

### Overview

This national occupational standard defines the broad range of basic competences that you need in order to work safely in an engineering environment. It will prepare you for entry into the engineering or manufacturing sectors, creating a progression between education and employment, or it will act as a basis for the development of additional skills and occupational competences in the working environment. It covers carrying out your work activities in accordance with instructions and by the use of safe working practices and procedures.

You will be required to comply with all relevant regulations that apply to your area of work, as well as your general responsibilities as defined in the Health and Safety at Work Act. You must be able to identify the relevant qualified first aiders or appointed person, and know the location of the first aid facilities. You will have an understanding of the procedures to be adopted in the case of accidents involving injury, and in situations where there are dangerous occurrences or hazardous malfunctions of equipment, processes or machinery. You will also need to be fully conversant with the organisation's procedures for fire alerts and for the evacuation of premises.

You will be required to identify hazardous situations, equipment, materials or conditions, and know how to take appropriate action to eliminate/minimise the risks to life, property and the environment within your immediate work surroundings. As part of hazard control, you will be required to recognise the hazards in the engineering environment in which you work, and to have an appreciation of the risk involved with those hazards and the precautions you can take to lower the risk of injury or damage to plant and equipment. Whilst working in the engineering environment, you will be required to note and report any changes in the work area or process that may affect your own safety or the safety of others.

You will be expected to dress, behave and maintain the workplace in a manner that is acceptable to the organisation in which you work and the type of activities being carried out. This will require you to observe all relevant statutory and organisation regulations, and to comply with codes of good practice and safe working procedures at all times.

Your responsibilities will require you to comply with organisational policy and procedures for the activities undertaken. You will need to take account of any potential difficulties or problems that may arise with the activities, and to seek appropriate help and advice in determining and implementing a suitable solution. You will work under a high level of supervision, whilst taking responsibility for your own actions and for the quality and accuracy of the work

that you carry out.

Your underpinning knowledge will provide a good understanding of your work, and will provide an informed approach to working safely in an engineering environment. You will understand the safety requirements and their application, to the required depth to provide a sound basis for carrying out your activities safely and correctly.

# **EUSSAM01** - SQA Unit Code FR0R 04

## Working safely in an engineering environment

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### **Performance criteria**

- You must be able to:*
- P1 comply with your duties and obligations as defined in the Health and Safety at Work Act (HASAWA)
  - P2 apply safe working practices and procedures at all times
  - P3 follow organisational accident and emergency procedures
  - P4 recognise and control hazards in the workplace to minimise risks
  - P5 use correct manual lifting and carrying techniques

### Knowledge and understanding

*You need to know and understand:*

- K1 the roles and responsibilities of yourself and others under the Health and Safety at Work Act 1974 and other current legislation (such as The Management of Health and Safety at Work Regulations; Workplace Health and safety and Welfare Regulations; Manual handling operations Regulations; Provision and use of work Equipment; Display Screen at Work Regulations, Reporting of injuries, Diseases and Dangerous Occurrences Regulations)
- K2 the specific regulations and safe working practices and procedures that apply to your work activities (such as The Electricity at Work Regulations, Woodworking Regulations)
- K3 the warning signs of the seven main groups of hazardous substances defined by Classification, Packaging and Labelling of dangerous Substances Regulations
- K4 how to locate relevant health and safety information for your tasks, and the sources of expert assistance when help is needed
- K5 what constitutes a hazard in the workplace (such as moving parts of machinery, electricity, slippery and uneven surfaces, dust and fumes, handling and transporting, contaminates and irritants, material ejection, fire working at height, environment, pressure/stored energy systems, volatile or toxic materials, unshielded processes)
- K6 your responsibilities for dealing with hazards and reducing risks in the workplace (such as hazard spotting and safety inspections; the use of hazard checklists, carrying out risk assessments, COSHH assessments and safe systems of working)
- K7 the risks associated with your working environment (such as the tools, materials and equipment that you use, spillages of oil and chemicals, not reporting accidental breakages, of tools or equipment and not following laid-down working practices and procedures)
- K8 sources of information for safety (such as local work procedures, codes of practice or guidance, the severity of the accident or injury that the hazard might cause)
- K9 control measures that can be used to eliminate/reduce the hazard (such as lock-off and permit to work procedures, provision of safe access and egress, use of guards and fume extraction equipment, use of personal protective equipment)
- K10 the first aid facilities that exist within your work area and within the organisation in general, and the procedures to be followed in case of accidents involving injury
- K11 what constitutes dangerous occurrences and hazardous malfunctions, and why these must be reported even if no one is injured
- K12 the procedures for sounding the emergency alarms, evaluation

- procedures and escape routes to be used and the need to report your presence at the appropriate assembly point
- K13 the organisations policy with regard to fire fighting procedures; the common causes of fire and what you can do to help prevent them
  - K14 the personal protective equipment (PPE) and protective clothing that is available for your area of activity
  - K15 the need to observe personal protection and hygiene procedures at all times (such as skin care (barrier creams, gloves); eye protection (safety glasses, goggles, face mask), hearing protection (ear plugs, ear defenders); respiratory protection (fume extraction, face masks, breathing apparatus: head protection(caps with hair restraints, protective helmets); foot protection (safety footwear) dangers of ingestion and the importance of washing hands)
  - K16 how to act responsible in the working environment (such as observing restricted area notices, complying with warning signs, walking not running, using equipment only for its intended purpose, not interfering with equipment or process that are not within your job role, following approved safety procedures at all time)
  - K17 the methods of manually handling and moving loads (such as pushing, pulling and levering); how to lift and carry loads safely and correctly (such as from ground level, waist high, overhead, reaching over); and manual and mechanical lifting and moving aids available
  - K18 good housekeeping arrangements (such as maintaining cleanliness of your work area; removal of waste materials; storage of materials, tools and equipment and products; maintenance of access and egress (such as clear walkways, emergency exits)
  - K19 when to act on your own initiative and when to seek help and advice from others
  - K20 to whom you should report in the event of problems that you cannot resolve

### Additional Information

#### Scope/range related to performance criteria

#### **Demonstrate your understanding of your duties and obligations to health and safety by carrying out all of the following:**

1. applying in principle your duties and responsibilities as an individual under the Health and Safety at Work Act and other relevant current legislation
2. identifying, within your working environment, appropriate sources of information and guidance on health and safety issues, to include:
  - 2.1. eye protection and personal protective equipment
  - 2.2. COSHH regulations
  - 2.3. risk assessments
3. identifying the warning signs and labels of the main groups of hazardous or dangerous substances
4. complying at all times with the appropriate statutory regulations and specific regulations relevant to your work

#### **Comply with all emergency requirements, to include:**

1. identifying the appropriate qualified first aiders or appointed person and the location of first aid facilities
2. identifying and using the procedures to be followed in the event of injury to yourself or others
3. following organisational procedures in the event of fire/fire drills and for the evacuation of premises/work area
4. identifying and using the procedures to be followed in the event of dangerous occurrences or hazardous malfunctions of equipment, processes or machinery

#### **Identify the hazards and risks that are associated with all of the following:**

1. your working environment (such as working at height, in confined spaces, hot work)
2. the tools and equipment that you use (such as machines, power tools, cutting tools)
3. materials and substances that you use (such as cutting fluids/oils, hydraulic fluids, fluxes)
4. using working practices that do not follow laid-down procedures

#### **Demonstrate the following methods of manual lifting and carrying techniques:**

1. lifting alone

Plus **one** more of the following

1. with assistance of others
2. with mechanical assistance

**Apply safe working practices in an industrial environment, to include all of the following:**

1. presenting yourself in the workplace suitably dressed/prepared for the activities to be undertaken
2. observing personal protection and hygiene procedures at all times
3. acting in a responsible manner at all times within the working environment
4. maintaining a tidy workplace, with exits and gangways free from obstructions
5. using tools and equipment safely and only for the purpose intended
6. carrying out your work activities in accordance with legal requirements and the organisation's safety policies
7. taking measures to protect others from harm resulting from any work that you are carrying out

#### **Links to other NOS**

This national occupational standard (Ref ID 045NPEO2-01) belongs to SEMTA - the standards setting body for science, engineering and manufacturing technologies. The format of this national occupational standard is different to that used by Energy & Utility Skills.

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## Working safely in an engineering environment

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