

**PAAVQ-SET**

**LABORATORY AND ASSOCIATED  
TECHNICAL ACTIVITIES**

**LEVEL 2  
EDUCATIONAL**

**NVQ/SVQ**

**ASSESSMENT GUIDANCE  
AND  
EVIDENCE REQUIREMENTS**

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## **UNIT 1.01            COMPLYING WITH STATUTORY REGULATIONS AND ORGANISATIONAL SAFETY REQUIREMENTS**

**This unit identifies the skills and knowledge you need to deal with statutory regulations and organisational safety requirements in accordance with approved procedures.**

### **UNIT SUMMARY**

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 will also need to 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 followed 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 familiar with the organisation's procedures for fire alerts and the evacuation of premises.

You will be required to identify the hazards and risks that are associated with your job. Typically these will focus on your working environment, the tools and equipment that you use, materials and substances that you use, working practices that do not follow laid down procedures and manual lifting and carrying techniques.

Your responsibilities will require you to comply with organisational policy and procedures for the statutory regulations and organisational safety activities undertaken and to report any problems with the safety activities to the relevant people. You will be expected to work to instructions, taking personal responsibility for your own actions and the way in which you carry out the required manufacturing activities.

Your underpinning knowledge will be sufficient to provide a good understanding of your work, and provide an informed approach to applying statutory regulations and organisational safety requirements and procedures. You will understand the safety requirements of your specific work and their application, and will know about the safety requirements in adequate depth to provide a sound basis for carrying out the activities safely and correctly.

### **UNIT OVERVIEW**

This unit on Statutory Regulations and safety requirements involves:

- Complying with statutory regulations and organisational safety procedures
- Following emergency and first aid procedures
- Recognising and reporting hazards in the work area
- Demonstrating safe methods of lifting
- Working in ways which maintain the safety of yourself and others

### **ASSESSMENT REQUIREMENTS**

All performance statements must be met and assessed as required by the Assessment Strategy. Evidence provided for this unit should cover a period of at least three months.

The following performance statements must be observed (and/or examination of naturally occurring workplace products is mandatory) - A, B and F

The following performance statements may be simulated within a realistic working environment - C, D and E.

The minimum number of items specified in the scope statement (e.g., four from a choice of six) must be covered, and appropriate evidence provided for each. It is possible that some of the scope items may be covered more than once. With this in mind, it is likely that at least three different examples of the candidate's practice, in carrying out the unit activity, will be needed.

## PERFORMANCE STATEMENTS

*You must:*

- a. Comply with your duties and obligations as defined in the Health and Safety at Work Act
- b. Present yourself in the workplace suitably prepared for the work activities to be undertaken
- c. Follow organisational accident and emergency procedures at all times
- d. Recognise hazards and risks in the workplace and report to the appropriate person
- e. Use correct manual lifting and carrying techniques
- f. Apply safe working practices and procedures at all times

## SCOPE

*You must show that you can:*

1. Demonstrate your understanding of your relevant duties and obligations to health and safety by carrying out all of the following:
  - applying in principle your duties and responsibilities as an individual under the Health and Safety at Work Act and relevant current legislation
  - identifying within your organisation, appropriate sources of information and guidance on health and safety issues, to include:
    - Eye protection and personal protective equipment
    - COSHH regulations
    - Risk assessments
  - identifying the warning signs and labels of the main groups of hazardous or dangerous substances
  - complying with the appropriate statutory regulations at all times
2. Comply with all accident and emergency procedures to include:
  - identifying the appropriate qualified first aiders or appointed person and the location of first aid facilities
  - identifying the procedures to be followed in the event of injury to self or others
  - following organisational procedures in the event of fire and the evacuation of premises
  - identifying the procedures to be followed in the event of dangerous occurrences or hazardous malfunctions
3. Recognise the hazards and risks that are associated with all of the following:
  - your working environment
  - the tools and equipment that you use
  - materials and substances that you use
  - using working practices that do not follow laid down procedures

4. Demonstrate one of the following methods of manual lifting and carrying techniques:
  - lifting alone
  - with assistance of others
  - with mechanical assistance
  
5. Apply safe working practices and procedures in a manufacturing environment to include all of the following:
  - maintaining a tidy workplace with exits and gangways free from obstructions
  - using tools and equipment safely and only for the purpose intended
  - observing organisational safety rules, signs and hazard warnings
  - taking measures to protect others from harm by any work you are carrying out
  - using appropriate personal protective equipment
  - observing personal hygiene procedures

## KNOWLEDGE STATEMENTS

*You must have knowledge and understanding of the following in relation to the scope selected:*

1. The relevant roles and responsibilities of yourself and others under the Health and Safety at Work Act 1974 and current legislation (eg. The Management of Health and Safety at Work Regulations; Workplace Health and Safety and Welfare Regulations; Personal Protection at Work Regulations; Manual Handling Operations Regulations; Provision and Use of Work Equipment Regulations; Display Screen at Work Regulations)
2. The specific regulations and safe working practices and procedures that apply to your work activities
3. The warning signs for the eight main groups of hazardous substances defined by Classification, Packaging and Labelling of Dangerous Substances Regulations
4. How to locate relevant health and safety information for your tasks and the sources of expert assistance when help is needed
5. What constitutes a hazard in the workplace (such as moving parts of machinery, electricity, slippery and uneven surfaces, dust and fumes, handling and transporting, contaminants and irritants, material ejection, fire, working at height, environment, pressure/stored energy systems, volatile or toxic materials, unshielded processes)
6. What are your responsibilities for dealing with hazards and reducing risks in the workplace
7. What are the risks associated with your working environment, 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
8. What first aid facilities exist within your work area and within the organisation in general and the procedures to be followed in the case of accidents involving injury
9. What constitutes dangerous occurrences and hazardous malfunctions and why these must be reported even when no one was injured
10. The procedures for sounding the emergency alarms, evacuation procedures and escape routes to be used and the need to report your presence at the appropriate assembly point
11. What the organisational policy is with regard to fire fighting procedures, the common causes of fire and what you can do to help prevent them
12. What protective clothing and equipment is needed for your area/s of activity
13. How to check that the protective clothing and equipment is safe to use
14. What to do if the protective clothing and equipment is unsafe
15. How to lift and carry loads safely, and the manual and mechanical aids available
16. How to prepare and maintain safe working areas, standards and procedures to ensure good housekeeping
17. The importance of safe storage of tools, equipment, materials and products
18. The extent of your own authority and whom you should report to, in the event of problems that you cannot resolve

## **UNIT 1.02            DEVELOPING AND MAINTAINING WORKING RELATIONSHIPS**

### **UNIT SUMMARY**

**This unit covers the skills and knowledge that you will need to develop and maintain internal and external working relationships.**

You will be required to establish and maintain working relationships with a range of people such as colleagues in your own group, people in other work groups, supervisors and managers and external contacts. You will be expected to deal with any disagreements in an amicable and constructive way. You will also be expected to contribute to work activities by providing ideas and solutions and to find ways of resolving issues that cause concern and / or disagreement.

Your responsibilities will require you to comply with organisational policy and procedures at all times. You will be expected to report any problems that may affect working relationships to the relevant people.

Your underpinning knowledge will be sufficient to provide a good understanding of the sort of things that can affect good working relationships. You will be able to give an informed approach to the techniques that can be used to help maintain and develop good working relationships. You will understand how your actions will affect both internal and external working relationships.

### **UNIT OVERVIEW**

This unit on working relationships involves:

- Developing and establishing working relationships
- Maintaining good working relationships
- Providing and receiving feedback
- Working in ways which maintain your own and others safety

### **ASSESSMENT REQUIREMENTS**

All performance statements must be met and assessed as required by the Assessment Strategy. Evidence provided for this unit should cover a period of at least three months.

The following performance statements must be observed (and/or examination of naturally occurring workplace products is mandatory) - A, B, C and F

The following performance statements may be simulated within a realistic working environment - D, E and G.

The minimum number of items specified in the scope statement (e.g., four from a choice of six) must be covered, and appropriate evidence provided for each. It is possible that some of the scope items may be covered more than once. With this in mind, it is likely that at least three different examples of the candidate's practice, in carrying out the unit activity, will be needed.

## PERFORMANCE STATEMENTS

*You must:*

- a. Present yourself in the workplace on time and in a way that does not cause concern to others
- b. Ask for information, advice and / or help politely, without causing disruption to your own or other's work
- c. Offer help and information to others promptly and willingly
- d. Deal with disagreements and problems in working relationships in ways which minimise offence and maintain mutual respect
- e. Make sure that any actions that you take are within the limits of your own responsibility and authority
- f. Refer requests for information and / or assistance that are outside your authority / responsibility to the appropriate person
- g. Communicate in a manner which promotes understanding, goodwill and trust

## SCOPE

*You must show that you can:*

1. Develop and maintain working relationships with **two** of the following:
  - immediate supervision/line management
  - colleagues in same work group
  - colleagues in other work groups
  - those for whom you have responsibility
  - personnel in other departments
  - external contacts
1. Maintain effective communication using **one** of the following methods:
  - in writing
  - electronically
  - orally
3. Discuss problems which may affect working relationships with the appropriate person to include **one** of the following:
  - work colleagues
  - supervisor/immediate line manager
  - team leader
  - personnel or welfare officer

## KNOWLEDGE STATEMENTS

*You must have knowledge and understanding of the following in relation to the scope selected:*

1. What are the relevant statutory regulations, that can affect working relationships i.e. Disability, Equal Opportunities, Discrimination, Harassment
2. Why it is important to present yourself in the workplace on time and ready for work
3. What are the methods in your organisation that can be used to gain information, advice and help
4. What are the methods that can be used to establish and maintain good working relationships
5. What are the sort of things that might affect good working relationships
6. What are the methods of handling and resolving difficulties in working relationships
7. Why it is important to resolve difficulties or misunderstandings quickly and not let them develop into more serious problems
8. How to identify and use different methods and styles of communication
9. Why it is important to avoid disruption in the workplace, and methods of avoiding it
10. Why it is important to request help from others in a polite and timely manner and to offer assistance to others when help is needed
11. Why it is important to show respect for the views, rights and property of others
12. Who to refer to with requests that are not within the limits of your responsibility
13. Who to refer to if you have problems with working relationships that you cannot resolve
14. What your responsibilities are with regard to the reporting lines and procedures in your working area
15. What are the responsibilities of the people identified in knowledge statements 13 and 14 above

## **UNIT 1.03            USE LABORATORY INFORMATION SYSTEMS**

### **UNIT DESCRIPTION**

This unit is for those who operate laboratory information systems, and need to communicate with others in their working environment.

This involves:

- accessing and using laboratory information systems
- maintaining security and confidentiality
- communicating information effectively
- dealing with problems
- completing any necessary documentation
- working safely at all times

There are two elements in this unit, each of which has performance standards; a scope section specific to each element, and the associated knowledge base is detailed at the end of the unit.

#### **1.03.1    Use laboratory information systems**

#### **1.03.2    Communicate information**

### **ASSESSMENT REQUIREMENTS**

All performance statements and the scope must be met and assessed as required by the Assessment Strategy.

As an ideal level of assessment, to prove competence the candidate would demonstrate that they carry out activity relevant to this unit on at least two separate occasions.

### ELEMENT 1.03.1. USE LABORATORY INFORMATION SYSTEMS

#### PERFORMANCE STATEMENTS

*You must*

- a. Keep **information systems** up to date and store the information according to **standard operating procedures** and guidelines.
- b. Maintain the security and confidentiality of information at all times.
- c. Complete required back-up procedures **regularly**.
- d. Retrieve required information and distribute according to deadlines.
- e. Take **appropriate action** in the event of **problems**, to minimise hazards, loss of materials and report to the **relevant people**.
- f. Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

#### SCOPE OF THIS ELEMENT

1. Information systems to be either paper, electronic or a combination of the two.
2. Standard operating procedures to include all relevant organisational requirements, instructions, departmental procedures, codes of practice, organisational regulations, in-house procedures, British, European and International standards.
3. Regularly: as specified in the standard operating procedure.
4. Appropriate action to include any action taken relating to materials, personnel and /or equipment within the limits of your responsibility.
5. Problems that may occur: abnormal occurrences, equipment malfunctions, loss of data, unauthorised requests for information, and / or personnel problems.
6. Relevant people to include at least one of the following: supervisors, teachers, lecturers, tutors, team leaders, line managers, heads of departments, health and safety officers.
7. Regulations and guidelines to include all relevant health, safety and environmental regulations, organisational procedures and guidelines, standard operating procedures, national and organisational standards and any specific organisational requirements.

**ELEMENT 1.03.2. COMMUNICATE INFORMATION**

**PERFORMANCE STATEMENTS**

*You must:*

- a. Identify the type of information to be communicated
- b. Establish requirements accurately.
- c. Forward the information to the appropriate person, within the required time limit, in the correct format
- d. Use the appropriate method of communication to forward the information.
- e. Report any problems to the relevant people.
- f. Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines

**SCOPE OF THIS ELEMENT:**

1. Type of information to be communicated to be written and / or oral information that may be confidential, restricted or public.
2. Requirements to include all required information, advice and or guidance within the limits of your responsibility.
3. Appropriate person to include any relevant colleagues within the organisation, or those external to the organisation.
4. Correct format to include at least two of the following: face-to-face verbal, telephone, e-mail, fax, and letter.
5. Relevant people to include at least one of the following: supervisors, teachers, lecturers, tutors, team leaders, line managers, heads of departments, health and safety officers.
6. Regulations and guidelines to include all relevant health, safety and environmental regulations, organisational procedures and guidelines, standard operating procedures, national and organisational standards and any specific organisational requirements.

## **KNOWLEDGE STATEMENTS**

You must have knowledge and understanding of the following in relation to the scope items selected:

1. What are your personal responsibilities with regard to health, safety and the environment in the working area
2. What is your legal responsibility for the health and safety of others
3. What working practices ensure that the working environment is conducive to good health
4. What are the approved standard operating procedures, organisational requirements, codes of practice, working practices and why it is important to follow them at all times
5. What are the different types of information systems that can be used, including recording, filing, retrieval of information and distribution systems
6. How to use back up systems and why they are important
7. How to ensure the confidentiality and security of information at all times and why this is important
8. How to assess whether the information that is required is confidential and / or restricted, and why this is important
9. Why it is important to work within given time deadlines
10. What methods to use for information storage and access
11. Why it is important to establish requirements accurately
12. What types of format can be used to communicate the information
13. What methods can be used to communicate the information to others
14. What documentation should be used
15. Who are the relevant people
16. How to identify problems, and what is the appropriate action to take within the limits of your responsibility
17. How to identify hazards and what is the appropriate action to take to minimise them

## GROUP A UNITS

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### UNIT 2.08      PREPARE LABORATORIES FOR LEARNING ACTIVITIES

#### UNIT DESCRIPTION

This unit is for those who carry out routine preparation and cleaning activities in laboratories using prescribed standard operating procedures. These laboratory activities require limited judgment from the operator and involve following set guidelines and standard operating procedures. Responsibility is limited to carrying out the defined procedure. Any deviations from the standard operating procedures are referred to others for action.

This involves:

- preparing laboratories for learning activities
- checking equipment and conditions
- cleaning laboratories after learning activities
- working safely at all times

There are two elements in this unit, each of which has performance standards, a scope section specific to each element, and the associated knowledge base is detailed at the end of the unit.

#### **2.08.1. Prepare and equip laboratories for learning activities**

#### **2.08.2. Clean and tidy laboratories after learning activities**

#### ASSESSMENT REQUIREMENTS

All performance statements and the scope must be met and assessed as required by the Assessment Strategy.

As an ideal level of assessment, to prove competence the candidate would demonstrate that they carry out activity relevant to this unit on at least two separate occasions.

## ELEMENT 2.08.1. PREPARE AND EQUIP LABORATORIES FOR LEARNING ACTIVITIES

### PERFORMANCE STATEMENTS

*You must:*

- a) Confirm that the laboratory has been cleared of previous activities and that services are working effectively
- b) Obtain information about the learning activities to be carried out in the laboratory
- c) Obtain information about the resources required for learning activities
- d) Obtain and allocate sufficient resources for the learning activities
- e) Distribute resources within the laboratory according to the learners' requirements
- f) Ensure that all resources are used in a cost-effective manner
- g) Identify accurately any hazards associated with resources and take the appropriate action
- h) Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines

### SCOPE

1. **Learning activities** to include at least **one** of the following: timetabled lessons and other supervised events in the laboratory and related areas, including outside activities.
2. **Hazards** are something with the potential to cause harm; a risk is the likelihood of a hazard's potential being realized. Hazardous incidents to include all potentially dangerous accidents and incidents associated with equipment and materials, such as emergencies, fire, release / spillage of hazardous materials, faulty equipment and / or materials, major service failure.
  1. **Appropriate action** to include **any** action taken relating to either materials, personnel and /or equipment within the limits of your responsibility. May include risk assessment procedure.
  2. **Regulations and guidelines** to include **all** relevant health, safety and environmental regulations, organisational procedures and guidelines, standard operating procedures, national and organisational standards, site procedures and specific organisational requirements.

## ELEMENT 2.08.2. CLEAN AND TIDY LABORATORIES AFTER LEARNING ACTIVITIES

### PERFORMANCE STATEMENTS

*You must:*

- a) Identify any hazards associated with any materials and equipment to be cleared
- b) Take appropriate action against identified hazards
- c) Clean up any spillages safely
- d) Ensure that materials and equipment are returned to their correct location for storage
- e) Dispose of waste safely and in accordance with standard operating procedure
- f) Confirm that the laboratory is in a fit condition for further learning activities to relevant people
- g) Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines

### SCOPE

1. **Hazards** are something with the potential to cause harm; a risk is the likelihood of a hazard's potential being realized. Hazardous incidents to include all potentially dangerous accidents and incidents associated with equipment and materials, such as emergencies, fire, release / spillage of hazardous materials, faulty equipment and / or materials, major service failure.
2. **Appropriate action** to include **any** action taken relating to either materials, personnel and /or equipment within the limits of your responsibility. May include risk assessment procedure.
3. **Standard operating procedures** to include all relevant organisational requirements, instructions, departmental procedures, codes of practice, organisational requirements, in house procedures and specific organisational requirements.
4. **Learning activities** to include at least **one** of the following: timetabled lessons and other supervised events in the laboratory and related areas, including outside activities.
5. **Relevant people** to include at least **one** of the following, supervisors, team leaders, managers, heads of departments, health and safety officers.
6. **Regulations and guidelines** to include **all** relevant health, safety and environmental regulations, standard operating procedures, national and organisational standards, site procedures and specific organisational requirements.

## KNOWLEDGE STATEMENTS

You must have knowledge and understanding of the following in relation to the scope items selected:

1. What are your personal responsibilities with regard to health, safety and the environment in the working area
2. What is your legal responsibility for your own health and safety, and the health and safety of others
3. What working practices ensure that the laboratory working environment is conducive to good health
4. What are the approved codes of practice/ working practices and why it is important to follow them at all times
5. What standard operating procedures apply and why it is important to follow them
6. What are the basic techniques and science required to help prepare laboratories for student learning activities
7. How to locate other sources from which further scientific and technical knowledge can be obtained
8. What learning activities can be prepared for
9. What hazards are associated with the learning activities
10. What is the appropriate action to take with hazards
11. How to identify appropriate equipment and materials for learning activities
12. How to prepare the appropriate equipment and materials for learning activities
13. How to identify defective equipment and the appropriate action to take
14. How to deal with spillages and what action to take
15. How to check that services are working effectively and safely and what action to take if they are not
16. How to allocate resources cost effectively
17. How to store materials and equipment safely and correctly
18. How to confirm that the laboratory is fit to use
19. What are the procedures for the safe storage and handling of materials and equipment
20. When and how to use risk assessment procedure
21. Who are the relevant people

**UNIT 2.09                    MAINTAIN LABORATORY AND ASSOCIATED RESOURCES**

**UNIT DESCRIPTION**

This unit is concerned with carrying out routine checks, and the maintenance of resources in your working environment.

This involves:

- carrying out routine maintenance
- maintaining resources as required by the manufacturer
- taking appropriate action in the event of problems
- working safely at all times

There are two elements in this unit, each of which has performance standards, a scope section specific to each element, and the associated knowledge base is detailed at the end of the unit.

**2.09.1    Carry out routine maintenance checks**

**2.09.2    Undertake routine maintenance**

**ASSESSMENT REQUIREMENTS**

All performance statements and the scope must be met and assessed as required by the Assessment Strategy.

As an ideal level of assessment, to prove competence the candidate would demonstrate that they carry out activity relevant to this unit on at least two separate occasions.

**ELEMENT 2.09.1. CARRY OUT ROUTINE MAINTENANCE**

**PERFORMANCE STATEMENTS**

*You must:*

- a) Carry out the **maintenance checks on resources** in accordance with **standard operating procedures**
- b) Follow the manufacturers' and any other instructions for maintenance checks
- c) Update **documentation** accurately and file in the appropriate place
- d) Take **appropriate action** within the limits of your responsibility
- e) Inform the **relevant people** where there is a problem that you cannot solve and / or it is not your responsibility
- f) Work safely at all times, complying with health and safety, environmental and other **relevant regulations and guidelines.**

**SCOPE**

1. **Maintenance checks** to include **only** external access routine checks and the maintenance of resources.
2. **Resources** to include at least **one** of the following: chemical or biological material, equipment, and / or consumables.
3. **Standard operating procedures** to include any relevant organisational requirements, instructions, departmental procedures, codes of practice, organisational requirements, in house procedures, British, European and International standards
4. **Documentation** to include at least **two** of the following: maintenance records, requisition form, report, notebook.
5. **Appropriate action** to include **any** action taken relating to either materials, personnel and /or equipment within the limits of your responsibility. Could include replace, dispose of, clean and / or repair materials and / or equipment.
6. **Relevant people** to include at least **one** of the following: maintenance department, supervisors, team leaders, line manager, heads of departments, health and safety officers.
7. **Regulations and guidelines** to include **all** relevant health, safety and environmental regulations, organisational procedures and guidelines, standard operating procedures, national and organisational standards, site procedures and specific organisational requirements.

## ELEMENT 2.09.2 UNDERTAKE ROUTINE MAINTENANCE

### PERFORMANCE STATEMENTS

*You must:*

- a) Take appropriate action following routine maintenance checks
- b) Label and safely dispose of unwanted materials and waste in accordance with standard operating procedures
- c) Replace unwanted materials when necessary
- d) Clean re-usable materials and equipment using the appropriate methods
- e) Label materials and equipment appropriately and store correctly
- f) Update maintenance documentation accurately and file in the appropriate place
- g) Inform the relevant people where there is a problem that you cannot solve and / or it is not your responsibility
- h) Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines.

### SCOPE

1. **Appropriate action:** includes producing an action plan that complies with organisational and manufacturers' procedures, requirements and instructions, and details maintenance checks that are limited to external access.
2. **Unwanted materials and waste** to include at least **one** of the following: solid or liquid biological materials, chemicals, sharps such as scalpel blades etc.
3. **Standard Operating Procedures:** To include all relevant organisational requirements, instructions, departmental procedures, codes of practice, organisational requirements, in house procedures, British, European and International standards.
4. **Equipment** to include at least **one** of the following: glassware, instrumentation and laboratory hardware.
5. **Appropriate methods** to include the use of low risk methods after consulting risk assessment.
6. **Maintenance documentation** to include at least **two** of the following: maintenance records, resource records, order sheets, maintenance reports, risk assessments.
7. **Relevant people** to include at least **one** of the following: maintenance department, supervisors, team leaders, line manager, heads of departments, health and safety officers.
8. **Regulations and guidelines** to include **all** relevant health, safety and environmental regulations, organisational procedures and guidelines, standard operating procedures, national and organisational standards, site procedures and specific organisational requirements.

## KNOWLEDGE STATEMENTS

You must have knowledge and understanding of the following in relation to the scope items selected:

1. What are your personal responsibilities with regard to health, safety and the environment in the working area
2. What is your legal responsibility for your own health and safety, and the health and safety of others
3. What working practices ensure that the working environment is conducive to good health
4. What are the approved codes of practice and why it is important to follow them.
5. What are the organisation's policies and procedures on safe working practices
6. Why it is important to follow standard operating procedures when carrying out maintenance procedures
7. What routine maintenance checks should be carried out
8. How to undertake routine maintenance checks
9. What are the procedures for the disposal, repair and cleaning of materials and equipment that you use
10. What labeling methods to use
11. How to store materials and equipment that you use
12. How to identify problems with resources
13. What action can you take to solve problems within the limits of your responsibility
14. What documentation needs to be completed
15. Why it is important to complete documentation accurately and clearly
16. Who are the relevant people

## **UNIT 2.10                    PROCESS REQUESTS TO SUPPORT LEARNING**

### **UNIT DESCRIPTION**

This unit is for those who process and prepare material in response to requests to support learning. These may be requests from teachers, students and others and may be to prepare for teaching sessions in the laboratory, classroom and other learning contexts. You will be working with different types of resources, materials, information and instructions.

This involves:

- receiving and processing requests
- ensuring the availability of resources
- preparing the materials in response to requests
- working safely at all times

There are three elements in this unit, each of which has performance standards, a scope section specific to each element, and the associated knowledge base is detailed at the end of the unit.

**2.10.01    Comply with the necessary conditions for an effective and safe working environment**

**2.10.02    Ensure the availability of resources**

**2.10.03    Prepare materials in response to requests**

### **ASSESSMENT REQUIREMENTS**

All performance statements and the scope must be met and assessed as required by the Assessment Strategy.

As an ideal level of assessment, to prove competence the candidate would demonstrate that they carry out activity relevant to this unit on at least two separate occasions.

**ELEMENT 2.10.1. COMPLY WITH THE NECESSARY CONDITIONS FOR AN EFFECTIVE AND SAFE WORKING ENVIRONMENT**

**PERFORMANCE STATEMENTS**

*You must:*

- a) Receive requests for resources in accordance with working practices
- b) Clarify the details of the request if necessary
- c) Record requests in accordance with standard operating procedure
- d) Identify accurately the availability of resources
- e) Communicate to relevant people the availability of resources
- f) Take the appropriate action when requests cannot be processed and met
- g) Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines

**SCOPE**

- 1. **Requests** could be either verbal, written, paper and / or electronic.
- 2. **Standard operating procedures** to include all relevant organisational requirements, instructions, departmental procedures, codes of practice, organisational requirements, in house procedures, British, European and International standards.
- 3. **Resources** to include at least **two** of the following: biological materials, physical materials, chemical standard or chemical non-standard materials, equipment, apparatus, IT, visual aids.
- 4. **Relevant people** to include at least **one** of the following, those who have made the requisition, supervisors, team leaders, line managers, heads of departments, health and safety officers.
- 5. **Appropriate action** to include **any** action taken relating to either materials, personnel and /or equipment within the limits of your responsibility.
- 6. **Regulations and guidelines** to include **all** relevant health, safety and environmental regulations, organisational procedures and guidelines, standard operating procedures, national and organisational standards, site procedures and specific organisational requirements.

**ELEMENT 2.10.02. ENSURE THE AVAILABILITY OF RESOURCES**

**PERFORMANCE STATEMENTS**

*You must:*

- a) Request resources in accordance with standard operating procedures
- b) Identify and rectify any insufficiencies of resources where possible
- c) Prepare and assemble resources accurately
- d) Provide resources at the correct location and time
- e) Check the quantity and condition of resources before and after use
- f) Follow standard operating procedures and take the appropriate action when available resources differ from those required
- g) Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines

**SCOPE**

- 1. **Resources** to include at least **two** of the following: biological materials, physical materials, chemical standard or chemical non-standard materials, equipment, apparatus, IT, visual aids.
- 2. **Standard operating procedures** to include any relevant organisational requirements, departmental procedures, codes of practice, organisational requirements, in house procedures, British, European and international standards
- 3. **Rectify** insufficiencies to be achieved by obtaining new supplies, borrowing from another laboratory / department or organization.
- 4. **Appropriate action** to include **any** action taken relating to either materials, personnel and /or equipment within the limits of your responsibility. May include risk assessment procedure.
- 5. **Regulations and guidelines** to include **all** relevant health, safety and environmental regulations, organisational procedures and guidelines, standard operating procedures, national and organisational standards, site procedures and specific organisational requirements.

## ELEMENT 2.10.03. PREPARE MATERIALS IN RESPONSE TO REQUESTS

### PERFORMANCE STATEMENTS

*You must:*

- a) Access any information that is necessary for the preparation of materials
- b) Assemble suitable equipment to prepare the materials
- c) Follow the instructions for preparation correctly
- d) Prepare materials in a suitable form for use
- e) Use the appropriate documentation and record the effect on stock levels
- f) Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines

### SCOPE

1. **Information** to include **any** further scientific and technical knowledge that is needed to prepare the materials. Including standard operating procedures, textbooks, practical schedules and information gained from colleagues.
2. **Materials** to include **one** of the following: biological, physical, chemical standard or chemical non-standard.
3. **Instructions** to include preparation methods from at least **two** of the following: standard operating procedures, practical schedules, reference books, teachers, lecturers, colleagues and / or local handbook.
4. **For use** to include being used by at least **one** of the following: by teachers/lecturers, students, colleagues, taking into account expertise of user/s
5. **Documentation** to include **all** relevant stock control and monitoring documents for ordering, cross-referencing and managing supplies.
6. **Regulations and guidelines** to include **all** relevant health, safety and environmental regulations, organisational procedures and guidelines, standard operating procedures, national and organisational standards, site procedures and specific organisational requirements

## **KNOWLEDGE STATEMENTS**

You must have knowledge and understanding of the following in relation to the scope items selected:

1. What are your personal responsibilities with regard to health, safety and the environment in the working area
2. What is your legal responsibility for your own health and safety, and the health and safety of others
3. What working practices ensure that your working environment is conducive to good health
4. What are the approved codes of practice/ working practices and why it is important to follow them at all times
5. What standard operating procedures apply and why it is important to follow them
6. What are the basic scientific principles required to meet the requests
7. How to find sources of scientific and technical knowledge which may be required to process requests
8. How to locate other sources from which further scientific and technical knowledge can be obtained
9. What are acceptable requests
10. How to assess processing requests
11. What types of resources are available and can be provided
12. What factors could influence the choice of materials
13. How to prepare the materials according to requests
14. What different methods of preparation may be used
15. How to prepare materials for use
16. How to identify problems and /or insufficiencies
17. What is the appropriate action to take in the event of problems and /or insufficiencies
18. Why it is important to provide the resources at the appropriate location and time
19. Who are the relevant people
20. What methods of communication to use
21. What documentation should be used
22. Why it is important to record information accurately and clearly

## GROUP B UNITS

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### UNIT 2.06 CALIBRATE EQUIPMENT

#### UNIT DESCRIPTION

This unit is for those who perform routine calibration operations following standard operating procedures. It does not cover the technical role of external calibration using primary or secondary reference devices, which is normally contracted out to separate specialist organisations.

This involves:

- conducting routine calibration at prescribed intervals
- maintaining calibration in working order
- informing others in the event of equipment being out of calibration
- completing calibration records
- International Standards Organisation equipment out of calibration.

There are two elements in this unit, each of which has performance standards, a scope section specific to each element, and the associated knowledge base is detailed at the end of the unit.

#### 2.06.1 Perform calibration

#### 2.06.2 Report on and record calibration

#### ASSESSMENT REQUIREMENTS

All performance statements and the scope must be met and assessed as required by the Assessment Strategy.

As an ideal level of assessment, to prove competence the candidate would demonstrate that they carry out activity relevant to this unit on at least two separate occasions.

Element 2.06.1 Perform calibration

**PERFORMANCE STATEMENTS**

*You must:*

- a) Carry out calibration at specified intervals according to **standard operating procedures**.
- b) Maintain the **integrity** of calibration equipment and materials.
- c) Interpret the results of calibration to decide if equipment remains serviceable.
- d) Inform the **relevant people** if calibration reveals results that are not within specified operational limits.
- e) Identify factors affecting the performance of calibrated equipment in order to minimise adverse effects.
- f) Take **appropriate action** in the event of an abnormal occurrence or malfunction to minimise hazards, loss of materials or data and to report the occurrence.
- g) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

**SCOPE**

- 1. **Standard operating procedures:** To include all relevant organisational requirements, instructions, departmental procedures, codes of practice, organisational requirements, in house procedures, British, European and International standards.
- 2. **Integrity** of calibration equipment and materials to be referenced against methods and internal and external standards and to include at least **two** of the following: traceability; verification; valid certification; storage and handling conditions.
- 3. **Relevant people** to include at least **one** of the following: supervisors, team leaders, managers, heads of departments, health and safety officers.
- 4. **Appropriate action** to include **any** action taken relating to either materials, personnel and /or equipment within the limits of your responsibility.
- 5. **Regulations and guidelines** to include **all relevant** health, safety and environmental regulations, organisational procedures and guidelines, standard operating procedures, national and organisational standards, site procedures and specific organisational requirements

## ELEMENT 2.06.2 REPORT ON AND RECORD CALIBRATION

### PERFORMANCE STATEMENTS

*You must:*

- a) Label the **equipment** clearly and accurately to indicate status.
- b) Clean, store or dispose of calibration equipment and materials according to **standard operating procedures**.
- c) Update records of calibration accurately and legibly using appropriate **documentation**.
- d) Identify, isolate and label appropriately equipment that cannot be calibrated to standard operating specifications.
- e) Take **appropriate action** to inform **relevant people** of equipment which cannot be calibrated.
- f) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

### SCOPE

1. **Equipment** could include **one** of the following: pH meters, balances, ovens and dispensers.
2. **Standard operating procedures** To include all relevant organisational requirements, instructions, departmental procedures, codes of practice, organisational requirements, in house procedures, British, European and International standards.
3. **Documentation** to include at least **two** of the following: calibration procedures and schedule; standards for calibration; valid calibration certificates; equipment record forms; laboratory management information systems records/printouts showing equipment performance.
4. **Appropriate action** to include **any** action taken relating to either, materials, personnel, and /or equipment such as replacement, arranging for repair and /or disposal. To include reference to the International Standards Organisation when necessary.
5. **Relevant people** to include at least **one** of the following: supervisors, team leaders, managers, heads of departments, health and safety officers.
6. **Regulations and guidelines** to include **all** relevant health, safety and environmental regulations, organisational procedures and guidelines, standard operational procedures, national and organisational standards. Site procedures and specific organisational requirements.

## KNOWLEDGE STATEMENTS

You must have knowledge and understanding of the following in relation to the scope items selected:

1. What are your personal responsibilities with regard to health, safety and the environment in the working area
2. What is your legal responsibility for your own health and safety, and the health and safety of others
3. What are the principles of calibration
4. What are calibration requirements
5. What are appropriate calibration procedures and routines
6. What is the appropriate calibration equipment to use
7. What are the appropriate marking requirements for calibration equipment and materials
8. What is the potential impact of non-conformance
9. What units of measurement should be used
10. What are the key features of traceability
11. What methods can be used to record calibration status
12. What methods can be used to control conditions for calibration
13. What are acceptable tolerances
14. What cleaning methods to use
15. What labeling systems to use
16. What actions to take in the event of abnormal occurrences
17. What documentation should be used
18. Who are the relevant people

## **UNIT 2.07 CONTROL STOCKS OF LABORATORY MATERIALS AND EQUIPMENT**

### **UNIT DESCRIPTION**

This unit is for those who control laboratory stocks. These laboratory activities may involve ordering, receiving, issuing and maintaining stock following set guidelines and standard operating procedures. Responsibility is limited to carrying out the defined procedure. Controlling stock includes routine ordering and contingency ordering.

This involves:

- ordering, receiving, issuing and maintaining stock
- using stock rotation procedures
- ensuring materials and equipment are stored appropriately
- working safely at all times

There are four elements in this unit, each of which has performance standards, a scope section specific to each element, and the associated knowledge base is detailed at the end of the unit.

**2.07.01 Order stock**

**2.07.02 Receive and store stock**

**2.07.03 Maintain stock level**

**2.07.04 Issue stock**

### **ASSESSMENT REQUIREMENTS**

All performance statements and the scope must be met and assessed as required by the Assessment Strategy.

As an ideal level of assessment, to prove competence the candidate would demonstrate that they carry out activity relevant to this unit on at least two separate occasions.

## ELEMENT 2.07.01 ORDER STOCK

### PERFORMANCE STATEMENTS

*You must:*

- a) Establish clearly **customers' requirements** for stocks of laboratory materials and equipment.
- b) Order required stock using specified **ordering system** after any necessary approval has been obtained.
- c) Follow orders and record details.
- d) Take **appropriate action** in the event of abnormal occurrences or malfunctions to minimise **hazards**, loss of materials and report the occurrences to the **relevant people**.
- e) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

### SCOPE

1. **Customer's requirements to include at least two of the following:** materials such as oxidant, toxic, flammable, alkaline, acidic and radioactive and / or equipment.
2. **Ordering system** to be at least **one** of the following systems: verbal, written and /or computer based.
3. **Appropriate action** to include **any** action taken relating to either materials, personnel and /or equipment within the limits of your responsibility. This may include the safe disposal of redundant or outdated stock.
4. **Hazards** are something with the potential to cause harm; a risk is the likelihood of a hazard's potential being realized. Hazardous incidents could include all potentially dangerous accidents and incidents associated with equipment and materials, such as emergencies, fire, release / spillage of hazardous materials, faulty equipment and / or materials, major service failure.
5. **Relevant people to include at least one of the following:** appropriate, colleagues, supervisors, team leaders, line managers, heads of departments, health and safety officers.
6. **Regulations and guidelines** to include **all** relevant health, safety and environmental regulations, organisational procedures and guidelines, standard operating procedures, national and organisational standards, site procedures and specific organisational skills.

## ELEMENT 2.07.2 RECEIVE AND STORE STOCK

### PERFORMANCE STATEMENTS:

*You must:*

- a) Check items against original order.
- b) **Record**, label and store new stock under **specified conditions** and in the **designated area**.
- c) Sample stock according to **standard operating procedures**.
- d) Inform **relevant people** promptly of stock availability.
- e) Inform suppliers promptly when stock does not meet specification.
- f) Take **appropriate action** in the event of abnormal occurrences or malfunctions to minimise **hazards**, loss of materials and report the occurrences.
- g) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

### SCOPE

1. **Record** Recording systems to include either manual and/or computer based recording systems.
2. **Specified conditions to include at least one of the following:** low temperature, ambient, humidity, ventilated, light, dark etc.
3. **Designated area** to include any relevant secured and / or isolated storage area.
4. **Standard operating procedures** to include all relevant organisational requirements, instructions, departmental procedures, codes of practice, organisational requirements, in house procedures, British, European and International standards
5. **Relevant people** to include at least **one** of the following, colleagues, supervisors, team leaders, line managers, heads of departments, health and safety officers.
6. **Appropriate action** to include **any** action taken relating to either materials, personnel and /or equipment within the limits of your responsibility. May include risk assessment procedure.
7. **Hazards** are something with the potential to cause harm; a risk is the likelihood of a hazard's potential being realized. Hazardous incidents could include all potentially dangerous accidents and incidents associated with equipment and materials, such as emergencies, fire, release / spillage of hazardous materials, faulty equipment and / or materials, major service failure.
8. **Regulations and guidelines** to include **all** relevant health, safety and environmental regulations, organisational procedures and guidelines, standard operating procedures, national and organisational standards, site procedures and specific organisational requirements

## ELEMENT 2.07.03 MAINTAIN STOCK LEVELS

### PERFORMANCE STATEMENTS

*You must:*

- a) Maintain levels of stocks following stock rotation procedures and take **appropriate action** to deal with **problems**
- b) Inform **relevant people** of any **problems** that you cannot solve and/or are not your responsibility
- c) Take the **appropriate action** and store and dispose of equipment materials and waste safely
- d) Keep working areas and equipment clean using the appropriate cleaning methods
- e) Identify worn or damaged equipment and take the **appropriate action**
- f) Maintain accurate stock records using the appropriate **documentation**
- g) Take action in the event of abnormal occurrences or malfunctions to minimise **hazards**, loss of materials and report the occurrence to the **relevant people**
- h) Work safely at all times, complying with health and safety environmental and other relevant **regulations and guidelines**

### SCOPE

1. **Appropriate action** to include **any** action taken relating to either materials, personnel and /or equipment within the limits of your responsibility. To include at least **three** of the following: disposing of outdated and / or redundant stock, storage and disposal of equipment, materials and waste according to standard operating procedures.
2. **Problems may include one of the following:** items delivered in error, stock shortages, hazards and associated risks with certain materials.
3. **Relevant people to include at least one of the following:** colleagues, supervisors, team leaders, line managers, heads of departments, health and safety officers.
4. **Documentation** to include either manual and/or computer based recording systems.
5. **Hazards** are something with the potential to cause harm, a risk is the likelihood of a hazard's potential being realized. Hazardous incidents could include all potentially dangerous accidents and incidents associated with equipment and materials, such as emergencies, fire, release / spillage of hazardous materials, faulty equipment and / or materials, major service failure.
6. **Regulations and guidelines** to include **all** relevant health, safety and environmental regulations, company procedures / guidelines, standard operating procedures national and organisational standards, site procedures and specific organisational requirements.

## ELEMENT 2.07.4 ISSUE STOCK

### PERFORMANCE STATEMENTS

*You must:*

- a) Check that requisition forms for laboratory materials and equipment are complete and include all relevant details.
- b) Ensure that the identity and quantity of items and materials issued matches the requisition.
- c) Record stock issue and update stock records accurately using the appropriate **documentation**.
- d) Take **appropriate action** in the event of abnormal occurrences or malfunctions to minimise **hazards**, loss of materials and report the occurrences to the **relevant people**.
- e) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

### SCOPE

1. **Documentation** to include either manual and/or computer based recording / requisition systems.
2. **Appropriate action** to include **any** action taken relating to either materials, personnel and /or equipment within the limits of your responsibility. To include at least **three** of the following: disposing of outdated and / or redundant stock, storage and disposal of equipment, materials and waste according to standard operating procedures.
3. **Hazards** are something with the potential to cause harm; a risk is the likelihood of a hazard's potential being realized. Hazardous incidents could include all potentially dangerous accidents and incidents associated with equipment and materials, such as emergencies, fire, release / spillage of hazardous materials, faulty equipment and / or materials, major service failure.
4. **Relevant people** to include at least **one** of the following, colleagues, supervisors, team leaders, line managers, heads of departments, health and safety officers.
5. **Regulations and guidelines** to include **all** relevant health, safety and environmental regulations, standard operating procedures, national and organisational standards, site procedures and specific organisational requirements.

## KNOWLEDGE STATEMENTS

You must have knowledge and understanding of the following in relation to the scope items selected:

1. What are your personal responsibilities with regard to health, safety and the environment in the working area
2. What is your legal responsibility for your own health and safety, and the health and safety of others
3. What working practices ensure that your working environment is conducive to good health
4. What are the approved codes of practice/ working practices and why it is important to follow them at all times
5. What standard operating procedures apply and why it is important to follow them
6. What risk assessment procedures may be used
7. How to identify and deal with hazardous materials and / or equipment
8. What conditions may be required in storage areas
9. Where and what are the designated storage areas
10. What different types of storage is required for different materials and equipment
11. What ordering methods are used
12. How to gain authorisation if necessary
13. How to follow up and check orders and why it is important to do this
14. What documentation is to be used
15. How to operate both manual and computer based systems
16. How to issue stock and what documentation to use
17. What the recording procedures are
18. How to access specialist information on storage of items
19. How to identify problems
20. What action to take
21. Who are the relevant people

**UNIT 2.11                   CONTRIBUTE TO THE SUPPORT OF STUDENT ACTIVITIES**

**UNIT DESCRIPTION**

This unit is for those who contribute to student performance. This may include working preparing for and within teaching sessions in the laboratory, classroom and other learning environments. You will work with teachers or other supervisors, following their instructions and adhering to the policies and practices of the school/college or other working environment.

This unit refers to the continual support and observation given by a technician. It does not require technicians to monitor students for external and/or formal assessment purposes.

This involves:

- assisting students to prepare for learning activities
- monitoring learning activities
- promoting best practice in learning activities
- working safely at all times

There are two elements in this unit, each of which has performance standards, a scope section specific to each element, and the associated knowledge base is detailed at the end of the unit.

**2.11.1.                   Assist students to prepare for learning activities**

**2.11.2.                   Monitor and promote good working practices amongst students**

**ASSESSMENT REQUIREMENTS**

All performance statements and the scope must be met and assessed as required by the Assessment Strategy.

As an ideal level of assessment, to prove competence the candidate would demonstrate that they carry out activity relevant to this unit on at least two separate occasions.

## ELEMENT 2.11.1. ASSIST STUDENTS TO PREPARE FOR LEARNING ACTIVITIES

### PERFORMANCE STATEMENTS

*You must:*

- a) Support supervisors and follow their instructions when helping students prepare for **learning activities**
- b) Identify and obtain the correct protective clothing and equipment required for **learning activities**
- c) Instruct students in the use of **personal protective clothing and equipment**
- d) Give clear explanations to students about health and safety requirements, and **standard operating procedures** when preparing for learning activities
- e) Assist students to select and locate necessary resources for learning activities
- f) Take **appropriate action** when difficulties are encountered by and with students preparing for learning activities
- g) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

### SCOPE

1. **Supervisors** to include at least **one** of the following: teacher, head of department, lecturer, tutor, instructor, team leader, line manager.
2. **Learning activities** to include at least **one** of the following: timetabled lessons and other supervised events in the laboratory and related areas, including outside when appropriate.
3. **Personal protective clothing and equipment** to include **all** relevant safety spectacles, goggles, gloves, overalls, pipette fillers, handling tools.
4. **Standard operating procedures** to include **all relevant** organisational requirements, instructions, departmental procedures, codes of practice, organisational regulations, in house procedures, British, European and International standards.
5. **Appropriate action** to include **any** action taken relating to materials, personnel and /or equipment within the limits of your responsibility. Could include remedial, supportive and / or prohibitive actions.
6. **Regulations and guidelines** to include **all relevant** health, safety and environmental regulations, organisational procedures and guidelines, standard operating procedures, national and organisational standards, site procedures and specific organisational requirements

ELEMENT 2.11.2. MONITOR AND PROMOTE GOOD WORKING PRACTICES AMONGST STUDENTS

PERFORMANCE STATEMENTS

*You must:*

- a) Adopt appropriate working practices when supporting student activities and performance
- b) Support **supervisors** and follow their instructions when monitoring student activities
- c) Instruct students correctly and clearly on **best working practices**
- d) Encourage students to adopt **best working practices** when carrying out **learning activities**
- e) Encourage students, and monitor them for adherence to health and safety requirements
- f) Monitor student activities appropriately and consistently
- g) Take the **appropriate action** when difficulties are encountered when students are carrying out learning activities
- h) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

SCOPE

- 1. **Supervisors** to include at least **one** of the following: teacher, head of department, lecturer, team leader, line manager.
- 2. **Best working practices** to include **all** those working practices relating to a teaching / working environment conducive to good health; equal opportunities, appropriate language; equipment including personal protective equipment; standard operating procedures; efficient use of materials; safe disposal of waste and approved codes of practice.
- 3. **Learning activities** to include at least **one** of the following: timetabled lessons and other supervised events in the laboratory and related areas, including outside when appropriate.
- 4. **Appropriate action** to include **any** action taken relating to materials, personnel and /or equipment within the limits of your responsibility. Could include remedial, supportive and / or prohibitive actions.
- 5. **Regulations and guidelines** to include **all relevant** health, safety and environmental regulations, organisational procedures and guidelines, standard operating procedures, national and organisational standards, site procedures and specific organisational requirements.

## KNOWLEDGE STATEMENTS

You must have knowledge and understanding of the following in relation to the scope items selected:

1. What are your personal responsibilities with regard to health, safety and the environment in the working area
2. What is your legal responsibility for your own health and safety, and the health and safety of others
3. What working practices ensure that the laboratory working environment is conducive to good health
4. What are the approved codes of practice/ working practices and why it is important to follow them at all times
5. What standard operating procedures apply and why it is important to follow them at all times
6. What are the basic techniques and science required to help prepare laboratories for student learning activities
7. How to locate other sources from which further scientific and technical knowledge can be obtained
8. How to prepare resources for student learning activities
9. How to promote best working practice amongst students
10. How to monitor student's learning activities
11. What learning activities can be prepared by students, and how to help them to prepare for the learning activities
12. What hazards are associated with the learning activities
13. What risks as associated with your own and the student's activities
14. What is the appropriate action to take with hazards
15. How to deal with spillages and what action to take
16. What are the procedures for the safe storage and handling of materials and equipment
17. How to identify problems
18. What are appropriate actions to take in the event of problems
19. When and how to use remedial, supportive and / or prohibitive actions
20. Who are the relevant people

## **UNIT 2.12 TRIAL LABORATORY METHODS FOR USE IN LEARNING ACTIVITIES**

### **UNIT DESCRIPTION**

This unit is for those who trial laboratory methods for use in learning activities. The learning activities may take place in schools, FE, HE, or in the workplace.

This involves:

- clarifying the method to be tested with the relevant people
- testing the method
- confirming the suitability of the method
- working safely at all times

There are two elements in this unit, each of which has performance standards, a scope section specific to each element, and the associated knowledge base is detailed at the end of the unit.

#### **2.12.1. Prepare laboratory methods for use in learning activities**

#### **2.12.2. Test laboratory methods**

### **ASSESSMENT REQUIREMENTS**

All performance statements and the scope must be met and assessed as required by the Assessment Strategy.

As an ideal level of assessment, to prove competence the candidate would demonstrate that they carry out activity relevant to this unit on at least two separate occasions.

## ELEMENT 2.12.1. PREPARE LABORATORY METHODS FOR USE IN LEARNING ACTIVITIES

### PERFORMANCE STATEMENTS

*You must:*

- a) Clarify the laboratory method to be used with **relevant people**
- b) Confirm that the laboratory method is an **efficient and cost effective** way of contributing to the **learning activity**
- c) Confirm that you have the **resources** to prepare for the laboratory method
- d) Identify the **hazards** associated with the laboratory method and detail the ways of minimising the **risks**
- e) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

### SCOPE

1. **Relevant people** to include at least **one** of the following: teacher, lecturer, colleagues, tutor, supervisors, team leaders, line managers, heads of departments, health and safety officers. (i.e. person making the request)
2. **Efficient and cost effective** in terms of **all** of the following: safety and risk, quantities of materials used, cost of materials and equipment, risk of breakages and the practical expertise of the end user/s.
3. **Learning activity** to include at least **one** of the following: timetabled lessons and other supervised events that are going to happen in laboratory or related areas, outside activities
4. **Resources** to include **all** relevant materials, equipment, personnel, finances, time.
5. **Hazards** are something with the potential to cause harm; a **risk** is the likelihood of a hazard's potential being realized. Hazardous incidents to include all potentially dangerous accidents and incidents associated with equipment and materials, such as toxic, combustible materials, glass, sharps, fire, release / spillage of hazardous materials, faulty equipment and / or materials, major service failure. The risk could be minimized by one of the following: substitution of materials, changes in operating procedure, use of PPE.
6. **Regulations and guidelines** to include **all relevant** health, safety and environmental regulations, organisational procedures and guidelines, standard operating procedures, national and organisational standards, site procedures and specific organisational requirements

## ELEMENT 2.12.2. TEST LABORATORY METHODS

### PERFORMANCE STATEMENTS

*You must:*

- a) Confirm the **procedures** for testing the laboratory method clearly
- b) Test the laboratory method according to the **procedures**
- c) Record accurately using appropriate **documentation**
- d) **Evaluate** the results from the test
- e) Confirm the **suitability** of the laboratory method for learning activities with the **relevant people**
- f) **Modify** laboratory methods when required
- g) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

### SCOPE

1. **Procedures** to include **all** written health and safety information, including potential hazards, risk assessment when required. Also to include when necessary **all** those working practices relating to working environment conducive to good health; equipment including personal protective equipment; standard operating procedures; materials; safe disposal of waste and approved codes of practice.
2. **Documentation** to include **all** of the following, written reports, risk assessments.
3. **Evaluate** the laboratory method against purpose and constraints.
4. **Suitability** in terms of learning outcome to be gained, input / effort required from end users and staff, time and cost of the method.
5. **Relevant people** to include at least **one** of the following: teacher, lecturer, colleagues, supervisors, team leaders, line managers, heads of departments, health and safety officers. Modify the method in line with your responsibility after consultation with relevant people.
6. **Modify** in line with level of responsibility, after consultation with supervisor/line manager
7. **Regulations and guidelines** to include **all relevant** health, safety and environmental regulations, organisational procedures and guidelines, standard operating procedures, national and organisational standards, site procedures and specific organisational requirements.

## KNOWLEDGE STATEMENTS

You must have knowledge and understanding of the following in relation to the scope items selected:

1. What are your personal responsibilities with regard to health, safety and the environment in the working area
2. What is your legal responsibility for your own health and safety, and the health and safety of others
3. What working practices ensure that your working environment is conducive to good health
4. What are the approved codes of practice/ working practices and why it is important to follow them at all times
5. What standard operating procedures apply and why it is important to follow them at all times
6. What are the basic techniques and science required to prepare and test laboratory methods
7. How to locate other sources from which further scientific and technical knowledge can be obtained
8. What types of laboratory methods can be prepared and tested
9. What resources are required and available
10. What constraints are in force
11. What constitutes a hazard
12. When and how to undertake a risk assessment
13. How to test the laboratory method
14. Who are the relevant people
15. When it may be necessary to gain confirmation, and how to do this
16. What methods can be used to evaluate the results of the laboratory method
17. How to modify the laboratory method, and when may this be required
18. What documentation should be used