WAMITAB Level 3 Award in Waste and Resource Management (QCF)

**Standards**

Waste Management Industry

Training and Advisory Board

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# Qualification Structure

Candidates must complete all units in the Mandatory Unit group and one unit from the Option Unit group to achieve a total of 12 credits.

Mandatory Group

Candidates must complete all units from this group.

* Environmental Impact of Waste and Resources Management A/502/8351 (WAMITAB code: VRQU1)
* Waste and Resources Management Industry Regulatory Policy and Legislation F/502/8352 (WAMITAB code: VRQU2)
* Permitting Requirements and Compliance in the Waste and Resources Management Industry J/502/8353 (WAMITAB code: VRQU3)
* Health and Safety in the Waste and Resources Management Industry L/502/8354 (WAMITAB code: VRQU4)
* Technical Aspects of Managing Wastes and Resources R/502/8355 (WAMITAB code: VRQU5)

Optional Unit Group

Candidates must complete one unit from this group.

* Physical Processing within the Waste and Resources Management Industry Y/502/8356 (WAMITAB code: VRQU6a)
* Biological Processing Within the Wastes and Resources Management Industry D/502/8357 (WAMITAB code: VRQU6b)
* Thermal Treatment Processing within the Wastes and Resources Management Industry H/502/8358 (WAMITAB code: VRQU6c)
* Managing Land Remediation Activities K/502/8359 (WAMITAB code: VRQU6d)
* Managing Inert Landfill Activities D/502/8360 (WAMITAB code: VRQU6e)

# Mandatory Unit Standards (Learning Outcomes and Assessment Criteria)

## Environmental Impact of Waste and Resources Management

(WAMITAB code: VRQU1)

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| Level: 3 | |
| Credit Value: 1 | |
| Learning Outcome | Assessment Criteria |
| 1. Understand what is meant by sustainable waste management. | 1.1 Explain the principles of sustainable waste management. |
| 1.2 Identify any limitations in the commonly used definitions of sustainability. |
| 2. Understand the waste hierarchy. | 2.1 Describe the waste hierarchy and illustrate using examples from thermal, biological, physical and chemical treatment. |
| 3. Identify types of waste and arisings in the UK. | 3.1 Identify main types of controlled waste with examples of each i.e Household, Industrial, Commercial and agricultural wastes. |
| 3.2 Identify the current and projected arisings for the types of waste within the UK. |
| 3.3 Identify challenges for each of the waste types in relation to the waste hierarchy and sustainability. |
| 4. Understand the potential environmental and amenity impacts of Waste and Resources Management. | 4.1 Identify potential environmental and amenity impacts within a specific Permitted Wastes and Resource facility. |
| 4.2 Explain the potential significance of these impacts on the environment. |
| 4.3 Analyse the potential for increased environmental risk as a result of plant breakdown on an appropriate site. |
| 4.4 Describe the steps to be taken to prevent environmental impact in the event of a plant or equipment breakdown. |
| 5. Understand ways of mitigating potential environmental and amenity impacts of Waste and Resources Management. | 5.1 Identify appropriate methods to mitigate potential environmental and amenity impacts of Waste and Resources Management. |

## Waste and Resources Management Industry Regulatory Policy and Legislation

(WAMITAB code: VRQU2)

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| Level: 3 | |
| Credit Value: 2 | |
| Learning Outcome | Assessment Criteria |
| 1. Understand key stakeholders within the Waste and Resouces Management sector; their roles and interrelationships. | 1.1 Identify stakeholders relevant to the Waste and Resources Management sector. |
| 1.2 Explain the roles and responsibilities of stakeholders in the Waste and Resources Management industry and how their interaction will effect subsequent treatment options. |
| 1.3 Identify the key stakeholders in relation to a specific Permitted Wastes and Resource facility. |
| 1.4 Analyse the benefits of appropriate relationships with stakeholders, to the operation of a Permitted Wastes and Resource facility. |
| 2. Understand which European and UK Legislation, Codes of Practice and guidance notes are relevant to waste and resource management facilities. | 2.1 Identify European and UK legislation, Codes of Practice and guidance notes relevant to UK waste and resource management facilities. |
| 2.2 Describe the requirements of the legislation, Codes of Practice and guidance in relation to operating a Permitted Wastes and Resource Management facility. |
| 2.3 Identify which pieces of legislation, Codes of Practice and guidance documents are relevant to a specific facility. |
| 2.4 Indicate how legislation, Codes of Practice and guidance documents may affect the operation of the facility. |
| 2.5 Explain the definition of 'waste' and the use of protocols which determine when waste has ceased to be waste. |
| 3. Understand how non-legislative drivers affect changes in Wastes and Resources Management practice. | 3.1 Identify non legislative drivers which are affecting changes in Waste and Resources Management practices. |
| 3.2 Evaluate how these drivers will affect the ways waste and resources are managed in the future. |
| 4. Understand why waste needs to be treated or disposed of in ways other than through landfill. | 4.1 Explain the legislative targets for reduction of waste to landfill. |
| 4.2 Describe the environmental impacts of diverting waste from landfill in relation to differing waste hierarchy options. |

## Permitting Requirements and Compliance in the Waste and Resources Management Industry.

(WAMITAB code: VRQU3)

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| Level: 3 | |
| Credit Value: 2 | |
| Learning Outcome | Assessment Criteria |
| 1. Understand the requirements of planning and permitting legislation as applied to the Waste and Resources Management industry. | 1.1 Explain the requirement of relevant planning regulations in relation to waste and resource management facilities and the changes to operations including:   * Requirement for planning permission * Methods to 'vary' conditions * Enforcement |
| 1.2 Explain the requirements of the Environmental Permitting Regulations in relation to the following:   * Requirement for a permit * Permit application * Technical Competence: Fit and proper person * Permit variation * Transfer of permit * Permit surrender * Enforcement |
| 2. Understand the concept of 'Producer Responsibility' and the requirements of Duty of Care and dealing with hazardous wastes. | 2.1 Explain 'Duty of Care' responsibilities for a Waste Carrier, and a Waste Management facility. Including the role of the:   * Waste Producer * Waste Broker |
| 2.2 Demonstrate use of the European Waste Classification to identify appropriate waste codes. |
| 2.3 Complete a Waste Transfer Note. |
| 2.4 Explain the concept of Producer Responsibility. |
| 2.5 Identify the legislation relevant to producer responsibility. |
| 2.6 Identify common hazardous waste types and explain the consignment note process. |
| 3. Understand the roles of the Regulators working with the Wastes and Resources Management Industry in England and Wales. | 3.1 Identify the Regulators which enforce regulations relevant to operating a wastes and resources management facility. |
| 3.2 Examine the Regulator's key roles and powers relevant to an operator of a waste and resource management facility. |
| 4. Understand the systems and procedures designed to ensure compliance with relevant legislation and methods to control environmental conditions. | 4.1 Explain environmental monitoring requirements |
| 4.2 Determine what should be covered in an environmental accident management plan and operational method statement. |
| 4.3 Explain procedures for the identification, acceptance, receipt of waste and rejection of waste. |
| 4.4 Explain how the following nuisances can be controlled:   * dust * mud * vermin * birds * odour * noise * litter * emissions (gas; vapour and bio-aerosols) |
| 5. Understand operator responsibilities for data collection, reporting, storage and retention in relation to a waste and resources management facility. | 5.1 Identify, within a specific waste facility, the different types of data which need to be collection and determine data storage periods. |
| 5.2 Identify, within a specific facility, who to report the different data streams to and the appropriate reporting mechanisms. |
| 5.3 Determine, in relation to a waste and resources management facility, the procedure to ensure all relevant data is appropriately collected, stored and reported in accordance with the Environmental Permit. |
| 5.4 Describe, in relation to a waste and resources management facility, any risks relating to these procedures from a compliance, logistics and environmental perspective. |

## Health and Safety in the Waste and Resources Management Industry

(WAMITAB code: VRQU4)

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| Level: 3 | |
| Credit Value: 2 | |
| Learning Outcome | Assessment Criteria |
| 1. Understand the general principles of Health and Safety within the Waste and Resources Management industry. | 1.1 Explain both the employer and employees responsibilities for Health and Safety. |
| 1.2 Differentiate between the terms 'hazard' and 'risk'. |
| 1.3 Analyse the risk assessment process used to identify hazards and risk within a specific waste and resources management facility. |
| 1.4 Determine appropriate hazard and risk management control measures within a specific facility. |
| 1.5 Explain the hierarchy of 'control measures'. |
| 1.6 Identify where to obtain further guidance and advice as necessary. |
| 2. Understand specific health and safety issues related to waste and resource management industry site activities. | 2.1 Identify unsafe working practices and activities, using case studies to determine and correct safety or health issues. |
| 2.2 Describe a process for 'Near Miss' Incident and Accident Reporting and take corrective action. |
| 2.3 Explain the principles of an accident or incident investigation. |
| 3. Understand the procedures for the control of contractors and other site users. | 3.1 Identify relevant legislation and guidance for dealing with contractors and other visitors. |
| 3.2 Identify appropriate procedures for dealing with contractors and other visitors within a waste and resource management facility. |
| 3.3 describe how these procedures are consistent with good practice and legal compliance. |
| 4. Understand safe working practices to control the use of plant and equipment | 4.1 Describe requirements for use of plant and equipment on a facility including:   * Maintenance * Operative training * Operating procedures * Statutory testing of equipment * Contingencies in the event of plant breakdown |

## Technical Aspects of Managing Wastes and Resources

(WAMITAB code: VRQU5)

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| Level: 3 | |
| Credit Value: 2 | |
| Learning Outcome | Assessment Criteria |
| 1. Understand the concepts for different physical, chemical, biological and thermal treatment processes available in the UK. | 1.1 Describe the different options for physical, chemical, biological and thermal treatment of wastes currently available in the UK. |
| 1.2 Describe the principles on which physical, chemical, biological and thermal treatment processes operate and the types of waste they treat. |
| 2. understand the technical, financial, political, planning and other barriers limiting the uptake of different waste and resource treatment technologies. | 2.1 Explain the technical, political and financial barriers to the uptake of different waste treatment technologies. |
| 2.2 Describe how the planning system can influence the development of different waste treatment technologies. |
| 2.3 Distinguish any further barriers that may limit the uptake of different waste treatment technologies. |
| 3. Understand the importance of effective communication within the work environment including internal and external communications. | 3.1 Describe where effective communication and consultation can benefit the site relationship with the local community. |
| 3.2 Explain how effective communication can improve relations within the workplace. |
| 3.3 Discuss, in relation to the key stakeholders (internal and external) identified for a specific site, how to use effective communication to ensure that positive appropriate relationships are developed and maintained. |
| 4. Understand the principles and procedures for Waste Transfer activities. | 4.1 Describe the principles of waste transfer. |
| 4.2 Evaluate the potential risk to the environment from waste transfer activities. |
| 4.3 Explain the procedure for waste transfer to minimise the effect on the environment. |

# Optional Unit Standards (Learning Outcomes and Assessment Criteria)

## Physical Processing within the Waste and Resources Management Industry

(WAMITAB code: VRQU6a)

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| Level: 3 | |
| Credit Value: 3 | |
| Learning Outcome | Assessment Criteria |
| 1. Understand the implications of different collection and reception systems relating to physical treatment processes. | 1.1 Identify the different collection and reception systems available. |
| 1.2 Analyse the implications of different collection and reception systems for use on subsequent physical treatment processes. |
| 1.3 Describe the impact of different waste types on physical treatment processes. |
| 1.4 Explain which collection and reception system is appropriate for the type of waste and physical treatment process specific to a facility. |
| 2. Understand the principles behind the science and engineering of the physical treatment processes. | 2.1 Determine the scientific principles behind different physical treatment processes. |
| 2.2 Describe the engineering principles behind the physical treatment processes. |
| 2.3 Explain the scientific and engineering principles of the processes within a specific operation and highlight any limitations with the process. |
| 3. Understand the technical and environmental benefits, limitations and potential problems that may arise from physical treatment processes. | 3.1 Identify and explain the technical and environmental benefits of the physical treatment processes. |
| 3.2 Describe the limitations associated with the physical treatment processes. |
| 3.3 Analyse the potential problems of physical treatment processes and how they can be controlled and managed. |
| 4. Understand what emissions, products and residual waste are associated with physical treatment processes and how these can be managed. | 4.1 List the key emissions and products associated with physical treatment processes. |
| 4.2 Explain how the key emissions from physical treatment processes can be controlled and managed in line with current guidance. |
| 4.3 Describe the uses of typical products arising from physical treatment processes. |
| 4.4 Explain how the residual waste from physical processes can be controlled and managed. |
| 4.5 Identify emissions and products within a specific physical treatment process. |
| 4.6 Describe how emissions and products can be controlled and managed within the physical treatment process to ensure they do not cause any harm to the environment. |
| 4.7 Explain the importance of ensuring compliance with Environmental Permit for the physical treatment process. |

## Biological Processing Within the Wastes and Resources Management Industry

(WAMITAB code: VRQU6b)

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| Level: 3 | |
| Credit Value: 3 | |
| Learning Outcome | Assessment Criteria |
| 1. Understand the implications of different collection and reception systems relating to biological treatment processes. | 1.1 Identify the different collection and reception systems available. |
| 1.2 Analyse the implications of different collection and reception systems for use of subsequent biological treatment processes including:   * Food waste * Co-mingled green waste mixed with food waste * Green waste |
| 1.3 Describe the impact of different waste types on biological treatment processes. |
| 1.4 Explain which collection and reception system is appropriate for the type of waste and biological treatment process specific to a facility. |
| 2. Understand the principles behind the science and engineering of the biological treatment process. | 2.1 Explain the scientific principles behind biological treatment processes. |
| 2.2 Explain the engineering principles behind biological treatment processes. |
| 2.3 Explain the scientific and engineering principles pf the processes within a specific operation. |
| 2.4 Identify any limitations with the processes within a specific operation. |
| 3. Understand the technical and environmental benefits, limitations and potential problems that may arise from biological treatment processes. | 3.1 Identify and explain the technical and environmental benefits of biological treatment processes. |
| 3.2 Describe limitations associated with the biological treatment process. |
| 3.3 Describe potential environmental problems of biological treatment processes and how they can be controlled and managed. |
| 4. Understand what emissions, products and residual waste are associated with biological treatment processes and how these can be managed. | 4.1 List the key emissions and products associated with biological treatment processes. |
| 4.2 Explain how the key emissions from biological treatment processes can be controlled and managed in line with current guidance. |
| 4.3 Describe the uses of typical products arising from biological treatment processes. |
| 4.4 Explain how the residual waste from biological processes can be controlled and managed. |
| 4.5 Identify emissions and products produced within a specific biological treatment process. |
| 4.6 Describe how emissions and products can be controlled and managed within the biological treatment process to ensure they do not cause any harm to the environment. |
| 4.7 Explain the importance of ensuring compliance with Environmental Permit for the biological treatment process. |

## Thermal Treatment Processing within the Wastes and Resources Management Industry

(WAMITAB code: VRQU6c)

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| Level: 3 | |
| Credit Value: 3 | |
| Learning Outcome | Assessment Criteria |
| 1. Understand the implications of variations in the waste types appropriate to thermal treatment processes and their inherent collection and reception systems. | 1.1 Identify the different collection and reception systems available |
| 1.2 Analyse the implications of different collection and reception systems for use on subsequent thermal treatment processes. |
| 1.3 Describe the impact of different waste types on thermal treatment processes. |
| 1.4 Explain which collection and reception system is appropriate for the type of waste and thermal treatment process specific to a facility. |
| 2. Understand the principles behind the science and engineering of thermal treatment processes. | 2.1 Explain the scientific principles behind thermal treatment processes. |
| 2.2 Explain the engineering principles behind thermal treatment processes. |
| 2.3 Explain the scientific and engineering principles of the thermal treatment process within a specific operation. |
| 2.4 Determine limitations within the thermal treatment process of a specific operation. |
| 3. Know the technical and environmental benefits, limitations and any potential problems that may arise from thermal treatment processes. | 3.1 Identify and explain the technical and environmental benefits of thermal treatment processes. |
| 3.2 Describe the limitations and public perceptions associated with thermal treatment processes. |
| 3.3 Describe any potential problems that may arise during thermal treatment processes. |
| 3.4 Develop appropriate procedures for potential problems to be controlled and managed. |
| 4. Understand what emissions, products and residual waste are associated with thermal treatment processes and how these can be managed. | 4.1 List the key emissions and products associated with thermal treatment processes. |
| 4.2 Explain how the key emissions from thermal treatment processes can be controlled and managed in line with current guidance. |
| 4.3 Describe the uses of typical products arising from thermal treatment processes. |
| 4.4 Explain how the residual waste from thermal processes can be controlled and managed. |
| 4.5 Identify emissions and products produced within a specific thermal treatment process. |
| 4.6 Describe how emissions and products can be controlled and managed  within the thermal treatment process to ensure they do not cause any harm to the environment. |
| 4.7 Explain the importance of ensuring compliance with Environmental Permit for the thermal treatment process. |

## Managing Land Remediation Activities

(WAMITAB code: VRQU6d)

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| Level: 3 | |
| Credit Value: 3 | |
| Learning Outcome | Assessment Criteria |
| 1. Understand the circumstances for which land remediation activities take place. | 1.1 Explain the origins of land contamination and the role of:   * The desk study * The site investigation * The conceptual model   to identify and examine contamination events and their potential impacts. |
| 1.2 Explain the principles of contaminated land investigation. |
| 1.3 Explain the role of risk assessment to determine a course of action for land affected by contamination. |
| 1.4 Identify the principle legislation relating to land contamination in England and Wales. |
| 1.5 Identify sources of information and guidance relating to land remediation practices. |
| 2. Understand why land remediation activities are often considered to be dealing with wastes. | 2.1 Explain, with reference to the definition of waste, the circumstances when a land remediation activity will be dealing with waste. |
| 2.2 Describe the circumstances in which soils may be considered to be non-waste, or to have ceased to be waste after treatment. |
| 3. Understand the principles employed in the selection and use of different techniques for remediation of land affected by contamination. | 3.1 Explain the role of:   * The Options Appraisal * The Remediation Strategy * The Implementation Plan * The Verification Plan * The Monitoring and Maintenance Plan |
| 3.2 Explain the key elements of a specific verification, monitoring and maintenance plan for a specific site. |
| 3.3 Describe, using examples, the different between in-situ and ex-situ remediation techniques. |
| 3.4 Identify the remediation techniques that may be employed under an Environmental Permit. |
| 3.5 Identify sources of further information and guidance regarding remediation techniques. |
| 3.6 Explain the remediation strategy for a specific site, giving the reason for choosing remediation techniques. |
| 4. Understand that land remediation activities have the potential to bring about adverse environmental impacts. | 4.1 Describe potential environmental impacts of in-situ and ex-situ remediation techniques, illustrating each with reference to a specific technique or techniques. |
| 4.2 Identify the potential environmental impacts of a specific project. |
| 5. Understand how to mitigate and control potential environmental impacts of land remediation activities. | 5.1 Identify appropriate mitigation and control measures for the risks of environmental impact from land remediation activities. |
| 5.2 Demonstrate the importance of monitoring procedures in mitigating the risks of environmental impact. |
| 6. Understand the process and importance of risk assessment when considering the potential environmental impact of land remediation activities and selecting appropriate mitigation measures. | 6.1 Explain the importance of environmental risk assessment of land remediation activities. |
| 6.2 Assess the risks of environmental impact from land remediation activities with reference to a specific project. |
| 7. Understand the role of Environmental Permit Conditions in forming the framework for site activities. | 7.1 Identify the standard Environmental Permit Conditions related to environmental risks from land remediation activities. |
| 7.2 Explain the roles of and interactions between the Environmental Permit and the Deployment Form. |

## Managing Inert Landfill Activities

(WAMITAB code: VRQU6e)

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| Level: 3 | |
| Credit Value: 3 | |
| Learning Outcome | Assessment Criteria |
| 1. Understand the regulatory principles of Environmental permitting for the design, construction and operation of inert landfills. | 1.1 Describe the basis and components of a hydrogeological risk assessment in relation to site sensitivity and engineering measures as required by an EPR Permit application. |
| 1.2 Describe the basis and components of a landfill gas screening risk assessment as required for an inert landfill EPR permit. |
| 1.3 Explain the principles of a conceptual risk assessment model for inert landfill. |
| 1.4 Describe the basis and components of a stability risk assessment. |
| 1.5 Describe the basis and components of the ecological risk assessment in relation to a specific site. |
| 2. Understand the types and arisings of inert waste. | 2.1 Define inert waste in accordance with relevant legislation. |
| 2.2 Identify the main types of waste that meet the criteria for inert waste, including any restrictions. |
| 2.3 Identify the current and projected arisings for the types of waste within the UK. |
| 3. Understand waste treatment and testing requirements. | 3. Determine the need for treatment and Waste Acceptance Criteria (WAC) testing including interpretation of data against WAC limit values, recognising exceedence of limit values. Identification of exemption from WAC compliance testing. |
| 4. Understand the potential environmental and amenity impacts from inert landfill and how they can be prevented or minimised. | 4.1 Describe the processes occurring within inert landfill which could have potential environmental and amenity impacts. |
| 4.2 Identify potential emissions and their pathways in relation to a specific site. |
| 4.3 Identify the risk and consequences of accepting non-inert wastes and what procedures would be put in place to prevent and deal with such an occurrence, including monitoring requirements in relation to a specific site. |
| 4.4 Identify potential environmental and amenity impacts from inert wastes in a specific site and identify how they can be prevented or minimised. |
| 4.5 Explain the significance of these impacts on the environment. |
| 5. Understand site closure, aftercare and permit surrender requirements. | 5.1 Demonstrate closure and aftercare requirements including monitoring, stability, restoration and the need to maintain permit compliance to minimise pollution risk. |
| 5.2 Identify the requirements for site-specific permit surrender. |

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