

PAAVQ-SET

**LABORATORY AND ASSOCIATED
TECHNICAL ACTIVITIES**

**LEVEL 3
EDUCATIONAL**

NVQ/SVQ

**ASSESSMENT GUIDANCE
AND
EVIDENCE REQUIREMENTS**

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UNIT 3.01 MAINTAIN A HEALTHY, SAFE AND PRODUCTIVE WORK ENVIRONMENT

UNIT SUMMARY

This unit identifies the competencies you need to maintain a healthy, safe and productive work environment, in accordance with approved procedures. You will be required to ensure that adequate information and support is given to all appropriate people, and to ensure that the work environment under your control conforms to organisational and legal requirements. You will also be required to recommend and implement health and safety improvements to the workplace in which you operate.

Your responsibilities will require you to comply with organisational policy and procedures for the health and safety activities undertaken. You will report any problems that you cannot personally resolve, or that are outside your permitted authority, to the relevant people. You will be expected to work with minimum supervision, taking personal 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 applying appropriate health and safety procedures. You will understand your organisation's methods of operation and safety procedures in sufficient detail to enable you to make informed decisions.

You will be aware of any health, safety and environmental requirements applicable to your area of responsibility. You will be required to demonstrate safe working practices throughout, and will understand the responsibility you owe to yourself and others in the workplace.

ASSESSMENT REQUIREMENTS

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

An ideal level of assessment, to prove competence, the candidate would demonstrate that they carry out activities relevant to this unit over a period of three months.

PERFORMANCE STATEMENTS

You must:

- a) Identify the health and safety regulations and guidelines relevant to your area of responsibility
- b) Ensure that the appropriate people are informed about their duties and obligations relating to all relevant health and safety regulations and guidelines
- c) Provide support to the appropriate people to enable them to work in a healthy, safe and productive way
- d) Identify potential improvements to the work environment through consultation with colleagues
- e) Ensure that the work environment under your responsibility conforms to organisational and legal requirements
- f) Ensure that any breaches of health and safety requirements are identified and rectified promptly in accordance with organisational procedures
- g) Recommend improvements to the workplace and/or environment
- h) Record information regarding health and safety and the work environment in the appropriate company information system

SCOPE

The numbers of scope items specified (below) indicate the minimum requirements for this Occupational Standard.

You must:

1. Identify regulations, standards and/or guidelines relevant to your area of responsibility from **all** of the following:
 - company policy and procedures
 - international
 - industry specific
 - national
 - regional
 - supplier specific
 - statutory bodies
2. Provide information to the relevant people about their duties and obligations, using **two** of the following:
 - verbal report
 - training sessions
 - video/photographic
 - health and safety meetings
 - computer-based presentations
 - manual instructions/documentation
 - staff induction sessions

3. Conduct audits or inspections to establish whether the work environment under your control complies with relevant regulations, standards and guidelines, including **all** the following areas:
 - physical environment
 - equipment
 - materials
 - working procedures
4. Discuss health and safety issues with **one** of the following types of relevant people:
 - team members
 - colleagues working at your level
 - higher level managers or sponsors
5. Make recommendations on or, if appropriate, take action covering **two** of the following:
 - ways of maintaining a healthy and safe work environment where organisational constraints are in conflict
 - areas where the work environment is in breach of health and safety requirements
 - improvements to the work environment
 - the effectiveness of fire drills or evacuation tests
 - procedures for dealing with accidents, emergencies and evacuation
 - areas where potential risk ranking is higher than normal
 - improvements to materials handling
6. Ensure health and safety records are kept up to date and are communicated to the appropriate people using verbal communication plus one of the following methods:
 - electronic mail
 - written or typed report
 - company-specific form

KNOWLEDGE STATEMENTS

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

1. The roles and responsibilities of yourself and others under the Health and Safety at Work Act and other current legislation
2. The specific regulations and safe working practices and procedures that apply to your work activities
3. What constitutes a hazard in the workplace
4. The risks associated with your work environment
5. The first aid facilities that exist within your work area and the organisation in general, and the procedures to be followed in case of accidents involving injury
6. How to assess current working conditions and identify possible areas for improvement
7. How to communicate effectively with team members, colleagues and line managers
8. The organisational and legal requirements for maintaining a healthy, safe and productive work environment
9. The types of support it may be necessary to provide on health and safety issues, and how to provide such support
10. How to respond to contradictions between health and safety requirements and organisational constraints
11. The organisational procedures for recommending improvements in the work environment
12. The procedures for sounding the emergency alarms; evacuation procedures and escape routes to be used
13. The records which must be kept, and the organisational and legislative requirements for doing so
14. The types of work environment that is most conducive to productive work
15. The extent of your own authority and whom you should report to in the event of problems that you cannot resolve

UNIT 3.02 CREATE EFFECTIVE WORKING RELATIONSHIPS

UNIT SUMMARY

This unit is about creating and maintaining effective working relationships with your manager, team members and other colleagues within your organisation. It also involves minimising the potential for conflict and dealing with conflicts when they arise.

This unit is for you if you are a manager or supervisor with

- a tightly defined area of responsibility
- some limited opportunity for taking decisions and managing budgets
- responsibility for achieving specific results by using resources effectively, *and*
- responsibility for allocating work to team members, colleagues or contractors.

This unit contains three elements

3.02.1 Gain the trust and support of colleagues and team members

3.02.2 Gain the trust and support of your manager

3.02.3 Minimise conflict in your team.

In order to *gain the trust and support of your colleagues*, you need to consult with them on proposed activities, keep them informed about your work and offer them appropriate support when needed. You need to ensure you treat them with respect, keep your promises to them and discuss issues with them frankly and openly.

In order to *gain the trust and support of your manager*, you need to keep him or her informed about your activities, plans and any problems, threats or opportunities which arise. You need to consult your manager for clarification on policies and ways of working which you are unsure about, and resolve any disagreements in a constructive way.

In order to *minimise conflict in your team*, you need to make clear to team members the standards of work and behaviour you expect. You need to be available to discuss and deal with problems as soon as they arise in ways which minimise disruption and bad feeling. In some cases it may be necessary to keep a careful record of conflict situations and how you resolved them.

PERFORMANCE STATEMENTS

You must:

1. Acting assertively

- □take personal responsibility for making things happen
- □say no to unreasonable requests

2. Building teams

- □actively build relationships with others
- □make time available to support others
- □provide feedback designed to improve people's future performance
- □show respect for the views and actions of others
- □show sensitivity to the needs and feelings of others
- □keep others informed about plans and progress

3. Communicating

- □listen actively, ask questions, clarify points and rephrase others' statements to check mutual understanding
- □identify the information needs of listeners
- □adopt communication styles appropriate to listeners and situations, including selecting an appropriate time and place

4. Managing self

- □accept personal comments or criticism without becoming defensive
- □remain calm in difficult or uncertain situations
- □handle others' emotions without becoming personally involved in them

5. Thinking and taking decisions

- reconcile and make use of a variety of perspectives when making sense of a situation
- □produce your own ideas from experience and practice
- □take decisions which are realistic for the situation
- □focus on facts, problems and solutions when handling an emotional situation.

KNOWLEDGE AND UNDERSTANDING

To perform effectively in this unit, you need to have knowledge and understanding in the areas of

- Communication
- Information handling
- Organisational context
- Providing support
- Working relationships.

You will find detailed knowledge requirements listed with each element.

ELEMENT 3.02.01 GAIN THE TRUST AND SUPPORT OF COLLEAGUES AND TEAM MEMBERS

This section provides criteria to assess whether you *gain the trust and support of colleagues and team members* to the National Standard of competence. It also lists the knowledge and understanding which are essential for effective performance.

PERFORMANCE STATEMENTS

You must:

- a) you consult with **colleagues** and **team members** about proposed activities at appropriate times and in a manner which encourages open, frank discussion
- b) you keep **colleagues** and **team members** informed about organisational plans and activities
- c) you honour the commitments you make to **colleagues** and **team members**
- d) you treat **colleagues** and **team members** in a manner which shows your respect for individuals and the need for confidentiality
- e) you give **colleagues** and **team members** sufficient support for them to achieve their work objectives
- f) you discuss your evaluation of their work and behaviour directly with the **colleagues** and **team members** concerned.

ASSESSMENT FOR BEST PRACTICE

If you wish to aspire to best practice, this section shows you how the Standards can be used for either organisational or self-assessment purposes and how to recognise success. It includes specific evidence requirements and general examples of evidence.

EVIDENCE REQUIREMENTS

You must prove that you *gain the trust and support of colleagues and team members* to the National Standard of competence. To do this, you must provide evidence to convince your assessor that you consistently meet all the performance criteria. Your evidence must be the result of real work activities undertaken by yourself. Evidence from simulated activities is not acceptable for this element.

You must show evidence of gaining the trust and support of one of the following types of colleagues

- those working at the same level as you
- those working at a higher level than you
- those working at a lower level than you.

You must also show evidence of gaining the trust and support of one of the following types of team members

- people for whom you have line management responsibility
- people for whom you have functional responsibility.

You must, however, convince your assessor that you have the knowledge, understanding and skills to be able to perform competently in respect of all types of colleagues and team members, listed above.

EXAMPLES OF EVIDENCE

Here are a few examples to give you some ideas about the sort of evidence you might be able to find in your daily work.

1. Work activities

- consulting with colleagues and team members
- being involved in feedback sessions.

2. Products or outcomes

- minutes of meetings
- your appraisal reports
- the induction packages you have produced
- relevant letters and memos you have written.

You may also provide short reports of your own, or statements from others who have observed your performance.

3. Written or spoken reports, describing

- how you encourage frank and open discussion between colleagues and team members
- how you ensure that you honour commitments you make to colleagues and team members
- how the ways in which you treat colleagues and team members show your respect for individuals and the need for confidentiality.

4. Witness testimony

- statements from colleagues and team members whose trust and support you have gained
- statements from people who have observed you gaining trust and support.

KNOWLEDGE REQUIREMENTS

You need to know and understand

1. Communication

- how to consult with colleagues in a way which encourages open and frank discussions
- how to select communication methods appropriate to the issues and contexts
- the importance of effective communication methods to productive working relationships
- the importance of discussing evaluations of output and behaviour at work promptly and directly with those concerned
- how to provide feedback in a way which will lead to a constructive outcome.

2. Information handling

- the types of information concerning colleagues which you need to treat confidentially, and procedures to follow.

3. Organisational context

- the organisational plans and activities, emerging threats and opportunities, which are relevant to the work of colleagues and about which they need to be informed.

4. Providing support

- the support colleagues may require to achieve their objectives and how to provide this support.

5. Working relationships

- how people work in groups
- strategies and styles of working which encourage effective working relationships
- the importance of honouring commitments to colleagues
- the importance of showing respect for colleagues and how to do this.

ELEMENT 3.02.2 GAIN THE TRUST AND SUPPORT OF YOUR MANAGER

This section provides criteria to assess whether you *gain the trust and support of your manager* to the National Standard of competence. It also lists the knowledge and understanding which are essential for effective performance.

PERFORMANCE STATEMENTS

You must:

- a) you give your **manager** timely and accurate reports on activities, progress, results and achievements
- b) you give your **manager** clear, accurate and timely information about emerging threats and opportunities
- c) you consult your **manager** about organisational policies and ways of working at appropriate times
- d) your **proposals** for action are clear and realistic
- e) you present your **proposals** for action to your **manager** at appropriate times
- f) where you have disagreements with your **manager**, you make constructive efforts to resolve these disagreements.

ASSESSMENT FOR BEST PRACTICE

If you wish to aspire to best practice, this section shows you how the Standards can be used for either organisational or self-assessment purposes and how to recognise success. It includes specific evidence requirements and general examples of evidence.

EVIDENCE REQUIREMENTS

You must prove that you *gain the trust and support of your manager* to the National Standard of competence. To do this, you must provide evidence to convince your assessor that you consistently meet all the performance criteria. Your evidence must be the result of real work activities undertaken by yourself. Evidence from simulated activities is acceptable only for performance criterion f) in this element.

You must show evidence that you gain the support of a manager who is either

- the person(s) to whom you report or
- the organisation or authority to which you report

You must also show evidence that you present proposals in one of the following forms

- spoken
- written

You must, however, convince your assessor that you have the necessary knowledge, understanding and skills to be able to perform competently in respect of both types of managers and proposals, listed above.

EXAMPLES OF EVIDENCE

Here are a few examples to give you some ideas about the sort of evidence you might be able to find in your daily work.

1. Work activities
 - presenting progress reports to your manager
 - consulting with your manager.
2. Products or outcomes
 - notes and minutes of meetings
 - issue papers
 - appraisal reports
 - feedback from your line manager
 - logs of meetings in which you have been involved.

You may also provide short reports of your own, or statements from others who have observed your performance.

3. Written or spoken reports, describing
 - how you resolved disagreements with your manager .
4. Witness testimony
 - statements from your manager on how you gained his or her trust and support.

KNOWLEDGE REQUIREMENTS

You need to know and understand

1. Communication

- the importance of keeping your manager informed of activities, progress, results and achievements and how to do this
- how to develop and present proposals in ways which are realistic, clear and likely to influence your manager positively.

2. Organisational context

- the management structures, lines of accountability and control in your organisation
- the types of emerging threats and opportunities about which your manager needs to be informed
- the types of organisational policies and ways of working about which you need to consult with your manager and how to do this.

3. Working relationships

- strategies and styles of working which encourage effective working relationships
- methods of handling disagreements with your manager in a constructive manner.

ELEMENT 3.02.3 MINIMISE CONFLICT IN YOUR TEAM

This section provides criteria to assess whether you *minimise conflict in your team* to the National Standard of competence. It also lists the knowledge and understanding which are essential for effective performance.

PERFORMANCE STATEMENTS

You must:

- a) you inform team members of the standards of work and behaviour you expect, in a manner and at a level and pace appropriate to the individuals concerned
- b) you provide appropriate opportunities for team members to discuss problems which directly or indirectly affect their work
- c) you take action promptly to deal with conflict between team members
- d) you inform relevant people about conflicts outside your area of responsibility
- e) the way you resolve conflict minimises disruption to work and discord between team members
- f) records of conflicts and their outcomes are accurate and comply with requirements for confidentiality and other organisational policies.

ASSESSMENT FOR BEST PRACTICE

If you wish to aspire to best practice, this section shows you how the Standards can be used for either organisational or self-assessment purposes and how to recognise success. It includes specific evidence requirements and general examples of evidence.

EVIDENCE REQUIREMENTS

You must prove that you *minimise conflict in your team* to the National Standard of competence. To do this, you must provide evidence to convince your assessor that you consistently meet all the performance criteria. Your evidence must be the result of real work activities undertaken by yourself. Evidence from simulated activities is acceptable only for performance criteria c) - f) in this element.

You must show evidence of minimising conflict between team members who are either

- people for whom you have line management responsibility or
- people for whom you have functional responsibility.

You must show evidence of discussing problems which are either

- work related or
- personal

You must, however, convince your assessor that you have the necessary knowledge, understanding and skills to be able to perform competently in respect of both types of team members and problems, listed above.

EXAMPLES OF EVIDENCE

Here are a few examples to give you some ideas about the sort of evidence you might be able to find in your daily work.

1. Work activities

- informing team members of expected standards of work
- discussing problems with team members
- taking action to resolve conflicts.

2. Products or outcomes

- minutes or notes of relevant meetings and discussions
- correspondence and memos between team members which deal with conflict situations
- your personal diaries or logs recording attempts at dealing with conflict
- your records of conflicts in the team and their outcomes.

You may also provide short reports of your own, or statements from others who have observed your performance.

3. Written or spoken reports, describing

- how you gave team members opportunities to discuss problems that directly or indirectly affect their work
- how you identified conflicts requiring your intervention
- how you decided what action to take to minimise conflict and disruption.

4. Witness testimony

- statements from team members involved in conflicts
- statements from people who observed you resolving conflicts.

KNOWLEDGE REQUIREMENTS

You need to know and understand

1. Information handling

- the importance of maintaining accurate records of conflicts and their outcomes
- the information regarding conflicts which must be treated confidentially and the people who may and may not be informed.

2. Organisational context

- the people to inform when conflicts are outside your area of responsibility
- the organisational requirements regarding the handling of conflict and its resolution.

3. Working relationships

- situations, behaviour and interactions between people which encourage conflict
- how to minimise conflict between people at work
- the importance of keeping people regularly informed of expected standards of work and behaviour
- how to inform people of the standards and behaviour you expect of them
- the importance of giving people opportunities to discuss problems affecting their work and how to provide such opportunities
- how to identify potential conflict between individuals in your organisation
- types of conflict which may occur between people at work and action to take in response to these which will minimise disruption to work.

UNIT 3.05 PROVIDE TECHNICAL SUPPORT

UNIT SUMMARY

This unit is for those who provide technical support to others. Technical support can be for information, services, advice, guidance or instruction on the use of materials and equipment. Such support will be sought in the event of defective materials and processes or fault identification. Part of the role involves updating technical information and/or adapting procedures to meet new requirements such as process alterations or changes in legislation.

Such technical support might be provided by a specialist department, such as a customers technical services unit, or may be part of the job role of a technical specialist within a more general context.

This involves:

- evaluating customer requests
- structuring the nature of the technical assistance
- obtaining and updating technical information for others
- providing technical support
- evaluating outcomes.

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.

3.05.1 Evaluate requirements for technical assistance

3.05.2 Utilise information

3.05.3 Implement technical assistance plan

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 3.05.01 EVALUATE REQUIREMENTS FOR TECHNICAL ASSISTANCE

PERFORMANCE STATEMENTS

You must:

- a) Receive **requests** and respond to them correctly.
- b) Evaluate accurately the capacity to meet the required assistance.
- c) Design technical **assistance** in response to customer requests.
- d) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**
- e) Record information using appropriate **documentation**

SCOPE

- 1. **Requests** to be either written and/or oral from at from at least **one** of the following: internal or external customers; colleagues; or any end user of the service
- 2. **Assistance** to include at least **one** of the following: technical support for procedure; problem diagnosis and solution; advice and guidance.
- 3. **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.
- 4. **Documentation** to include **all relevant** COSHH data sheets and risk assessments and **two** of the following: customer contact forms; job requests; standard operating procedures; proposed action plan.

ELEMENT 3.05.02 UTILISE INFORMATION

PERFORMANCE STATEMENTS

You must:

- a) Obtain **information** that is accurate and sufficient
- b) Check that comprehensive **information** is available to support the service provided
- c) Interpret the **information** correctly
- d) Apply the **information** to specific situations
- e) **Update** the **information** sources as required
- f) Record **information** using appropriate **documentation**

SCOPE

- 1. **Information** to be obtained from at least **two** of the following sources: standards organisational; national; European and International; instructions; operating procedures; organisational requirements
- 2. **Updating** of information source to include at least **one** of the following: new standards; changes in legislation; new methods and techniques; findings from internal activities.
- 3. **Documentation** to include **all relevant** COSHH data sheets and risk assessments and at least **two** of the following: company archive information; standard reference sources; standard operating procedures; national and international standards.

ELEMENT 3.05.03 IMPLEMENT TECHNICAL ASSISTANCE PLAN

PERFORMANCE STATEMENTS

You must:

- a) Implement the strategy for **meeting requirements**.
- b) Modify or repeat the strategy as necessary.
- c) Use appropriate **sources of support** to provide assistance.
- d) Record accurately the outcomes of technical assistance using appropriate **documentation**.
- e) **Evaluate** the final outcomes against defined success **criteria**.
- f) Provide customers with appropriate information and feedback.
- g) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

SCOPE

1. **Meeting requirements** to include **one** of the following: trouble shooting a problem; updating a technical process following introduction of new equipment and processes; investigating a defective product or piece of equipment; evaluating the possible use of a new raw material within an existing process.
2. **Sources of support** to include at least **two** of the following: colleagues, equipment, personnel, information, materials
3. **Documentation** to include at least **two** of the following: standard operating procedures; job files; work plans and schedules; written customer endorsement.
4. **Evaluation criteria** to be used to include **all** of the following: customer specification; resources committed; effectiveness of strategy adopted.
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 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 could be the legal consequences of breaches of quality procedures
4. What processes are involved in establishing customer requests
5. What processes are involved in meeting customer requirements
6. What are the procedures for making requests
7. What are the standard operating procedures
8. What are the range of facilities and services which can be provided
9. What materials and equipment are appropriate to the provision of technical services
10. What are the constraints of the processes and equipment
11. What are the properties of materials
12. How to access information sources
13. What other sources of support can be used
14. What documentation should be used and why it is important to complete it accurately
15. What methods are used for obtaining, storing and retrieving information
16. What constitutes current and relevant information
17. What resources are needed to deliver support
18. What methods should be used for recording outcomes
19. What evaluation criteria should be used that is relevant to customer requirements
20. What methods should be used for feedback
21. What document control and reporting procedures should be used

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 2.11.01 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 2.11.02 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 3.17 IMPROVE THE QUALITY AND RELIABILITY OF THE LABORATORY

UNIT DESCRIPTION

This unit is for those who work in a laboratory or related environment who can contribute to improving the quality and the reliability of the laboratory or related working environment.

This involves:

- identifying potential improvements
- making recommendations for improvements
- agreeing timescales for implementing improvements
- evaluating improvements
- 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.

3.17.1. Identify and recommend improvements

3.17.2. Implement improvements

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 3.17.01 IDENTIFY AND RECOMMEND IMPROVEMENTS

PERFORMANCE STATEMENTS

You must:

- a) **Monitor** activities at intervals in order to identify potential improvements in **working practices**
- b) Gather **information** on trends and developments in **working practices**
- c) Obtain views, when appropriate, of **relevant people** on potential improvements to the laboratory environment
- d) Identify any **considerations** which may affect the implementation of potential improvements
- e) Make **recommendations for improvements to working practices**
- f) Make **recommendations for improvements** which are **consistent with the objectives of your team and your organisation**
- g) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

SCOPE

1. **Monitor** either hourly, daily, weekly, monthly or as appropriate.
2. **Working practices** to include potential improvements in **any** working practice 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; environmental considerations and approved codes of practice.
3. **Information** to be sufficient, valid and reliable information, in order to aid identification of potential improvements
4. **Relevant people** to include at least **one** of the following: fellow technicians, teachers, lecturers, support staff, supervisors, team leaders, managers, heads of departments, health and safety officers
5. **Considerations** to include at least **three** of the following: objectives, budgets, timescales, resources, staffing changes, constraints such as financial, personnel and time, and the likely impact of change on others.
6. **Recommendations for improvements** should include **all** of the following information: be based on sufficient, valid and reliable information and which take account of timescales, resources and the impact of change on others.

7. **Consistent with the objectives of your team and your organisation** which could include curriculum development, restructuring staff provision, building strategy.

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 any specific organisational requirements.

ELEMENT 3.17.02 IMPLEMENT IMPROVEMENTS

PERFORMANCE STATEMENTS

You must:

- a) Agree improvements with **relevant people** in sufficient detail to allow effective planning
- b) Agree realistic timescales for implementing improvements
- c) Explain plans for improvements to **those who may be affected** by them in sufficient detail and at an appropriate level and pace
- d) Confirm others' understanding of, and commitment to, your plans for improvement
- e) Monitor the implementation of improvements to identify any problems and take **appropriate action**
- f) **Evaluate the effectiveness** of the improvement
- g) 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 **two** of the following: fellow technicians, teachers, lecturers, support staff, supervisors, team leaders, managers, heads of departments, health and safety officers.
2. **Those who may be affected** to include at least **one** of the following: fellow technicians, teachers/lecturers, students, and other support staff, contractors.
3. **Others** to include fellow technicians, other team/department members.
4. **Appropriate action** to include **any** action taken relating to materials, personnel and /or equipment within the limits of your responsibility. May include reminding people of their agreed input, obtaining extra resources (staff and materials), informing line manager.
5. **Evaluate the effectiveness** in terms of success against known objectives.
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 the laboratory working environment is conducive to good health
4. How to assess current working practices
5. How to identify possible areas for improvement
6. How to identify the implications of change on others
7. What other considerations need to be taken into account
8. When and how to obtain the views of relevant people
9. How to make recommendations for improvement
10. How to ensure that the recommendations are consistent with objectives of your team and / or organisation
11. How to communicate suggestions for change
12. What methods can be used to implement the improvements
13. How to plan and agree appropriate timescales for improvements
14. How to communicate to others effectively
15. How to gain commitment from others
16. How to identify problems
17. What action is appropriate to take in the event of problems
18. How to evaluate improvements
19. How to monitor improvements
20. Who are the relevant people / colleagues

GROUP A UNITS

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. **Customers 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 2.07.02 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 2.07.04 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 3.18 DIAGNOSE FAULTS, REPAIR AND MAINTAIN LABORATORY EQUIPMENT

UNIT SUMMARY

This unit is for those who identify, record, confirm the cause of the faults and then arrange for the repair of the laboratory equipment.

This involves:

- identifying and recording faults
- confirming the causes of faults
- arranging for the repair of faults
- 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.

3.18.1. Diagnose faults

3.18.2. Organise repairs

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 3.18.01 DIAGNOSE FAULTS

PERFORMANCE STATEMENTS

You must:

- a) **Examine** equipment for faults or defective parts at **regular** intervals
- b) Use **methods of fault diagnosis** which comply with **standard operating procedures**
- c) Identify and record faults accurately using appropriate **documentation**
- d) Investigate the possible **causes of faults**, using the appropriate **diagnostic equipment** where necessary
- e) Confirm the **cause of the faults**
- f) Record the causes of faults accurately using correct documentation and take the **appropriate action**
- g) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

SCOPE

1. **Examine** within the limits of responsibility and capability
2. **Regularly** to be at least **one** of the following: hourly, weekly, monthly or as detailed in written procedures, or when requested /agreed with line manager within the limits of your responsibility.
3. **Methods of fault diagnosis** to be agreed with line manager and within the limits of responsibility and capability
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. **Documentation** to include specialist instructions and documentation for reporting and diagnosing faults.
6. **Causes of faults** to be at least **one** of the following: gradual deterioration of components and utilities, complete breakdown, component failure
7. **Diagnostic equipment** which may include multimeter, oscilloscope
8. **Appropriate action** to include **any** action taken relating to either materials, personnel and /or equipment within the limits of your responsibility. May include discussion with teachers whose classes repeatedly suffer equipment failure, rectify inappropriate storage or handling of equipment
9. **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 3.18.02 ORGANISE REPAIRS

PERFORMANCE STATEMENTS

You must:

- a) Access **information** necessary for **remedial action**
- b) Replace and / or repair defective parts, and make adjustments in accordance with manufacturers' instructions, within the limits of your responsibility
- c) When required, obtain replacement parts and / or components from an authorised source, using the most cost effective method
- d) Report faults which you cannot repair to the **relevant people**
- e) Take **appropriate action** to reduce the likelihood of the fault recurring
- f) Dispose safely of equipment when it is beyond repair
- g) Record repairs and replacement parts accurately, using correct documentation, to generate an accurate service history
- h) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

SCOPE

- 1. **Information** to include cause of fault, likelihood of re-occurrence and any other relevant factors.
- 2. **Remedial action** to include at least **one** of the following: replace or repair defective parts. Also to decide whether faults can be repaired by you, or another person is needed to execute the repair, internal or external to your place of work.
- 3. **Relevant people** to include at least **one** of the following: teachers, head of department, line manager, finance director, lecturers, tutors, supervisors, team leaders, line 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. May include issuing a reminder to users of the correct operating procedure, modifying equipment
- 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 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 techniques and science required to diagnose faults in laboratory equipment
7. Why it is important to check equipment for faults at regular intervals
8. What types of diagnostic equipment may be used
9. How to diagnose faults
10. How to diagnose the cause/s of faults
11. How to undertake remedial action yourself within the limits of your authority
12. What remedial action is appropriate
13. How to repair equipment within the limits of your responsibility
14. Where to obtain replacement components / parts from
15. How to arrange for the equipment to be repaired by others
16. Why it is important to ensure that the repairs are cost effective
17. How can the re-occurrence of the fault be avoided
18. How to dispose of unusable equipment safely according to standard operating procedure
19. What documentation should be used and why it is important to complete accurately
20. Who are the relevant people

UNIT 3.19 DEVELOP AND TRIAL NEW LABORATORY METHODS

UNIT SUMMARY

This unit is for those who develop and trial new laboratory methods. The development may take place in schools, FE, HE, or in the workplace.

This involves:

- developing ideas for new laboratory methods
- identifying the resources requirements for new laboratory methods
- trialling new methods
- identifying problems and modifying methods
- 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.

3.19.1. Propose and develop new laboratory methods

3.19.2. Trial new 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 3.19.01 PROPOSE AND DEVELOP NEW LABORATORY METHODS

PERFORMANCE STATEMENTS

You must:

- a) Discuss and clarify ideas for new **laboratory methods** with the **relevant people**
- b) Identify the **resource requirements** and **constraints** on the method/ accurately
- c) Identify the **hazards** associated with the laboratory method and detail the ways of minimising the **risks**
- d) Develop proposals for new methods in accordance with **standard operating procedures**
- e) Agree the proposed new methods with the **relevant people**
- f) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

SCOPE

1. **Laboratory methods** to include at least **one** of the following: practical work undertaken by students, working practices for technician support
2. **Relevant people** to include at least **two** of the following, laboratory technicians, students, teachers, lecturers, colleagues, tutors, supervisors, team leaders, line managers, heads of departments, health and safety officers.
3. **Resource requirements** to include at least **two** of the following variables: equipment, consumables, facilities, staff, available finances, materials required, quantities of materials to be used, cost of materials and equipment, risk of breakages and the practical expertise of the end user/s.
4. **Constraints** to include at least **two** of the following variables: available equipment / materials / staff/ finances/ time / facilities. Proposed changes to the curriculum.
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 standard operating procedure, use of PPE, use of different facilities.
6. **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.
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 3.19.02 TRIAL NEW LABORATORY METHODS

PERFORMANCE STATEMENTS

You must:

- a) Write clear and accurate **procedures** for new methods
- b) Trial new methods and record the results accurately using appropriate **documentation**
- c) Identify any problems or faults in the new method and **modify** the method accordingly
- d) **Evaluate** and document the results of trials of the new method
- e) Make **clear recommendations** about the new method and obtain agreement from the **relevant people**
- f) 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; organisational procedures and requirements, standard operating procedures; materials; safe disposal of waste and approved codes of practice.
2. **Documentation** to include **all** of the following, procedures, written reports, risk assessments.
3. **Modify** methods by **one** of the following: making adjustments, altering materials, altering equipment and / or time.
4. **Evaluate** the laboratory method against purpose and constraints, taking account of suitability in terms of learning outcome to be gained, input / effort required from end users and staff, time and cost of the new method.
5. **Clear recommendations** to include **all** health and safety requirements, risk assessment, operating procedures.
6. **Relevant people** to include at least **two** of the following teachers, lecturers, tutors, colleagues, supervisors, 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, 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 new laboratory methods
7. How to locate other sources from which further scientific and technical knowledge can be obtained from the new laboratory methods
8. What resources are required and available for new laboratory methods
9. What constraints are in force when developing new laboratory methods
10. What constitutes a hazard
11. How to identify hazards and what action to take including the use of risk assessments
12. How to develop proposals for new laboratory methods
13. How to gain agreement for the proposed new laboratory methods
14. How to write procedures for new laboratory methods
15. How to test the new laboratory method
16. How to identify problems or faults in the new laboratory method
17. What adjustments can be made to the new laboratory method
18. What types of modifications can be made to new laboratory methods
19. What methods can be used to evaluate the results of the new laboratory method
20. Who are the relevant people
21. How to make clear recommendations
22. Why it is important to gain agreement from relevant people
23. Why should this agreement be in writing
24. What documentation should be used and why it is important to complete it accurately

UNIT 3.21 CONTRIBUTE TO THE PLANNING OF TEACHING AND LEARNING

UNIT SUMMARY

This unit is for those who contribute to the planning of teaching and learning within their organisation by the development of new laboratory operating procedures.

This involves:

- identifying requirements
- using verbal, written and computer based information
- identifying new resources and activities
- identifying statutory and non- statutory health and safety requirements
- 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.

3.21.1. Evaluate the technical requirements for teaching and learning

3.21.2. Develop operating procedures for learning resources and 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 3.21.01 EVALUATE THE TECHNICAL REQUIREMENTS FOR TEACHING AND LEARNING

PERFORMANCE STATEMENTS

You must:

- a) **Discuss** teaching and learning plans with **relevant people**
- b) **Evaluate the implications** of technical requirements in teaching and learning plans.
- c) Give **priority** to suitable **technical advice** in proposals for new strategies, resources and materials for teaching and learning
- d) Locate, obtain and review effectively **information** about technical requirements
- e) **Record** and report accurately evaluations of technical requirements
- f) Clearly establish technical requirements and disseminate them to **relevant people**

SCOPE

- 1. **Discussions** could be either verbal, written, paper and / or electronic.
- 2. **Relevant people** to include those in the organisation who are part of the decision making process at least **one** of the following: such as, teachers, lecturers, tutors, supervisors, team leaders, line managers, heads of departments, health and safety officers.
- 3. **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
- 4. **Evaluate the implications** of technical requirements against purpose and constraints, taking account of staff availability, materials, services, available resources, suitability in terms of learning outcome to be gained, input / effort required from end users and staff, time and cost constraints.
- 5. **Prioritise** according to **technical advice** obtained concerning: availability of resources, use of techniques, sources of information, health and safety issues, organisational policy changes, departmental directives
- 6. **Information** to include **any** further scientific and technical knowledge that may be needed to analyse and then develop operating procedures. Gained from text and reference books, other colleagues, organisations and the Internet.
- 7. **Record** using appropriate documentation method.

ELEMENT 3.21.02 DEVELOP OPERATING PROCEDURES FOR LEARNING RESOURCES AND ACTIVITIES

PERFORMANCE STATEMENTS

You must:

- a) Identify the **resources and activities** for which **operating procedures** need to be developed
- b) Seek and obtain the necessary approvals from **relevant people** for developing **operating procedures**
- c) Develop **operating procedures** using the appropriate language and style for the recipient
- d) Include all health and safety requirements at the appropriate places within the **operating procedures**
- e) Ensure **relevant people** check **operating procedures** for suitability
- f) Obtain confirmation from **relevant people** concerning suitability of **operating procedures**
- g) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

SCOPE

1. **Resources and activities** must include **one** of the following hazardous chemicals, biological materials, instruments and equipment, specific laboratory techniques
2. **Operating procedures** to include **all relevant** guidelines, written instructions, departmental procedures, organisational regulations, codes of practice, in-house procedures, British standards and international standards as appropriate. Checks to include suitability, accuracy and adherence to health and safety requirements
3. **Relevant people** to include those in the organisation who are part of the decision making process, to include at least **one** of the following: supervisors, team leaders, line managers, teachers, lecturers, heads of departments, health and safety officers or end users when appropriate.
4. **Confirmation** to include agreement to the operating procedure, and to be written, either electronic or paper. Necessary approvals may be required from the line manager, senior manager etc.
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 when evaluating technical requirements for teaching and learning and how to apply this
3. What working practices ensure that the 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. How to identify and supply the current technical requirements to meet the curriculum needs
6. How to manage the availability and application of existing technical staff
7. What other resources need to be considered when meeting technical requirements
8. How to obtain further scientific and technical knowledge
9. How to maintain an awareness of the scientific and technical knowledge required to understand content, properties and use of resources related to the curriculum
10. How to develop new operating procedures to meet the identified needs of the recipients
11. What copyright laws may influence the development of new operating procedures
12. How to gain check suitability of new operating procedures
13. Why and how it is important to gain agreement for new operating procedures
14. What ethical consideration should be taken into account when developing new operating procedures
15. How to evaluate new operating procedures
16. How to prioritise technical advice
17. Who are the relevant people
18. What methods of communication to use
19. What documentation should be used and why it is important to complete it accurately
20. Why it is important to record all information accurately and clearly
21. Why it is important, and how to gain agreement to the new operating procedures

UNIT 3.22 DEMONSTRATE LABORATORY METHODS TO FACILITATE LEARNING

UNIT SUMMARY

This unit is for those who are able to encourage and facilitate learning by demonstrating skills and methods, and instructing learners.

This involves:

- preparing for the demonstration which includes preparing materials and equipment
- demonstrating the laboratory methods to either individuals or groups
- responding to questions
- 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.

3.22.1. Prepare demonstrations

3.22.2. Demonstrate 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 3.22.01 PREPARE DEMONSTRATIONS

PERFORMANCE STATEMENTS

You must:

- a) Agree the **learning objectives** of the demonstration with teaching staff
- b) Gather relevant and accurate **information** for the demonstration
- c) Prepare the content of the demonstration to meet the learning needs of students
- d) Select suitable equipment and materials, and check that they are in good working order
- e) Confirm that the **location for the demonstration** allows for optimum visibility and conforms to health and safety requirements and **regulations and guidelines**
- f) Prepare answers to anticipated questions

SCOPE

1. **Learning objectives** to include at least **one** of the following: demonstrating new skills, methods, and /or instructing learners.
2. **Information** to include **all** of the following: place for and time of activity, time allocated for its completion, number of people present, scale of operation, experimental procedure, health and safety aspects including personal protective equipment required.
3. **Location for the demonstration** to include at least **one** of the following: laboratory, a fume cupboard, a lecture theatre, outside, e.g. during fieldwork.
4. **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 3.22.02 DEMONSTRATE METHODS

PERFORMANCE STATEMENTS

You must:

- a) Explain the **purpose** of the demonstration clearly to learners
- b) Demonstrate laboratory methods in a way **appropriate to learners' needs**
- c) Conduct the demonstration at a pace which enables learners to develop an understanding of the method
- d) Explain the features of the demonstration in a way which maintains learners' interest
- e) Encourage learners to ask questions at appropriate stages in the demonstration
- f) Provide **satisfactory answers** to questions
- g) Seek further information **from other sources** if a question cannot be answered
- h) Deal with irrelevant questions **appropriately**
- i) Minimise distractions and interruptions to demonstrations
- j) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

SCOPE

- 1. **Purpose** to include at least **one** of the following: demonstrating new skills, methods, and /or instructing learners.
- 2. **Appropriate to learners' needs** to include simple or technical language, speed of delivery, good laboratory technique.
- 3. **Satisfactory answers** to include an appropriate amount of detail in an understandable language.
- 4. **From other sources** might include text and reference books, colleagues, the Internet.
- 5. **Appropriately** to include: tactfully and firmly.
- 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 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 select the materials and equipment for the learning activity
9. How to prepare resources for student learning activities
10. How to promote best working practice amongst students
11. How to monitor student's learning activities
12. How to encourage learners to ask questions
13. What learning activities can be prepared by students, and how to help them to prepare for the learning activities
14. What hazards are associated with the learning activities
15. What risks as associated with your own and the student's activities
16. What is the appropriate action to take with hazards
17. How to deal with spillages and what action to take
18. What are the procedures for the safe storage and handling of materials and equipment
19. How to identify problems
20. What are appropriate actions to take in the event of problems
21. When and how to use remedial, supportive and / or prohibitive actions
22. Who are the relevant people

GROUP B UNITS

UNIT 3.09 CARRY OUT INVESTIGATIONS

UNIT SUMMARY

This unit is for those who carry out non-routine investigations outside the normal simple and complex activities of sampling and testing as defined in other units. It covers research and development activities and also production and development contexts where standard sampling and testing procedures may need to be brought into new combinations to meet a non-routine outcome. The actual conduct of sampling and testing sub-routines will be identical to those described in other units but the selection and sequencing of such activities will have an investigative purpose.

It is designed for technical experts inside the organisation with responsibility for investigating alternative procedures, troubleshooting and finding innovative ways of meeting customer requirements.

Customers for such investigations can be either external or internal to an organisation e.g. another department within the same organisation.

This involves:

- identifying the objective of the investigation
- gathering and analysing information to meet the objective
- selecting appropriate investigative techniques
- establishing resource requirements and planning delivery
- conducting investigations such as sampling or testing
- recording and evaluating data
- presenting outcomes to end users.

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

- 3.09.1 Plan investigations**
- 3.09.2 Conduct investigations**
- 3.09.3 Record and evaluate results of investigations**

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 3.09.01 PLAN INVESTIGATIONS

PERFORMANCE STATEMENTS

You must:

- a) Identify the **objective** of the investigation.
- b) Obtain and collate appropriate **information** which assists the investigation
- c) Analyse the **information** correctly and evaluate it against the objective of the investigation.
- d) Identify the **conditions** under which investigations can take place.
- e) Evaluate the alternative investigative techniques and select the appropriate technique.
- f) Prioritise the tasks within the investigation and identify appropriate procedures.
- g) Quantify the **resource** requirements for the investigations and ensure that they are within the **capability** of the organisation.
- h) Set procedures in place to deal with **contingencies** arising during investigations.

SCOPE

1. **Objective** to include at least **one** of the following: investigating a non-compliance problem; establishing the properties and potential applications of a new material; identifying a substance; conducting an independent dispute resolution technical investigation; evaluating new raw materials or materials savings as part of cost reduction programme; quality assurance reviews; troubleshooting; materials investigation; identification of a substance; analysis of constitution, characteristics and possible applications of a material.
2. **Information** to be analysed to include at least **two** of the following: sources which may include national and international standards; manufacturer's instructions; technical reviews of equipment and materials; in-company archives and documents (such as recipes, operating procedures, test reports); COSHH data sheets; environmental and health and safety documentation.
3. **Conditions** to be identified to include at least **two** of the following: investigation environment; investigation criteria; safety factors.
4. **Resource** requirements to include at least **two** of the following: staff; equipment; materials; time.
5. **Capability** to include **all** of the following: techniques; technical expertise; available time; resources.
6. **Contingencies** that need procedures to be set in place to deal with will include at least **two** of the following: equipment failure; delays; changes in variables; safety and environmental changes.

ELEMENT 3.09.02 CONDUCT INVESTIGATIONS

PERFORMANCE STATEMENTS

You must:

- a) Ensure that all required resources are available and correctly prepared.
- b) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**
- c) Record any deviations from standard operating procedures or the anticipated results, and take the **appropriate action**.
- d) Take into account the effects of investigation on **immediate environment** and the environment on the investigation.
- e) Carry out investigations following **standard operating procedures**.
- f) Clean equipment and materials to be re-used and store appropriately.
- g) Handle and dispose of other equipment and materials safely and correctly.
- h) Restore the working area to an appropriate condition.
- i) Complete the correct **documentation** in accordance with **standard operating procedures**.

SCOPE

1. **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.
2. **Appropriate action** to include **any** action taken relating to either materials, personnel and /or equipment within the limits of your responsibility
3. **Immediate environment** to include **all** of the following: operations; people; conditions under which the investigation is conducted.
4. **Standard operating procedures** to include **all relevant** organisational requirements, instructions, departmental procedures, codes of practice, organisational regulations, in house procedures, European and International standards
5. **Documentation** to include at least **three** of the following: standard operating procedures supported by individual sample and test results, including all controls and standards; reports on deviations from expected results; documentary proof of safe disposal of hazardous waste, investigation plan supported by the final report on the process.

ELEMENT 3.09.03 RECORD AND EVALUATE RESULTS OF INVESTIGATIONS

PERFORMANCE STATEMENTS

You must:

- a) Record relevant **information** and data following **standard operating procedures**.
- b) Apply tolerances to quantitative data.
- c) **Evaluate** the results for their completeness, validity and relevance to the **objective** of the investigation.
- d) Complete the correct **documentation** in accordance with **standard operating procedure**.
- e) Process the data to provide usable information.
- f) Present the results to the **relevant people** within agreed timescales.

SCOPE

1. **Information** to be recorded to include **all** relevant information concerning: sample identification; results of tests; calculations and data processing; conditions of test; enables replication of test by others.
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. **Evaluate** results to ensure completeness and validity by using at least **two** of the following: absence of systematic error; credibility; validity; reliability; transferability; comparison with International Standards Organisation standards; and with predictive norms and standards.
4. **Objective** to include at least **one** of the following: investigating a non-compliance problem; establishing the properties and potential applications of a new material; identifying a substance; conducting an independent dispute resolution technical investigation; evaluating new raw materials or materials savings as part of cost reduction programme; quality assurance reviews; troubleshooting; materials investigation; identification of a substance; analysis of constitution, characteristics and possible applications of a material.
5. **Documentation** to include at least **three** of the following: standard operating procedures supported by individual sample and test results, including all controls and standards; reports on deviations from expected results; documentary proof of safe disposal of hazardous waste, final report on the process.
6. **Relevant people** to include at least **one** of the following supervisors, team leaders, managers, heads of departments, health and safety officers.

KNOWLEDGE STATEMENTS

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

1. What are your personal responsibilities with regard to health, safety and the environment in the working area
2. What are the approved codes of practice and why it is important to follow them.
3. What are the organisation's policy and procedures on safe working practices
4. Why it is important to follow safe operating procedures when using equipment and / or materials.
5. What are the principles and procedures for investigations
6. What techniques are relevant to the investigation
7. How to set objectives taking account of capabilities and available resources
8. How to source and access relevant standards
9. What are acceptable operating conditions
10. What operating conditions are necessary to conduct the investigation
11. What are the implications of deviations from set procedures
12. How to identify customer requirements
13. What are the essential features of an investigation plan and how to initiate it
14. What equipment should be used for the investigation, and how to choose the most appropriate equipment
15. What are the standard recording and reporting procedures to use
16. How to identify and deal with contingencies
17. What are the limits and tolerances of investigation techniques
18. What methods can be used for dealing with the handling, storage and disposal of materials
19. What cleaning materials and methods of use should be used
20. What are the methods of safe storage that can be used
21. What is the reporting procedure in the event of deviations
22. How to deal with deviations, and who are the relevant people
23. What constitutes complete and valid data
24. What methods can be use for deriving and presenting the investigation results
25. What methods can be used to evaluate the data
26. Who are the relevant people, and how to present the information to them
27. What documentation should be used and why it is important to complete it accurately

UNIT 3.11 MAKE PRESENTATIONS

UNIT DESCRIPTION

This unit is for those who make brief technical, evaluative or persuasive presentations to small groups of colleagues or customers using a variety of audio-visual aids in relation to laboratory or associated technical activities.

Customers can either be external or internal to an organisation, e.g. another department within the same organisation.

This involves:

- preparing for the presentation which includes preparation of the material to present
- delivering the presentation
- responding to questions
- 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 detailed at the end of the unit.

3.11.1. Prepare presentations

3.11.2. Deliver presentations

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 3.11.01

PREPARE PRESENTATIONS

PERFORMANCE STATEMENTS

You must:

- a) Agree the purpose and objectives of the **presentation** with the **sponsor**
- b) Gather relevant and accurate information for the **presentation**
- c) Prepare the content of the **presentation** to meet the needs of the **target audience**
- d) Prepare **materials and equipment** to aid the **presentation**
- e) If required, check the content of the prepared **presentation** with the sponsor
- f) Prepare answers to anticipated questions
- g) Take all factors into account that may affect the **presentation**
- h) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

SCOPE

1. **Presentation** to be either technical, evaluative or persuasive, and should include reporting back on projects or work related topics of interest and /or reporting results and explaining their significance to others in the organisation
2. **Sponsor** to include at least **one** of the following: employer, teachers, lecturers, tutors, supervisors, team leaders, line managers, heads of departments, or an external sponsor.
3. **Target audience** to include at least **one** of the following: pupils, students, work colleagues, outside agency representatives, tutors, teachers, supervisors, line managers, lecturers, or another category of audience.
4. **Materials and equipment** to include **all** necessary prompts, cards handouts, visual aids, audio, visual and technology based equipment.
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 3.11.02

DELIVER PRESENTATIONS

PERFORMANCE STATEMENTS

You must:

- a) Present the content of the presentation in a logical and structured way
- b) Ensure that the presentation contains a clear and concise introduction and summary, and makes recommendations where appropriate
- c) Ensure that the delivery of the presentation meets the **specified criteria**
- d) Deal with questions **appropriately**
- e) Clearly identify the **conclusions** of the presentation
- f) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

SCOPE

- 1. **Specified criteria** to include **all** of the following: giving a clear and audible delivery; maintaining the audience's interest whilst keeping to the subject matter; keeping within specified time limit and making effective use of materials and equipment.
- 2. **Appropriately** to include **all** of the following: clarifying questions when necessary; responding to questions and providing satisfactory answers; seeking other information for any questions that cannot be answered immediately; and dealing with irrelevant questions tactfully and firmly.
- 3. **Conclusions** to include a summary and review of the presentation.
- 4. **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 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 whilst giving your presentation
3. What working practices ensure that the presentation 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. How to agree the purpose and objectives of the presentation with the sponsor
6. How to gather relevant and accurate information for the presentation
7. How to ensure the content of the presentation will meet the needs of the target audience
8. What methods of presentation can be used
9. What is an appropriate environment for the presentation
10. What are appropriate materials and equipment for the presentation
11. How to judge the effectiveness of the presentation
12. What is an appropriate environment for the presentation
13. How to prepare for and anticipate questions during the presentation
14. How to ensure the content of the presentation is balanced and accurate
15. What different methods of presentation can be used
16. How to ensure that the delivery of the presentation meets the specified criteria to
17. How to deal with questions appropriately
18. What methods can be used to end the presentation

UNIT 3.20 DEVELOPING THE RESEARCH DESIGN

UNIT DESCRIPTION

This unit describes the activities and understanding you will need to develop the research design

You will need to demonstrate and explain how you do the following.

- 3.20.1 Identify the methods to achieve the aims and objectives of the research**
- 3.20.2 Select and develop tools, techniques and apparatus to achieve the aims and objectives of the research**
- 3.20.3 Draw up research plans**

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 activities relevant to this unit on at least two separate occasions.

ELEMENT 3.20.01 IDENTIFY THE METHODS TO ACHIEVE THE AIMS AND OBJECTIVES OF THE RESEARCH

PERFORMANCE STATEMENTS

You must:

- a identify clearly the detailed components and proposed outputs of the research¹ and prioritise the aims and objectives
- b determine clearly the type and extent of information required to produce the research outputs
- c identify accurately factors which might benefit or obstruct the research and assess them for their impact
- d evaluate realistically the feasibility of utilising a range of methods with reference to the benefits and disadvantages of each method identified
- e adapt or develop new methods which are capable of achieving the required outputs where existing methods appear unsuitable
- f select methods which involve the least possible ethical risk² in the circumstances
- g establish evaluation criteria and methods to determine the success of the research
- h document fully the rationale for the selection of methods and confirm the choice of methods with appropriate colleagues

ELEMENT 3.20.02 SELECT AND DEVELOP TOOLS, TECHNIQUES AND APPARATUS TO ACHIEVE THE AIMS AND OBJECTIVES OF THE RESEARCH

PERFORMANCE STATEMENTS

You must:

- a review critically the existing tools, techniques and apparatus³ and their suitability for the purpose of the research and select them accurately for the research
- b explore fully the possibility of adapting existing tools before new ones are developed, where no suitable tools, techniques or apparatus are found
- c assess realistically the cost of adapting tools or developing new tools, techniques or apparatus when necessary
- d test and pilot new tools, techniques and apparatus, evaluate critically their fitness for purpose and make modifications as appropriate
- e select or develop tools, techniques and apparatus in line with relevant regulatory or ethical guidelines
- f document fully the rationale for the selection of tools, techniques and apparatus and confirm your choice with appropriate colleagues

ELEMENT 3.20.03

DRAW UP RESEARCH PLANS

PERFORMANCE STATEMENTS

You must:

- a record accurately details of all methods and tools to be employed in the research along with the rationale for their selection
- b calculate accurately the time and resources required to complete each research task which should be appropriate to the research objectives
- c present clearly the time and resource requirements of the research in the research plan
- d identify correctly factors which might affect the timescale of the research⁴ and incorporate them clearly into the research plan
- e specify accurately and clearly the relationships between research tasks⁵ in the research plan
- f make provision in the research plan for compliance with any regulatory or ethical constraint on the research⁶
- g include in the research plan detailed criteria for the evaluation of the research design
- h present the research plan to all relevant people in an appropriate format

SCOPE

1. the range of possible methods, tools, techniques and apparatus to achieve the desired outcomes and their relative advantages and disadvantages
2. methods for evaluating the success of the research
3. ethical codes/frameworks/constraints affecting the research
4. regulatory requirements affecting research and the area of study including health and safety requirements
5. resources available for the research
6. planning/project management methods and practices
7. the nature of the work and the methods to be used

KNOWLEDGE STATEMENTS

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

1 the detailed components and proposed outputs of the research

The degree to which these may be identified clearly will obviously depend on the circumstances of the particular piece of research. Given the iterative nature of the research process the direction of the work and therefore its components and proposed outputs are likely to change during the course of the research with the impact of new discoveries or unanticipated occurrences.

Hence at the design stage, researchers can only be expected to predict what will be needed and what form the results are likely to take within the bounds of current knowledge and understanding. Researchers cannot be expected to predict the future, although they might be expected to make some general contingency plans and to have understanding of the sort of situations which, were they to arise would affect the research.

2 the least possible ethical risk in the circumstances

There has been some argument that this phrase should be replaced with “no unacceptable ethical risk”. This would be the bare minimum requirement for ethical performance of this element. However, a competent researcher should be able to evaluate a range of methodological options on ethical grounds and to balance ethical considerations against practical considerations.

3 tools, techniques and apparatus

This element aims to apply to a whole spectrum of research. Therefore, tools, techniques and apparatus could range from specific pieces of laboratory apparatus to questionnaires and interview techniques.

4 factors that might affect the timescale of the research

The timescale and schedule of the research could be affected by a number of factors. Some of these can be anticipated eg if the first task carried out as part of the research is unsuccessful, further work on this task will need to be done. It would be unreasonable to expect the researcher to foresee all of these factors since some might relate to unexpected outcomes of a particular research task. However, the researcher might be expected to acknowledge within the research plan that some outcomes would be dependent upon others and that unexpected occurrences of what ever nature may delay, or in an extreme case render futile the next stage of the work.

5 relationships between research tasks

Researchers must relate and prioritise the various component tasks of the research. Research plans should incorporate a critical path analysis and schedule of activities including dates and milestones.

6 make provision in the research plan for compliance with any regulatory or ethical constraints on the research

Plans must take account of the requirement for such things as health and safety inspections and ethical audit.

UNIT 3.23 ASSIST COLLEAGUES IN PARTICULAR LABORATORY TECHNIQUES

UNIT SUMMARY

This unit is for those who are able to provide support to colleagues inexperienced in particular laboratory techniques

This involves:

- demonstrating laboratory techniques to colleagues
- assisting colleagues to perform laboratory techniques
- monitoring colleagues to perform laboratory techniques
- encouraging feedback
- 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.

3.23.1. Demonstrate laboratory techniques to colleagues

3.23.2. Monitor and assist colleagues to perform laboratory techniques

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 3.23.01 DEMONSTRATE LABORATORY TECHNIQUES TO COLLEAGUES

PERFORMANCE STATEMENTS

You must:

- a) Demonstrate **laboratory techniques** based on an accurate analysis of the components of the technique, and the sequence in which they need to be learnt
- b) Demonstrate laboratory techniques in a way which accurately reflects **good practice**
- c) Use demonstration equipment and explain any significant differences between the demonstration and 'real life' practices
- d) Encourage **colleagues** to ask questions and make comments at appropriate stages in the demonstration
- e) **Support colleagues** in practicing the laboratory techniques and give further demonstrations as appropriate
- f) Ensure that demonstrations of laboratory techniques comply with health and safety requirements, and all other relevant **rules and regulations**

SCOPE

- 1. **Laboratory techniques** to include at least **one** of the following preparation of materials, checking and testing materials, care of equipment, construction of apparatus, making measurements, setting-up complex equipment
- 2. **Good practice** 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. **Colleagues** to include at least **one** of the following: fellow laboratory technicians, teachers and / or lecturers.
- 4. **Support** to include **all relevant** advice, guidance, written / diagrammatic / pictorial information, positive reinforcement and encouragement
- 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 3.23.02 MONITOR AND ASSIST COLLEAGUES TO PERFORM LABORATORY TECHNIQUES

PERFORMANCE STATEMENTS

You must:

- a) Identify and agree any aspects of the laboratory techniques which may require your direct participation or assistance
- b) Identify and agree **potential difficulties or problems** in performing the techniques and the action to take
- c) Identify any risks to health and safety involved in the technique and take the appropriate preventative action
- d) Seek **feedback** on the usefulness of the support you have given
- e) Work safely at all times, complying with health and safety, environmental and other relevant **regulations and guidelines**

SCOPE

- 1. **Potential difficulties or problems** to include either manual dexterity, and/or lack of understanding.
- 2. **Feedback** to include views of people affected by the activities of colleagues who have received support.
- 3. **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 analyse the components of the laboratory techniques
8. Why it is important to demonstrate techniques that reflect real practice
9. What differences may there be between demonstrations and real practice
10. How to locate other sources from which further scientific and technical knowledge can be obtained
11. How to prepare resources for support sessions
12. How to promote best working practice amongst colleagues
13. How to encourage participation from colleagues
14. What risks may be associated with your own and your colleague's activities
15. What is the appropriate action to take
16. When and how to use remedial, supportive and / or prohibitive actions
17. How to give support and encouragement
18. How to identify potential difficulties and problems
19. How to deal with difficulties and problems
20. How to encourage feedback on the support you have given
21. Who are the colleagues you need to give support to

UNIT 3.12 MANAGE YOURSELF

UNIT SUMMARY

This unit is about developing your own skills and managing your time so that you can meet your objectives.

This unit is for you if you are a manager or supervisor with

- a tightly defined area of responsibility
- some limited opportunity for taking decisions and managing budgets
- responsibility for achieving specific results by using resources effectively, *and*
- responsibility for allocating work to team members, colleagues or contractors.

This unit contains two elements

3.12.1 Develop your own skills to improve your performance

3.12.2 Manage your time to meet your objectives

As a manager, you should continuously develop your own skills and manage your time effectively.

In order to *develop your own skills to improve your performance*, you need to assess your current level of skills, identify, plan and take action to meet your development needs. You also need to review and update your development plans in the light of your progress or changing circumstances.

To *manage your time to meet your objectives*, you need to agree and prioritise your objectives, plan your time, take decisions, and review and reschedule your activities as appropriate.

PERFORMANCE STATEMENTS

In performing effectively in this unit, you will show that you

1. Acting assertively

- take personal responsibility for making things happen
- say no to unreasonable requests

2. Communicating

- identify the information needs of listeners
- encourage listeners to ask questions or rephrase statements to clarify their understanding
- modify communication in response to feedback from listeners

3. Focusing on objectives

- maintain a focus on objectives
- tackle problems and take advantage of opportunities as they arise
- prioritise objectives and schedule work to make best use of time and resources

4. Managing self

- take responsibility for meeting your own learning and development needs
- seek feedback on performance to identify strengths and weaknesses
- learn from own mistakes and those of others
- change behaviour where needed as a result of feedback

5. Thinking and taking decisions

- break processes down into tasks and activities
- identify implications, consequences or causal relationships in a situation
- produce a variety of solutions before taking a decision
- take decisions which are realistic for the situation.

KNOWLEDGE STATEMENTS

To perform effectively in this unit, you need to have knowledge and understanding in the areas of:

- Communication
- Information handling
- Management competence
- Monitoring and evaluation
- Organisational context
- Planning
- Time management
- Training and development.

You will find detailed knowledge requirements listed with each element.

ELEMENT 3.12.01 DEVELOP YOUR OWN SKILLS TO IMPROVE YOUR PERFORMANCE

This section provides criteria to assess whether you *develop your own skills to improve your performance* to the National Standard of competence. It also lists the knowledge and understanding which are essential for effective performance.

PERFORMANCE STATEMENTS

You must:

- a) you assess your skills and identify your development needs at appropriate intervals
- b) your **assessment** takes account of the skills you need to work effectively with other team members
- c) your plans for developing your skills are consistent with the needs you have identified
- d) your plans for developing your skills contain specific, measurable and realistic objectives
- e) you undertake development activities which are consistent with your plans for developing your skills
- f) you obtain feedback from **relevant people** and use it to enhance your performance in the future
- g) you update your plans for developing your skills at appropriate intervals.

ASSESSMENT FOR BEST PRACTICE

If you wish to aspire to best practice, this section shows you how the Standards can be used for either organisational or self-assessment purposes and how to recognise success. It includes specific evidence requirements and general examples of evidence.

EVIDENCE REQUIREMENTS

You must prove that you *develop your own skills to improve your performance* to the National Standard of competence. To do this, you must provide evidence to convince your assessor that you consistently meet all the performance criteria. Your evidence must be the result of real work activities undertaken by yourself. Evidence from simulated activities is not acceptable for this element.

You must show evidence that your assessments take account of all of the following

- work objectives
- personal objectives
- organisational policies and requirements.

You must also show evidence that you obtain support and feedback from two of the following types of relevant people

- team members
- colleagues working at the same level as yourself
- higher-level managers or sponsors
- specialists.

You must, however, convince your assessor that you have the necessary knowledge, understanding and skills to be able to perform competently in respect of all types of relevant people, listed above.

EXAMPLES OF EVIDENCE

Here are a few examples to give you some ideas about the sort of evidence you might be able to find in your daily work.

1. Work activities

- consulting relevant people
- reviewing your work with others.

2. Products or outcomes

- assessment reports
- plans for developing your own skills.

You may also provide short reports of your own, or statements from others who have observed your performance.

3. Written or spoken reports, describing

- how you identified your development needs
- how you matched your plan for developing your skills to your needs.

4. Witness testimony

- statements from people who were asked for, and provided, feedback.

KNOWLEDGE STATEMENTS

You need to know and understand

1. Communication

- the importance of getting feedback from others on your performance and how to encourage, enable and use such feedback in a constructive manner.

2. Management competence

- the principal skills required for effective managerial performance
- the types of interpersonal skills required for effective teamwork.

3. Organisational context

- the current and likely future requirements and standards within your job role and how they correspond to your level of competence as a manager
- the appropriate people from whom to get feedback on your performance.

4. Training and development

- the importance of continuing self-development to managerial competence
- how to assess your own current level of competence
- how to develop a personal action plan for learning and self-development with realistic objectives
- the types of development activities and their relative advantages and disadvantages
- how to assess your personal progress and update your plans accordingly.

ELEMENT 3.12.02 MANAGE YOUR TIME TO MEET YOUR OBJECTIVES

This section provides criteria to assess whether you *manage your time to meet your objectives* to the National Standard of competence. It also lists the knowledge and understanding which are essential for effective performance.

PERFORMANCE STATEMENTS

You must:

- a) your objectives are specific, measurable and achievable
- b) you prioritise your objectives in line with organisational objectives and policies
- c) you plan activities which are consistent with your objectives and your personal resources
- d) your estimates of the time you need for activities are realistic and allow for unforeseen circumstances
- e) you take decisions as soon as you have sufficient information
- f) you minimise unhelpful interruptions to, and digressions from, planned work
- g) you regularly review progress and reschedule activities to help achieve your planned objectives.

ASSESSMENT FOR BEST PRACTICE

If you wish to aspire to best practice, this section shows you how the Standards can be used for either organisational or self-assessment purposes and how to recognise success. It includes specific evidence requirements and general examples of evidence.

EVIDENCE REQUIREMENTS

You must prove that you manage your time to meet your objectives to the National Standard of competence. To do this, you must provide evidence to convince your assessor that you consistently meet **all** the performance criteria. Your evidence must be the result of real work activities undertaken by yourself. Evidence from simulated activities is **not** acceptable for this element.

EXAMPLES OF EVIDENCE

Here are a few examples to give you some ideas about the sort of evidence you might be able to find in your daily work.

1. Work activities
 - decision-making on work objectives and priorities
 - handling interruptions and digressions
 - reviewing progress and reviewing activities.
2. Products or outcomes
 - written objectives and work schedules

- reviews and progress reports
- letters, memos and reports about justifying decisions.

You may also provide short reports of your own, or statements from others who have observed your performance.

3. Written or spoken reports, describing

- how you agreed your objectives
- how you set work priorities
- how you estimated the time needed to complete activities
- how you analysed information when making decisions
- how you dealt with interruptions and digressions.

4. Witness testimony

- statements from people involved in reviews of your progress.

KNOWLEDGE STATEMENTS

You need to know and understand

1. Information handling

- how to assess how much information is required before an effective decision can be taken.

2. Monitoring and evaluation

- the importance of regular reviews of activity and rescheduling of work to achieving planned objectives
- how to plan and carry out reviews.

3. Planning

- how to set objectives for yourself which are specific, measurable and achievable
- how to prioritise work in line with organisational objectives and policies
- how to estimate the amount of time required to carry out planned activities
- the kind of contingencies which may occur and how to assess and plan for these.

4. Time management

- the importance of effective time management to managerial competence
- how to identify and minimise unhelpful interruptions to planned work.

UNIT 3.14 CONTRIBUTE TO THE DEVELOPMENT OF TEAMS AND INDIVIDUALS

UNIT SUMMARY

This unit is about making a significant contribution to developing the knowledge and skills of individuals and teams to ensure that they produce the best possible results at work. It covers helping to identify people's development needs, planning to meet those needs, carrying out development activities and assessing members of your team to see how they have progressed.

This unit is for you if you are a manager or supervisor with

- a tightly defined area of responsibility
- some limited opportunity for taking decisions and managing budgets
- responsibility for achieving specific results by using resources effectively, *and*
- responsibility for allocating work to team members, colleagues or contractors.

This unit contains four elements

- 3.14.1 Contribute to the identification of development needs**
- 3.14.2 Contribute to planning the development of teams and individuals**
- 3.14.3 Contribute to development activities**
- 3.14.4 Contribute to the assessment of people against development objectives.**

In order to *contribute to the identification of development needs*, you must give all team members the opportunity to contribute their own ideas. You need to make your own judgements about their development needs and present this information to the appropriate people, in the required format and at the appropriate time.

In order to *contribute to planning the development of teams and individuals*, you need to make clear, relevant and realistic recommendations to authorised people for the development of team members. You need to agree these recommendations with the team members concerned and take account of their work activities, learning abilities and personal circumstances.

In order to *contribute to development activities*, you need to provide information, instructions or training, make other learning opportunities available and give feedback to those involved. These contributions must be appropriate to the work activities, learning abilities and personal circumstances of the individuals concerned.

In order to *contribute to the assessment of people against development objectives*, you need to use assessment techniques, such as tests, observation of performance or discussions, and help all members of your team assess their progress against clear, objective criteria. You need to ensure that the results of these assessments are available, when required, to authorised people only.

PERFORMANCE STATEMENTS

In performing effectively in this unit, you will show that you

1. Acting assertively

- state your own position and views clearly in conflict situations
- maintain your beliefs, commitment and effort in spite of set-backs or opposition

2. Building teams

- make time available to support others
- encourage and stimulate others to make the best use of their abilities
- evaluate and enhance people's capability to do their jobs
- provide feedback designed to improve people's future performance
- use power and authority in a fair and equitable manner
- keep others informed about plans and progress
- invite others to contribute to planning and organising work
- set objectives which are both achievable and challenging

3. Communicating

- listen actively, ask questions, clarify points and rephrase others' statements to check mutual understanding
- identify the information needs of listeners
- adopt communication styles appropriate to listeners and situations, including selecting an appropriate time and place
- use a variety of media and communication aids to reinforce points and maintain interest
- present difficult ideas and problems in ways that promote understanding
- confirm listeners' understanding through questioning and interpretation of non-verbal signals
- encourage listeners to ask questions or rephrase statements to clarify their understanding
- modify communication in response to feedback from listeners

4. Thinking and taking decisions

- break processes down into tasks and activities
- use your own experience and evidence from others to identify problems and understand situations
- take decisions which are realistic for the situation.

KNOWLEDGE STATEMENTS

To perform effectively in this unit, you need to have knowledge and understanding in the areas of

- Communication
- Continuous improvement
- Information handling
- Involvement and motivation
- Organisational context
- Training and development

You will find detailed knowledge requirements listed with each element.

ELEMENT 3.14.01 CONTRIBUTE TO THE IDENTIFICATION OF DEVELOPMENT NEEDS

This section provides criteria to assess whether you *contribute to the identification of development needs* to the National Standard of competence. It also lists the knowledge and understanding which are essential for effective performance.

PERFORMANCE STATEMENTS

You must:

- a) you give opportunities to team members to help identify their own development **needs**
- b) you identify their development **needs** accurately and use sufficient reliable and valid information
- c) the development **needs** you identify are consistent with team objectives and organisational values
- d) you present information on **development needs** to **authorised people** only, in the required format and to agreed deadlines.

ASSESSMENT FOR BEST PRACTICE

If you wish to aspire to best practice, this section shows you how the Standards can be used for either organisational or self-assessment purposes and how to recognise success. It includes specific evidence requirements and general examples of evidence.

EVIDENCE REQUIREMENTS

You must prove that you *contribute to the identification of development needs* to the National Standard of competence. To do this, you must provide evidence to convince your assessor that you consistently meet all the performance criteria. Your evidence must be the result of real work activities undertaken by yourself. Evidence from simulated activities is **not** acceptable for this element.

You must show evidence that you identify **both** of the following types of **development needs**

- to meet team objectives
- to meet individual aspirations.

You must also show evidence that you present the necessary information to at least **two** of the following types of **authorised people**

- team members
- colleagues working at the same level as yourself
- higher-level managers or sponsors
- specialists.

You must, however, convince your assessor that you have the necessary knowledge, understanding and skills to be able to perform competently in respect of **all** aspects of the **authorized people**, listed above.

EXAMPLES OF EVIDENCE

Here are a few examples to give you some ideas about the sort of evidence you might be able to find in your daily work.

1. Work activities

- involving your team members in identifying their development needs
- identifying and reporting the development needs of your team.

2. Products or outcomes

- your reports on training and development needs.

You may also provide short reports of your own, or statements from others who have observed your performance.

3. Written or spoken reports, describing

- how you involved team members in identifying development needs
- how you chose methods for identifying development needs.

4. Witness testimony

- statements from people involved in identifying development needs with you.

KNOWLEDGE STATEMENTS

You need to know and understand

1. Communication

- how to present development needs to people in a way which is likely to influence their decision making positively.

2. Continuous improvement

- the importance of team development to the continuing effectiveness of your organisation and your role and responsibilities in contributing to this.

3. Information handling

- how to collect and validate the information needed to identify development needs.

4. Involvement and motivation

- the importance of providing team members with opportunities to help identify their own development needs
- how to encourage and enable team members to identify their development needs.

5. Organisational context

- team objectives and organisational values which have a bearing on development needs
- how to decide whether development needs are consistent with organisational objectives and values.

6. Training and development

- how to identify development needs in the team
- what information is needed to identify development needs.

ELEMENT 3.14.02 CONTRIBUTE TO PLANNING THE DEVELOPMENT OF TEAMS AND INDIVIDUALS

This section provides criteria to assess whether you *contribute to planning the development of teams and individuals* to the National Standard of competence. It also lists the knowledge and understanding which are essential for effective performance.

PERFORMANCE STATEMENTS

You must:

- a) your contributions to the planning process reflect the identified **development needs** of all those you are responsible for
- b) your contributions are clear, relevant, realistic and take account of team and organisational constraints
- c) you agree your ideas with individual team members, taking account of their work activities, learning abilities and personal circumstances
- d) you present your contributions to **authorised people** only, in the required format and to agreed deadlines.

ASSESSMENT FOR BEST PRACTICE

If you wish to aspire to best practice, this section shows you how the Standards can be used for either organisational or self-assessment purposes and how to recognise success. It includes specific evidence requirements and general examples of evidence.

EVIDENCE REQUIREMENTS

You must prove that you *contribute to planning the development of teams and individuals* to the National Standard of competence. To do this, you must provide evidence to convince your assessor that you consistently meet **all** the performance criteria. Your evidence must be the result of real work activities undertaken by yourself. Evidence from simulated activities is **not** acceptable for this element.

You must show evidence that your contributions meet **both** of the following types of **development needs**

- to meet organisational objectives
- to meet individual aspirations.

You must also show evidence that you present your contributions to at least **two** of the following types of **authorised people**

- team members
- colleagues working at the same level as yourself
- higher-level managers or sponsors
- specialists.

You must, however, convince your assessor that you have the necessary knowledge, understanding and skills to be able to perform competently in respect of **all types of authorised people**, listed above.

EXAMPLES OF EVIDENCE

Here are a few examples to give you some ideas about the sort of evidence you might be able to find in your daily work.

1. Work activities

- involving your team members in planning their development
- presenting proposals for their development.

2. Products or outcomes

- your written proposals and contributions.

You may also provide short reports of your own, or statements from others who have observed your performance.

3. Written or spoken reports, describing

- how you agreed your suggested plans with your team members
- how you took account of your team members' work activities, learning abilities and personal circumstances when contributing to planning their development.

4. Witness testimony

- statements from those who received your contributions.

KNOWLEDGE STATEMENTS

You need to know and understand

1. Involvement and motivation

- the importance of agreeing development plans with those involved and how to reach such agreements.

2. Organisational context

- the team and organisational constraints which influence the planning of development activities.

3. Training and development

- how to contribute to planning the development of teams and individuals
- the training needs you have identified and how your contributions to the planning process will help meet these needs
- how to take account of team and organisational constraints in the planning process
- the importance of taking account of team members' work activities, their learning abilities and personal circumstances and how to build these factors into development activities
- the correct procedures for presenting your contributions to planning development activities.

ELEMENT 3.14.03 CONTRIBUTE TO DEVELOPMENT ACTIVITIES

This section provides criteria to assess whether you *contribute to development activities* to the National Standard of competence. It also lists the knowledge and understanding which are essential for effective performance.

PERFORMANCE STATEMENTS

You must:

- a) your **contributions** to development activities support your team objectives and plans
- b) your **contributions** meet the agreed objectives of the development activity
- c) your **contributions** take into account the work activities, learning abilities and personal circumstances of your individual team members
- d) you encourage and use feedback from those taking part in the activities to improve your future **contributions** to development activities.

ASSESSMENT FOR BEST PRACTICE

If you wish to aspire to best practice, this section shows you how the Standards can be used for either organisational or self-assessment purposes and how to recognise success. It includes specific evidence requirements and general examples of evidence.

EVIDENCE REQUIREMENTS

You must prove that you *contribute to development activities* to the National Standard of competence. To do this, you must provide evidence to convince your assessor that you consistently meet **all** the performance criteria. Your evidence must be the result of real work activities undertaken by yourself. Evidence from simulated activities is **not** acceptable for this element.

You must show evidence that you make at least **three** of the following types of **contributions**

- providing information to team members
- instructing team members in aspects of their work
- skills training
- providing learning opportunities at work
- providing feedback on their work.

You must, however, convince your assessor that you have the necessary knowledge, understanding and skills to be able to perform competently in respect of **all** types of **contributions**, listed above.

EXAMPLES OF EVIDENCE

Here are a few examples to give you some ideas about the sort of evidence you might be able to find in your daily work.

1. Work activities

- taking part in development activities
- providing opportunities for learning at work
- modifying development activities to take account of the feedback you have received.

2. Products or outcomes

- your briefing documents
- your instructional documents.

You may also provide short reports of your own, or statements from others who have observed your performance.

3. Written or spoken reports, describing

- how you took account of the work activities, learning abilities and personal circumstances of individual team members.

4. Witness testimony

- statements from those who observed you contributing to development activities.

KNOWLEDGE STATEMENTS

You need to know and understand

1. Continuous improvement

- the importance of monitoring and reviewing development activities and taking note of feedback from those who are taking part
- how to encourage and gather useful feedback from team members on the development activities they are involved in.

2. Training and development

- the types of contributions which you could make to development activities for your team members
- how to choose contributions which are appropriate to your team members, the type of development activity which is planned and your own abilities and objectives
- how to ensure your own contribution is meeting agreed objectives and plans for the activities
- why development activities should take account of team members' work activities, their learning abilities and personal circumstances

ELEMENT 3.14.04 CONTRIBUTE TO THE ASSESSMENT OF PEOPLE AGAINST DEVELOPMENT OBJECTIVES

This section provides criteria to assess whether you *contribute to the assessment of people against development objectives* to the National Standard of competence. It also lists the knowledge and understanding which are essential for effective performance.

PERFORMANCE STATEMENTS

You must:

- a) you agree the **purpose** of the **assessment** and your role in it with relevant people
- b) you give opportunities to team members to contribute to their own **assessments**
- c) you give equal access to all team members to be assessed against development objectives
- d) you carry out your role in the **assessments** objectively against clear, agreed criteria
- e) you base your **assessments** on sufficient, valid and reliable information
- f) you provide information about **assessments** to authorised people only, in the required format and to agreed deadlines.

ASSESSMENT FOR BEST PRACTICE

If you wish to aspire to best practice, this section shows you how the Standards can be used for either organisational or self-assessment purposes and how to recognise success. It includes specific evidence requirements and general examples of evidence.

EVIDENCE REQUIREMENTS

You must prove that you *contribute to the assessment of people against development objectives* to the National Standard of competence. To do this, you must provide evidence to convince your assessor that you consistently meet **all** the performance criteria. Your evidence must be the result of real work activities undertaken by yourself. Evidence from simulated activities is **not** acceptable for this element.

You must show evidence that your assessments have at least **two** of the following types of **purpose**

- identification of further training and development needs
- evaluation of the effectiveness of the training and development process
- appraisal of performance
- recognition of knowledge, skills and competence at work.

You must show evidence that you carry out at least **two** of the following types of **assessments**

- testing of knowledge and skills
- observation of performance at work
- appraisal discussions.

You must also show evidence that you agree the purpose of and provide information about **assessment** to at least **two** of the following

- teams and individuals being assessed
- higher-level managers or sponsors
- colleagues working at the same level as yourself
- specialists.

You must, however, convince your assessor that you have the necessary knowledge, understanding and skills to be able to perform competently in respect of **all** types of **purposes** and **assessments**, listed above.

EXAMPLES OF EVIDENCE

Here are a few examples to give you some ideas about the sort of evidence you might be able to find in your daily work.

1. Work activities

- running feedback interviews with individual team members
- clarifying the purpose of assessments.

2. Products or outcomes

- your written assessments of team members against training and development objectives.

You may also provide short reports of your own, or statements from others who have observed your performance.

3. Written or spoken reports, describing

- how you gave team members opportunities to contribute to their own assessments
- how you ensured that assessments were based on sufficient, valid and reliable information.

4. Witness testimony

- statement from people who were assessed or were involved in the assessment.

KNOWLEDGE STATEMENTS

You need to know and understand

1. Information handling

- the information needed to assess team members' progress
- how to collect and check the validity of information
- the importance of confidentiality when carrying out and reporting assessments - what types of information should be provided to which people.

2. Involvement and motivation

- the importance of team members contributing to the assessment of their own progress
- how to encourage and enable them to do so.

3. Organisational context

- the organisational procedures for reporting the results of assessment.

4. Training and development

- the importance of assessing team members' development
- the range of purposes which the assessment may have
- the importance of agreeing the purpose of the assessment with team members, line managers, colleagues and specialists
- the importance of fair and objective assessment
- how to assess team members' progress against development objectives
- methods which may be used to assess the progress of team members objectively and fairly.

UNIT 3.15 LEAD THE WORK OF TEAMS AND INDIVIDUALS TO ACHIEVE THEIR OBJECTIVES

UNIT SUMMARY

This unit is about making best use of your team and its members so that they can achieve their objectives. It covers planning and assessing work, and providing feedback to team members.

This unit is for you if you are a manager or supervisor with

- a tightly defined area of responsibility
- some limited opportunity for taking decisions and managing budgets
- responsibility for achieving specific results by using resources effectively, *and*
- responsibility for allocating work to team members, colleagues or contractors.

This unit contains three elements

3.15.1 Plan the work of teams and individuals

3.15.2 Assess the work of teams and individuals

3.15.3 Provide feedback to teams and individuals on their work.

In order to *plan the work of teams and individuals*, you need to decide with your team how to plan work to achieve their objectives, taking into account team members' abilities and development needs. You need to make clear what is expected of people, check their understanding and update your plans in the light of progress and changes.

In order to *assess the work of teams and individuals*, you need to make it clear why you are assessing their work and get them to assess their own work wherever possible. You need to obtain sufficient, reliable information to be able to assess their work against clear, agreed criteria.

In order to *provide feedback to teams and individuals on their work*, you need to provide regular feedback based on objective assessments of their work. Your feedback should acknowledge achievements and provide constructive suggestions and encouragement for improving work. At all times you need to show respect for confidentiality and for the individuals concerned, and give them the chance to respond to the feedback and make their own suggestions about how they could improve their work in the future.

PERFORMANCE STATEMENTS

In performing effectively in this unit, you will show that you

Acting assertively

- take a leading role in initiating action and making decisions
- take personal responsibility for making things happen
- take control of situations and events

Building teams

- actively build relationships with others
- make time available to support others
- encourage and stimulate others to make the best use of their abilities
- evaluate and enhance people's capability to do their jobs
- provide feedback designed to improve people's future performance
- show respect for the views and actions of others
- show sensitivity to the needs and feelings of others
- use power and authority in a fair and equitable manner
- keep others informed about plans and progress
- clearly identify what is required of others
- invite others to contribute to planning and organising work
- set objectives which are both achievable and challenging
- check individuals' commitment to a specific course of action
- use a variety of techniques to promote morale and productivity
- identify and resolve causes of conflict or resistance

Communicating

- listen actively, ask questions, clarify points and rephrase others' statements to check mutual understanding
- adopt communication styles appropriate to listeners and situations, including selecting an appropriate time and place
- confirm listeners' understanding through questioning and interpretation of non-verbal signals
- modify communication in response to feedback from listeners

Thinking and taking decisions

- break processes down into tasks and activities
- take decisions which are realistic for the situation.

KNOWLEDGE STATEMENTS

To perform effectively in this unit, you need to have knowledge and understanding in the areas of

- Communication
- Continuous improvement
- Information handling
- Involvement and motivation
- Monitoring and evaluation
- Organisational context
- Planning
- Working relationships.

You will find detailed knowledge requirements listed with each element.

ELEMENT 3.15.01 PLAN THE WORK OF TEAMS AND INDIVIDUALS

This section provides criteria to assess whether you *plan the work of teams and individuals* to the National Standard of competence. It also lists the knowledge and understanding which are essential for effective performance.

PERFORMANCE STATEMENTS

You must:

- a) you give opportunities to your **team members** to contribute to the planning and organisation of their work
- b) your **plans** are consistent with your team's objectives
- c) your **plans** cover all those personnel whose work you are responsible for
- d) your **plans** and schedules are realistic and achievable within **organisational constraints**
- e) your **plans** and the way you allocate work take full account of **team members'** abilities and development needs
- f) you explain to your **team members** your **plans** and their work activities in sufficient detail and at a level and pace appropriate to them
- g) you confirm your **team members'** understanding of your **plans** and their work activities at appropriate times
- h) you update your **plans** at regular intervals and take account of individual, team and organisational changes.

ASSESSMENT FOR BEST PRACTICE

If you wish to aspire to best practice, this section shows you how the Standards can be used for either organisational or self-assessment purposes and how to recognise success. It includes specific evidence requirements and general examples of evidence.

EVIDENCE REQUIREMENTS

You must prove that you *plan the work of teams and individuals* to the National Standard of competence. To do this, you must provide evidence to convince your assessor that you consistently meet **all** the performance criteria. Your evidence must be the result of real work activities undertaken by yourself. Evidence from simulated activities is **not** acceptable for this element.

You must show evidence that you involve and plan work for at least **one** of the following types of **team members**

- people for whom you have line responsibility
- people for whom you have functional responsibility.

You must also show evidence that you develop **both** of the following types of **plans**

- short-term
- medium-term

You must also show evidence that you take account of **all** of the following types of **organisational constraints**

- organisational objectives
- organisational policies
- resources

You must, however, convince your assessor that you have the necessary knowledge, understanding and skills to be able to perform competently in respect of **all** types of **team members**, listed above.

EXAMPLES OF EVIDENCE

Here are a few examples to give you some ideas about the sort of evidence you might be able to find in your daily work.

1. Work activities

- involving your team members in work planning
- confirming individuals' understanding of plans and work activities.

2. Products or outcomes

- your plans and schedules for the work of your team
- minutes of planning meetings in which you have been involved
- briefing notes you have developed
- your revised and updated plans.

You may also provide short reports of your own, or statements from others who have observed your performance.

3. Written or spoken reports, describing

- how you involved team members in planning their work
- how you updated your plans.

4. Witness testimony

- statements from those who were involved in planning work with you.

KNOWLEDGE STATEMENTS

You need to know and understand

1. Communication

- the importance of effective communication when explaining work plans and allocations
- how to present work plans in a way that gains the support and commitment of those involved.

2. Continuous improvement

- the importance of regularly reviewing work

3. Involvement and motivation

- the importance of providing your team members with the opportunity to contribute to the planning and organisation of their work.

4. Organisational context

- the types of organisational constraints which influence your planning.

5. Planning

- the importance of planning work activities to organisational effectiveness and your role and responsibilities in relation to this
- how to develop realistic and achievable work plans for teams and individuals both in the short and medium term
- the team's objectives and how your plans succeed in meeting these.

6. Working relationships

- the difference between someone who is within your line management control and someone for whom you have functional responsibility, and the implications this difference may have for planning work.

ELEMENT 3.15.02 ASSESS THE WORK OF TEAMS AND INDIVIDUALS

This section provides criteria to assess whether you *assess the work of teams and individuals* to the National Standard of competence. It also lists the knowledge and understanding which are essential for effective performance.

PERFORMANCE STATEMENTS

You must:

- a) you explain the purpose of assessment clearly to all involved
- b) you give opportunities to team members to assess their own work
- c) your assessment of work takes place at times most likely to maintain and improve effective performance
- d) your assessments are based on sufficient, valid and reliable information
- e) you make your assessments objectively against clear and agreed criteria.

ASSESSMENT FOR BEST PRACTICE

If you wish to aspire to best practice, this section shows you how the Standards can be used for either organisational or self-assessment purposes and how to recognise success. It includes specific evidence requirements and general examples of evidence.

EVIDENCE REQUIREMENTS

You must prove that you *assess the work of teams and individuals* to the National Standard of competence. To do this, you must provide evidence to convince your assessor that you consistently meet **all** the performance criteria. Your evidence must be the result of real work activities undertaken by yourself. Evidence from simulated activities is **not** acceptable for this element.

You must show evidence that your assessments have at least **two** of the following types of **purpose**

- assuring that objectives have been achieved
- assuring that quality and customer requirements have been met
- appraising team or individual performance
- recognising competent performance and achievement.

You must also show evidence that you use at least **one** of the following types of **assessment**

- specific to one activity or objective
- general to overall performance of the team or individual.

You must also show evidence that you base your **assessments** on **both** of the following types of **information**

- qualitative
- quantitative.

You must, however, convince your assessor that you have the necessary knowledge, understanding and skills to be able to perform competently in respect of **all** types of **purpose** and **assessment**, listed above.

EXAMPLES OF EVIDENCE

Here are a few examples to give you some ideas about the sort of evidence you might be able to find in your daily work.

1. Work activities

- communicating the purposes of assessment to teams and individuals
- involving your team members in assessing their work.

2. Products or outcomes

- your written criteria for the assessment of work
- progress reports you have contributed to
- quality reports you have contributed to.

You may also provide short reports of your own, or statements from others who have observed your performance.

3. Written or spoken reports, describing

- how you decided when and how to assess the work of your team and individuals
- how you took account of personal circumstances and organisational constraints when assessing the work of your team and individuals
- the performance standards against which you assessed the work of your team and individuals
- customers' requirements which your team has to satisfy.

4. Witness testimony

- statements from those whose work you assessed
- statements from those who received your reports.

KNOWLEDGE STATEMENTS

You need to know and understand

1. Communication

- the importance of being clear yourself about the purpose of assessment and of communicating this effectively to those involved.

2. Continuous improvement

- the importance of assessing the ongoing work of teams and individuals and your role and responsibilities in relation to this.

3. Information handling

- how to gather and evaluate the information you need to assess the work of teams and individuals.

4. Involvement and motivation

- the importance of providing opportunities to your team members to assess their own work and how you can encourage and enable this involvement.

5. Monitoring and evaluation

- the range of purposes of work assessment, why work assessment may play a role in an organisation and how they apply to your own situation
- how to assess the work of teams and individuals, and processes in the workplace which can support such assessment
- the principles of fair and objective assessment of work and how to ensure this is achieved.

ELEMENT 3.15.03 PROVIDE FEEDBACK TO TEAMS AND INDIVIDUALS ON THEIR WORK

This section provides criteria to assess whether you *provide feedback to teams and individuals on their work* to the National Standard of competence. It also lists the knowledge and understanding which are essential for effective performance.

PERFORMANCE STATEMENTS

You must:

- a) you provide **feedback** to your team members in a **situation** and in a **form** and manner most likely to maintain and improve performance
- b) the **feedback** you give is clear and is based on an objective assessment of your team members' work
- c) your **feedback** recognises team members' achievements and provides constructive suggestions and encouragement for improving their work
- d) the way you give **feedback** shows respect for the individuals involved
- e) you treat all **feedback** to individuals and teams confidentially
- f) you give opportunities to team members to respond to **feedback** and recommend how they could improve their work.

ASSESSMENT FOR BEST PRACTICE

If you wish to aspire to best practice, this section shows you how the Standards can be used for either organisational or self-assessment purposes and how to recognise success. It includes specific evidence requirements and general examples of evidence.

EVIDENCE REQUIREMENTS

You must prove that you *provide feedback to teams and individuals on their work* to the National Standard of competence. To do this, you must provide evidence to convince your assessor that you consistently meet **all** the performance criteria. Your evidence must be the result of real work activities undertaken by yourself. Evidence from simulated activities is **not** acceptable for this element.

You must show evidence that you provide **both** of the following types of **feedback**

- positive
- negative

You must also show evidence that you use **both** of the following forms of **feedback**

- spoken
- written

You must show evidence that you give feedback in at least **two** of the following types of **situation**

- during normal day-to-day activities
- when required to maintain motivation, morale and effectiveness
- during formal appraisals
- at team meetings and briefings
- during confidential discussions of work.

You must, however, convince your assessor that you have the necessary knowledge, understanding and skills to be able to perform competently in respect of **all** types of **situation**, listed above.

EXAMPLES OF EVIDENCE

Here are a few examples to give you some ideas about the sort of evidence you might be able to find in your daily work.

1. Work activities

- providing feedback to teams and individuals
- seeking their suggestions for improving their work.

2. Products or outcomes

- appraisal summaries and reports which you have produced
- minutes of relevant team meetings.

You may also provide short reports of your own, or statements from others who have observed your performance.

3. Written or spoken reports, describing

- how you encouraged staff to give feedback and make suggestions for improving their work
- how you used feedback to maintain morale, motivation and effectiveness
- how you gave feedback in a way that showed respect for those receiving it.

4. Witness testimony

- statements from those who received your feedback.

KNOWLEDGE STATEMENTS

You need to know and understand

1. Communication

- the importance of good communication skills when providing feedback
- how to provide both positive and negative feedback to team members on their performance
- how to choose an appropriate time and a place to give feedback to teams and individuals
- how to provide feedback in a way which encourages your team members to feel that you respect them.

2. Continuous improvement

- the importance of providing clear and accurate feedback to your team members on their performance and your role and responsibilities in relation to this.

3. Information handling

- the principles of confidentiality when providing feedback - which people should receive which pieces of information.

4. Involvement and motivation

- how to motivate team members and gain their commitment by providing feedback
- the importance of being encouraging when providing feedback to team members and showing respect for those involved
- why it is important to provide constructive suggestions on how performance can be improved
- the importance of giving those involved the opportunity to provide suggestions on how to improve their work.