>1.11. Use equipment and materials in accordance with manufacturers' instructions and local safety regulations</p> <p>1.12. Dispose of waste materials and substances safely and correctly</p> <p>1.13. Take the appropriate precautions to protect their self and others during work activities</p> <p>1.14. Follow the correct procedure when an emergency arises or is suspected</p> <p>1.15. Identify and recommend health and safety improvements to their work area and/or environment</p> <p>1.16. Communicate the required information about the work done, to authorised people, in accordance with departmental and organisational procedures</p> <p>1.17. Record and communicate details of work done, to the appropriate people, using:</p> <ul style="list-style-type: none"> <li>• Verbal report</li> </ul> <p>Plus one method from the following:</p> <ul style="list-style-type: none"> <li>• Written or typed report</li> <li>• Specific workplace documentation</li> <li>• Computer-based record</li> <li>• Electronic mail</li> </ul>
<p>2. Know how to maintain health and safety in a scientific or technical workplace</p>	<p>2.1. Describe the health and safety requirements of the area in which they are carrying out the scientific or technical activities</p> <p>2.2. Describe the implications of not taking account of legislation, regulations, standards and guidelines when conducting scientific or technical activities</p> <p>2.3. Describe the workplace procedures, as set down in local operating manuals and schemes of work</p> <p>2.4. Describe the importance of following manufacturers' instructions</p> <p>2.5. Describe the techniques and processes they must use correctly in the workplace</p> <p>2.6. Describe the importance of wearing protective clothing, gloves and eye protection for scientific or technical activities</p> <p>2.7. Describe the specific safety precautions to be taken when working with scientific or technical equipment and computer-based systems (to include such things</p>

- as safety guidance relating to the use of visual display unit (VDU) equipment and work station environment (such as lighting, seating, positioning of equipment), and repetitive strain injury (RSI))
- 2.8. Describe the identity of health and safety representatives (such as the Laboratory Safety Officer, Staff Health & Safety Representatives and First-Aiders)
  - 2.9. Describe the location and correct use of emergency equipment (such as fire extinguishers, including the situations in which different types of fire extinguishers are used)
  - 2.10. Describe the organisational requirements for maintaining the security of the workplace (e.g. access or aseptic conditions)
  - 2.11. Describe the lines of communication and responsibilities in their department, and their links with the rest of the organisation
  - 2.12. Describe the limits of their own authority and to whom they should report if they have problems that they cannot resolve
  - 2.13. Explain why risks in the workplace should be assessed, and the correct action to be taken
  - 2.14. Describe the local procedures for emergency evacuation (including escape routes and assembly points)
  - 2.15. Describe the location of fire alarm call points and how to operate them
  - 2.16. Describe the location of spillage kits and the procedures to follow in the event of spillages of chemicals and/or biological fluids and materials
  - 2.17. Explain how to identify and recommend health and safety improvements to their work area and/or environment
  - 2.18. Describe the control of substances hazardous to health (COSHH) regulations, and their application in the workplace
  - 2.19. Describe the range of signs and symbols used for the warning of workplace hazards and prohibited practices
  - 2.20. Describe the types of hazards which may be present in the workplace and how these can be minimised
  - 2.21. Describe the correct storage and disposal procedures for hazardous materials
  - 2.22. Describe the hazards associated with chemicals, radioactive substances and/or biological materials
  - 2.23. Explain what constitutes dangerous occurrences and hazardous malfunctions in the workplace and why these must be reported
  - 2.24. Explain how to lift and carry loads safely, and use the manual and mechanical aids available in the workplace

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- 2.25. Describe the importance of safe storage of tools, equipment and materials
  - 2.26. Describe the reasons for cleaning work surfaces and equipment
  - 2.27. Explain why it is important to differentiate and segregate categories of waste
  - 2.28. Describe the correct procedures for the storage, transport and disposal of waste
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