Department for Education

Construction Route

Example industry placement objective templates for:

- T Level in Building Services Engineering for Construction
- T Level in Design, Surveying and Planning for Construction
- T Level in Onsite Construction

July 2020

Contents

T Level: Building Services Engineering for Construction
Occupational Specialism: Air Conditioning Engineering

Role Profile [INDICATIVE EXAMPLE]

<table>
<tr><td>Role Title</td><td>Working Pattern</td><td>To be agreed between the provider and employer</td></tr>
<tr><td>Air conditioning engineering trainee</td><td>Duration</td><td>315 hours</td></tr>
<tr><td colspan="3">Objective(s)</td></tr>
<tr><td colspan="3">To support the air conditioning engineering team by contributing to the installation of air conditioning systems using quality driven techniques and modern practices in order to contribute to reducing humanities burden on precious resources</td></tr>
<tr><td colspan="3">Typical Activities</td></tr>
<tr><td colspan="3">1. Work under supervision to plan the installation of air conditioning systems (at least once a week) by
○ Interpreting installation information and data
○ Producing risk assessments and method statements
○ Identifying additional information requirements and obtaining information required
○ Updating installation documentation, drawings, and sketches as appropriate
○ Costing materials required for installation
2. Work within a team to install mechanical and/or electronic components of air conditioning systems (at least once a week) by
○ Installing ductwork systems
○ Installing system components
○ Connecting control systems
3. Work under supervision to evaluate installed air conditioning systems (at least once a week)
○ Establishing steady state
○ Testing system operation
○ Recording testing data and information
○ Completing installation documentation</td></tr>
<tr><td colspan="2">Learning goals</td><td>TQ Reference</td></tr>
<tr><td colspan="2">On the placement the student will need to further develop and hone through activity 1:

Employability skills
• Planning: identifying discrete steps, estimating time and resources, prioritising, sequencing activities</td><td>[Insert corresponding reference from the TQ content]</td></tr>
</table>

• Investigating: identifying sources, developing search queries/questions, interrogating data • Self-managing: reflecting and inviting feedback on own performance, referring to others for advice • Assessing a situation for potential adverse effects **Technical skills and understanding** • Updating records digitally • Understanding of air conditioning science and systems On the placement the student will need to further develop and hone through activity 2: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal • Assessing a situation for potential adverse effects • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force • Observing: situational awareness, monitoring **Technical skills and understanding** • Measuring and marking out installation requirements • Cutting, placing, and fixing ductwork • Attaching components to each other in a system • Understanding air conditioning science and systems On the placement the student will need to further develop and hone through activity 3: **Employability skills** • Applying a logical approach to identifying issues and propose solutions • Assessing a situation for potential adverse effects • Investigating: identifying sources, interrogating data, designing, and carrying out tests • Self-managing: managing time, setting personal goals • Recording: transcribing, noting, capturing, saving, storing • Observing: situational awareness, monitoring • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force **Technical skills and understanding** • Connecting control systems • Carrying out tests on systems • Understanding air conditioning science and systems	

Minimum starting requirements
• Information pack from the employer providing the placement • Attendance at induction day into employer policies and procedures • Health and Safety Training (Mandatory) • Any PPE required for carrying out activities • Training in the use of any specific software • Details of their mentor or other ways they will be supported by the employer
Suggested prior learning
• Knowledge of typical hazards associated with installation activities and related controls • Experience of installing air conditioning systems effectively in controlled environments • Knowledge of air conditioning systems and science • Knowledge of installation techniques and potential risks • Knowledge of the range of tools and equipment that can be used for installation and their suitability for different situations • Knowledge of building technology and how that knowledge is used to plan for installation, review installation plans and make recommendations for adjustment and change • Knowledge and skills needed to interpret drawings and other sources of information and data • Typical workplace behaviours needed for role, including: o Punctuality o Respect for others and their property o Clean and tidy in their work o Safety conscious o Positive thinking and ‘can do’ attitude o Polite o Awareness of potential risks from the environment to their own safety e.g. dogs on site o Awareness of potentially compromising situations e.g. where expensive items are on site and unsecured

T Level: Building Services Engineering for Construction

Occupational Specialism: Electrotechnical Engineering

Role Profile [INDICATIVE EXAMPLE]

Role Title	**Working Pattern**	To be agreed between the provider and employer
Electrotechnical engineering trainee	**Duration**	315 hours
Objective(s)		
To support the electrotechnical team by contributing to the maintenance of electrotechnical systems that can increase efficiency and inspire energy saving for the principle owner in order to contribute to the sustainability agenda		
Typical Activities		

1. Work under supervision to plan the maintenance of electrotechnical systems (at least once a week) by
    - Interpreting electrotechnical systems information and data and maintenance plans
    - Producing risk assessments and method statements
    - Identifying additional information requirements and obtaining information required
    - Updating maintenance documentation and drawings as appropriate
    - Interacting with different stakeholders e.g. client, user to obtain information about maintenance requirements
2. Work within a team to carry out maintenance and servicing of electrotechnical systems (at least once a week) by
    - Replacing components
    - Repairing components
    - Testing the system
    - Using software to analyse data from work activity
    - Diagnosing faults and propose solutions
    - Rectifying faults
3. Work under supervision to evaluate electrotechnical systems (at least once a week)
    - Testing the system
    - Recording testing data and information
    - Completing maintenance documentation

Learning goals	TQ Reference
On the placement the student will need to further develop and hone through activity 1: **Employability skills** • Planning: identifying discrete steps, estimating time and resources, prioritising, sequencing activities • Analysing: identifying common features, classifying, ordering • Investigating: identifying sources, developing search queries/questions, interrogating data • Self-managing: reflecting and inviting feedback on own performance, referring to others for advice • Assessing a situation for potential adverse effects • Communicating: active listening, engaging an audience, building rapport, adapting style and tone **Technical skills and understanding** • Using software to record and analyse data • Communicating effectively with different audiences using different media • Updating records digitally • Understanding electrotechnical installations On the placement the student will need to further develop and hone through activity 2: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal • Applying a logical approach to identifying issues and problems • Assessing a situation for potential adverse effects • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force • Observing: situational awareness, monitoring **Technical skills and understanding** • Using software to record and analyse data • Isolating electrical and mechanical supplies • Replacing component equipment • Repairing components • Diagnosing faults • Understanding electro-technical installations	*[Insert corresponding reference from the TQ content]*

On the placement the student will need to further develop and hone through activity 3: **Employability skills** • Applying a logical approach to identifying issues and propose solutions • Assessing a situation for potential adverse effects • Self-managing: managing time, referring to others for advice • Recording: transcribing, noting, capturing, saving, storing • Evaluating: considering and appraising process and evidence, making recommendations • Observing: situational awareness, monitoring • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force **Technical skills and understanding** • Ensuring system components are fit for purpose • Testing the system • Completing maintenance records and reports • Understanding electrotechnical installations	
Minimum starting requirements	
• Information pack from the employer providing the placement • Attendance at induction day into employer policies and procedures • Health and Safety Training (Mandatory) • Any PPE required for carrying out activities • Training in the use of any specific software • Details of their mentor or other ways they will be supported by the employer	
Suggested prior learning	
• Knowledge of typical hazards associated with maintenance activities and related controls • Experience of maintaining electrotechnical systems effectively in controlled environments e.g. college, training centre • Knowledge of electrotechnical installations • Knowledge of the range of tools, equipment and materials that can be used for maintenance and their suitability for different situations • Knowledge of building technology and how that knowledge is used to plan for maintenance activities • Knowledge of building services systems and how they impact on electrotechnical systems • Knowledge and skills needed to interpret drawings and other sources of information and data • Typical workplace behaviours needed for role, including:	

- Punctuality
- Respect for others and their property
- Clean and tidy in their work
- Safety conscious
- Positive thinking and ‘can do’ attitude
- Polite
- Awareness of potential risks from the environment to their own safety e.g. dogs on site
- Awareness of potentially compromising situations e.g. where expensive items are on site and unsecured

T Level: Building Services Engineering for Construction

Occupational Specialism: Electrical and Electronic Equipment Engineering

Role Profile [INDICATIVE EXAMPLE]

<table>
<tr><td>Role Title</td><td>Working Pattern</td><td>To be agreed between the provider and employer</td></tr>
<tr><td>Electrical and electronic engineering product installation trainee</td><td>Duration</td><td>315 hours</td></tr>
<tr><td colspan="3">Objective(s)</td></tr>
<tr><td colspan="3">To support the electrical and electronic engineering team by contributing to the installation of electrical and electronic engineering systems using quality driven techniques and modern practices in order to contribute to reducing humanities burden on precious resources</td></tr>
<tr><td colspan="3">Typical Activities</td></tr>
<tr><td colspan="3">1. Work under supervision to plan the installation of electrical and electronic engineering systems (at least once a week) by
○ Interpreting installation information and data
○ Producing risk assessments and method statements
○ Identifying additional information requirements and obtaining information required
○ Updating installation documentation, drawings, and sketches as appropriate
2. Work within a team to install components of electrical and electronic engineering systems (at least once a week) by
○ Making systems safe to work e.g. safe isolation, discharging stored charge
○ Installing cable and containment systems
○ Installing system components
○ Connecting equipment to installed systems e.g. plumbing, ventilation
○ Removing redundant equipment e.g. wiring, pipework
3. Work under supervision to evaluate installed electrical and electronic product installation (at least once a week)
○ Visually inspecting the system
○ Testing the system e.g. polarity, earth fault loop impedance
○ Recording and analysing testing data and information
○ Completing installation documentation e.g. warranty card</td></tr>
<tr><td colspan="2">Learning goals</td><td>TQ Reference</td></tr>
</table>

On the placement the student will need to further develop and hone through activity 1: **Employability skills** • Planning: identifying discrete steps, estimating time and resources, prioritising, sequencing activities • Applying a logical approach to identifying issues and problems • Investigating: identifying sources, developing search queries/questions, interrogating data • Self-managing: reflecting and inviting feedback on own performance, managing time, setting personal goals, referring to others for advice • Assessing a situation for potential adverse effects **Technical skills and understanding** • Updating records digitally • Understanding electrical and electronic products On the placement the student will need to further develop and hone through activity 2: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal • Assessing a situation for potential adverse effects • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force • Observing: situational awareness, monitoring **Technical skills and understanding** • Measuring and marking out installation requirements • Cutting, placing, and fixing cables and containment systems • Attaching components to each other in a system • Understanding electrical and electronic products On the placement the student will need to further develop and hone through activity 3: **Employability skills** • Applying a logical approach to identifying issues and propose solutions • Assessing a situation for potential adverse effects • Investigating: identifying sources, interrogating data, designing, and carrying out tests • Self-managing: managing time, referring to others for advice	*[Insert corresponding reference from the TQ content]*

• Recording: transcribing, noting, capturing, saving, storing • Evaluating: considering and appraising process and evidence, making recommendations • Observing: situational awareness, monitoring • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force **Technical skills and understanding** • Completing installation records and reports • Carrying out tests on systems • Understanding electrical and electronic products	
Minimum starting requirements	
• Information pack from the employer providing the placement • Attendance at induction day into employer policies and procedures • Health and Safety Training (Mandatory) • Any PPE required for carrying out activities • Training in the use of any specific software • Details of their mentor or other ways they will be supported by the employer	
Suggested prior learning	
• Knowledge of typical hazards associated with installation activities and related controls • Experience of installing electrical and electronic products effectively in controlled environments • Knowledge of electrical and electronic products • Knowledge of installation techniques and potential risks • Knowledge of the range of tools and equipment that can be used for installation and their suitability for different situations • Knowledge of building technology and how that knowledge is used to plan for installation, review installation plans and make recommendations for adjustment and change • Knowledge and skills needed to interpret drawings and other sources of information and data • Typical workplace behaviours needed for role, including: o Punctuality o Respect for others and their property o Clean and tidy in their work o Safety conscious o Positive thinking and ‘can do’ attitude o Polite o Awareness of potential risks from the environment to their own safety e.g. dogs on site o Awareness of potentially compromising situations e.g. where expensive items are on site and unsecured	

T Level: Building Services Engineering for Construction

Occupational Specialism: Gas Engineering

Role Profile [INDICATIVE EXAMPLE]

<table>
<tr><td>Role Title</td><td>Working Pattern</td><td>To be agreed between the provider and employer</td></tr>
<tr><td>Gas engineering trainee</td><td>Duration</td><td>315 hours</td></tr>
<tr><td colspan="3">Objective(s)</td></tr>
<tr><td colspan="3">To support the gas engineering team by contributing to the maintenance of gas systems that can increase efficiency and inspire energy saving for the principle owner in order to contribute to the sustainability agenda</td></tr>
<tr><td colspan="3">Typical Activities</td></tr>
<tr><td colspan="3">1. Work under supervision to plan the maintenance of gas engineering systems (at least once a week) by
○ Interpreting gas engineering systems information and data and maintenance plans
○ Producing risk assessments and method statements
○ Identifying additional information requirements and obtaining information required
○ Updating maintenance documentation and drawings as appropriate
○ Interacting with different stakeholders e.g. client, user to obtain information about maintenance requirements
○ Calculating maintenance downtime
2. Work within a team to carry out maintenance and servicing of gas engineering systems (at least once a week) by
○ Replacing components
○ Repairing components
○ Testing the system
○ Using software to analyse data from work activity
○ Diagnosing faults and propose solutions
○ Rectifying faults
3. Work under supervision to evaluate gas engineering systems (at least once a week)
○ Testing the system
○ Recording testing data and information
○ Completing maintenance documentation</td></tr>
<tr><td colspan="2">Learning goals</td><td>TQ Reference</td></tr>
<tr><td colspan="2">On the placement the student will need to further develop and hone through activity 1:</td><td>[Insert corresponding</td></tr>
</table>

Employability skills • Planning: identifying discrete steps, estimating time and resources, prioritising, sequencing activities • Analysing: identifying common features, classifying, ordering • Investigating: identifying sources, developing search queries/questions, interrogating data • Self-managing: reflecting and inviting feedback on own performance, managing time, setting personal goals, referring to others for advice • Assessing a situation for potential adverse effects • Communicating: active listening, engaging an audience, adapting style and tone **Technical skills and understanding** • Working efficiently with minimum waste in time-bound challenging environments • Using software to record and analyse data • Communicating effectively with different audiences using different media • Understanding gas science and systems **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal • Applying a logical approach to identifying issues and problems • Assessing a situation for potential adverse effects • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force • Observing: situational awareness, monitoring **Technical skills and understanding** • Using software to record and analyse data • Replacing component equipment • Repairing system components • Understanding gas science and systems On the placement the student will need to further develop and hone through activity 3: **Employability skills** • Assessing a situation for potential adverse effects • Investigating: identifying sources, interrogating data, designing, and carrying out tests • Self-managing: managing time, referring to others for advice	*reference from the TQ content]*

• Recording: transcribing, noting, capturing, saving, storing • Evaluating: considering and appraising process and evidence, making recommendations • Observing: situational awareness, monitoring • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force **Technical skills and understanding** • Ensuring system components are fit for purpose • Using software to record and analyse data • Completing maintenance records and reports • Understanding gas science and systems	
Minimum starting requirements	
• Information pack from the employer providing the placement • Attendance at induction day into employer policies and procedures • Health and Safety Training (Mandatory) • Any PPE required for carrying out activities • Training in the use of any specific software • Details of their mentor or other ways they will be supported by the employer	
Suggested prior learning	
• Knowledge of typical hazards associated with maintenance activities and related controls • Experience of carrying out maintenance activities on gas engineering systems effectively in controlled environments e.g. college, training centre • Knowledge of gas science and systems • Knowledge of the range of tools, equipment and materials that can be used for maintenance and their suitability for different situations • Knowledge of building technology and how that knowledge is used to plan for maintenance activities • Knowledge and skills needed to interpret drawings and other sources of information and data • Typical workplace behaviours needed for role, including: o Punctuality o Respect for others and their property o Clean and tidy in their work o Safety conscious o Positive thinking and ‘can do’ attitude o Polite o Awareness of potential risks from the environment to their own safety e.g. dogs on site o Awareness of potentially compromising situations e.g. where expensive items are on site and unsecured	

T Level: Building Services Engineering for Construction

Occupational Specialism: Heating Engineering

Role Profile [INDICATIVE EXAMPLE]

<table>
<tr><td>Role Title</td><td>Working Pattern</td><td>To be agreed between the provider and employer</td></tr>
<tr><td>Heating engineering trainee</td><td>Duration</td><td>315 hours</td></tr>
<tr><td colspan="3">Objective(s)</td></tr>
<tr><td colspan="3">To support the heating engineering team by contributing to the installation of heating systems using quality driven techniques and modern practices in order to contribute to reducing humanities burden on precious resources</td></tr>
<tr><td colspan="3">Typical Activities</td></tr>
<tr><td colspan="3">1. Work under supervision to plan the installation of heating systems (at least once a week) by
○ Interpreting installation information and data
○ Producing risk assessments and method statements
○ Identifying additional information requirements and obtaining information required
○ Updating installation documentation, drawings, and sketches as appropriate
○ Costing materials required for installation
2. Work within a team to install mechanical and/or electronic components of heating systems (at least once a week) by
○ Installing pipework systems
○ Installing system components e.g. ventilators, appliances
○ Connecting control systems
○ Setting heating controls and parameters
3. Work under supervision to evaluate heating systems (at least once a week)
○ Testing system operation
○ Recording testing data and information
○ Comparing test results against design parameters
○ Update digital building information management system software</td></tr>
<tr><td colspan="2">Learning goals</td><td>TQ Reference</td></tr>
<tr><td colspan="2">On the placement the student will need to further develop and hone through activity 1:

Employability skills
• Planning: identifying discrete steps, estimating time and resources, prioritising, sequencing activities</td><td>[Insert corresponding reference from the TQ content]</td></tr>
</table>

• Analysing: classifying, ordering • Investigating: identifying sources, interrogating data • Self-managing: reflecting and inviting feedback on own performance, referring to others for advice • Assessing a situation for potential adverse effects **Technical skills and understanding** • Updating records digitally • Understanding of heating science and systems On the placement the student will need to further develop and hone through activity 2: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal • Assessing a situation for potential adverse effects • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force • Evaluating: considering and appraising process and evidence, making recommendations • Observing: situational awareness, monitoring **Technical skills and understanding** • Measuring and marking out installation requirements • Cutting, placing, and fixing pipework • Attaching components to each other in a system • Setting system controls and parameters • Understanding heating engineering science and systems On the placement the student will need to further develop and hone through activity 3: **Employability skills** • Applying a logical approach to identifying issues and propose solutions • Assessing a situation for potential adverse effects • Investigating: identifying sources, interrogating data, designing, and carrying out tests • Self-managing: setting personal goals, referring to others for advice • Recording: transcribing, noting, capturing, saving, storing • Observing: situational awareness, monitoring • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force **Technical skills and understanding**	

• Carrying out tests on systems • Understanding heating engineering science and systems	

Minimum starting requirements

- Information pack from the employer providing the placement
- Attendance at induction day into employer policies and procedures
- Health and Safety Training (Mandatory)
- Any PPE required for carrying out activities
- Training in the use of any specific software
- Details of their mentor or other ways they will be supported by the employer

Suggested prior learning

- Knowledge of typical hazards associated with installation activities and related controls
- Experience of installing heating engineering systems effectively in controlled environments
- Knowledge of heating engineering science
- Knowledge of installation techniques and potential risks
- Knowledge of the range of tools and equipment that can be used for installation and their suitability for different situations
- Knowledge of building technology and how that knowledge is used to plan for installation, review installation plans and make recommendations for adjustment and change
- Knowledge and skills needed to interpret drawings and other sources of information and data
- Experience in using digital building information system software
- Typical workplace behaviours needed for role, including:
    - Punctuality
    - Respect for others and their property
    - Clean and tidy in their work
    - Safety conscious
    - Positive thinking and ‘can do’ attitude
    - Polite
    - Awareness of potential risks from the environment to their own safety e.g. dogs on site
    - Awareness of potentially compromising situations e.g. where expensive items are on site and unsecured

T Level: Building Services Engineering for Construction

Occupational Specialism: Plumbing Engineering

Role Profile [INDICATIVE EXAMPLE]

<table>
<tr><td>Role Title</td><td>Working Pattern</td><td>To be agreed between the provider and employer</td></tr>
<tr><td>Plumbing engineering trainee</td><td>Duration</td><td>315 hours</td></tr>
<tr><td colspan="3">Objective(s)</td></tr>
<tr><td colspan="3">To support the plumbing team by contributing to the maintenance of plumbing systems that can increase efficiency and inspire energy saving for the principle owner in order to contribute to the sustainability agenda</td></tr>
<tr><td colspan="3">Typical Activities</td></tr>
<tr><td colspan="3">1. Work under supervision to plan the maintenance of plumbing systems (at least once a week) by
○ Interpreting plumbing systems information and data and maintenance plans
○ Producing risk assessments and method statements
○ Identifying additional information requirements and obtaining information required
○ Updating maintenance documentation and drawings as appropriate
○ Interacting with different stakeholders e.g. client, user to obtain information about maintenance requirements
○ Calculating resource requirements
2. Work within a team to carry out maintenance and servicing of plumbing systems (at least once a week) by
○ Replacing components
○ Repairing components
○ Testing the system
3. Work under supervision to evaluate plumbing systems (at least once a week)
○ Testing the system
○ Recording testing data and information
○ Completing maintenance documentation</td></tr>
<tr><td colspan="2">Learning goals</td><td>TQ Reference</td></tr>
<tr><td colspan="2">On the placement the student will need to further develop and hone through activity 1:

Employability skills</td><td>[Insert corresponding reference from the TQ content]</td></tr>
</table>

• Planning: identifying discrete steps, estimating time and resources, prioritising, sequencing activities • Analysing: identifying common features, classifying, ordering • Investigating: identifying sources, developing search queries/questions, interrogating data • Self-managing: reflecting and inviting feedback on own performance, setting personal goals • Assessing a situation for potential adverse effects • Communicating: active listening, use of visual, oral, and written methods, building rapport **Technical skills and understanding** • Using software to record and analyse data • Communicating effectively with different audiences using different media • Updating records digitally • Understanding plumbing systems On the placement the student will need to further develop and hone through activity 2: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal • Assessing a situation for potential adverse effects • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force • Observing: situational awareness, monitoring **Technical skills and understanding** • Replacing component equipment • Repairing components • Understanding of plumbing systems On the placement the student will need to further develop and hone through activity 3: **Employability skills** • Applying a logical approach to identifying issues and propose solutions • Assessing a situation for potential adverse effects • Investigating: identifying sources, interrogating data, designing, and carrying out tests • Self-managing: managing time, referring to others for advice • Recording: transcribing, noting, capturing, saving, storing	

• Evaluating: considering and appraising process and evidence, making recommendations • Observing: situational awareness, monitoring • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force **Technical skills and understanding** • Ensuring system components are fit for purpose • Using software to record and analyse data • Completing maintenance records and reports • Understanding plumbing systems	

Minimum starting requirements

- Information pack from the employer providing the placement
- Attendance at induction day into employer policies and procedures
- Health and Safety Training (Mandatory)
- Any PPE required for carrying out activities
- Training in the use of any specific software
- Details of their mentor or other ways they will be supported by the employer

Suggested prior learning

- Knowledge of typical hazards associated with maintenance activities and related controls
- Experience of maintaining plumbing systems effectively in controlled environments
- Knowledge of plumbing science
- Knowledge of the range of tools, equipment and materials that can be used for maintenance and their suitability for different situations
- Knowledge of building technology and how that knowledge is used to plan for maintenance activities
- Knowledge and skills needed to interpret drawings and other sources of information and data
- Typical workplace behaviours needed for role, including:
    - Punctuality
    - Respect for others and their property
    - Clean and tidy in their work
    - Safety conscious
    - Positive thinking and ‘can do’ attitude
    - Polite
    - Awareness of potential risks from the environment to their own safety e.g. dogs on site
    - Awareness of potentially compromising situations e.g. where expensive items are on site and unsecured

T Level: Building Services Engineering for Construction

Occupational Specialism: Protection Systems Engineering

Role Profile [INDICATIVE EXAMPLE]

<table>
<tr><td>Role Title</td><td>Working Pattern</td><td>To be agreed between the provider and employer</td></tr>
<tr><td>Protection systems engineering trainee</td><td>Duration</td><td>315 hours</td></tr>
<tr><td colspan="3">Objective(s)</td></tr>
<tr><td colspan="3">To support the protection system engineering team by contributing to the installation of fire protection, security and/or emergency lighting systems using quality driven techniques and modern practices in order to contribute to reducing humanities burden on precious resources</td></tr>
<tr><td colspan="3">Typical Activities</td></tr>
<tr><td colspan="3">1. Work under supervision to plan the installation of protection systems (at least once a week) by
○ Interpreting installation information and data
○ Producing risk assessments and method statements
○ Identifying additional information requirements and obtaining information required
○ Updating installation documentation and drawings as appropriate
2. Work within a team to install components of protection systems (at least once a week) by
○ Measuring and marking out system layout
○ Installing cabling and containment systems
○ Installing system components
○ Connecting control systems
3. Work under supervision to evaluate installed protection systems (at least once a week)
○ Visually inspecting system installation
○ Testing protection system operation
○ Recording testing data and information
○ Completing installation documentation
○ Demonstrating system operation to users</td></tr>
<tr><td colspan="2">Learning goals</td><td>TQ Reference</td></tr>
<tr><td colspan="2">On the placement the student will need to further develop and hone through activity 1:

Employability skills</td><td>[Insert corresponding reference from the TQ content]</td></tr>
</table>

• Planning: identifying discrete steps, estimating time and resources, prioritising, sequencing activities • Analysing: identifying common features, classifying, ordering • Self-managing: reflecting and inviting feedback on own performance, managing time, setting personal goals, referring to others for advice • Assessing a situation for potential adverse effects **Technical skills and understanding** • Working efficiently with minimum waste in time-bound challenging environments • Updating records digitally • Understanding how protection systems function On the placement the student will need to further develop and hone through activity 2: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal • Applying a logical approach to identifying issues and problems • Assessing a situation for potential adverse effects • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force • Observing: situational awareness, monitoring **Technical skills and understanding** • Measuring and marking out system layout • Installing cable and containment systems • Attaching components to each other in a system • Connecting control systems • Understanding of how protection systems function On the placement the student will need to further develop and hone through activity 3: **Employability skills** • Applying a logical approach to identifying issues and propose solutions • Assessing a situation for potential adverse effects • Conveying information to an audience to secure consistent understanding • Investigating: identifying sources, interrogating data, designing, and carrying out tests • Self-managing: managing time, referring to others for advice, setting personal goals	

• Recording: transcribing, noting, capturing, saving, storing • Evaluating: considering and appraising process and evidence, making recommendations • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force **Technical skills and understanding** • Carrying out tests on systems • Completing installation records and reports • Understanding how protection systems function	

Minimum starting requirements

- Information pack from the employer providing the placement
- Attendance at induction day into employer policies and procedures
- Health and Safety Training (Mandatory)
- Any PPE required for carrying out activities
- Training in the use of any specific software
- Details of their mentor or other ways they will be supported by the employer

Suggested prior learning

- Knowledge of typical hazards associated with installation activities and related controls
- Experience of installing protection systems effectively in controlled environments
- Knowledge of installation techniques and potential risks
- Knowledge of the range of tools and equipment that can be used for installation and their suitability for different situations
- Knowledge of building technology and how that knowledge is used to plan for installation, review installation plans and make recommendations for adjustment and change
- Knowledge and skills needed to interpret drawings and other sources of information and data
- Typical workplace behaviours needed for role, including:
    - Punctuality
    - Respect for others and their property
    - Clean and tidy in their work
    - Safety conscious
    - Positive thinking and ‘can do’ attitude
    - Polite
    - Awareness of potential risks from the environment to their own safety e.g. dogs on site
    - Awareness of potentially compromising situations e.g. where expensive items are on site and unsecured

T Level: Building Services Engineering for Construction

Occupational Specialism: Refrigeration Engineering

Role Profile [INDICATIVE EXAMPLE]

<table>
<tr><td>Role Title</td><td>Working Pattern</td><td>To be agreed between the provider and employer</td></tr>
<tr><td>Refrigeration engineering trainee</td><td>Duration</td><td>315 hours</td></tr>
<tr><td colspan="3">Objective(s)</td></tr>
<tr><td colspan="3">To support the refrigeration engineering team by contributing to the maintenance of refrigeration systems that can increase efficiency and inspire energy saving for the principle owner in order to contribute to the sustainability agenda</td></tr>
<tr><td colspan="3">Typical Activities</td></tr>
<tr><td colspan="3">1. Work under supervision to plan the maintenance of refrigeration systems (at least once a week) by
○ Interpreting refrigeration systems information and data and maintenance plans
○ Producing risk assessments and method statements
○ Identifying additional information requirements and obtaining information required
○ Updating maintenance documentation and drawings as appropriate
○ Calculating resource requirements
2. Work within a team to carry out maintenance and servicing of refrigeration systems (at least once a week) by
○ Replacing components
○ Testing the system
○ Cleaning the system
○ Classifying waste for disposal and recycling
○ Establishing ambient conditions
○ Diagnosing faults and propose solutions
○ Rectifying faults
3. Work under supervision to evaluate refrigeration systems (at least once a week)
○ Testing the system
○ Recording testing data and information
○ Completing maintenance documentation</td></tr>
<tr><td colspan="2">Learning goals</td><td>TQ Reference</td></tr>
</table>

On the placement the student will need to further develop and hone through activity 1: **Employability skills** • Planning: identifying discrete steps, estimating time and resources, prioritising, sequencing activities • Analysing: identifying common features, classifying, ordering • Investigating: identifying sources, developing search queries/questions, interrogating data • Self-managing: reflecting and inviting feedback on own performance, managing time, setting personal goals, referring to others for advice • Assessing a situation for potential adverse effects **Technical skills and understanding** • Working efficiently with minimum waste in time-bound challenging environments • Using software to record and analyse data • Updating records digitally • Understanding refrigeration system engineering On the placement the student will need to further develop and hone through activity 2: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal • Applying a logical approach to identifying issues and problems • Assessing a situation for potential adverse effects • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force • Observing: situational awareness, monitoring **Technical skills and understanding** • Carrying out systems tests • Adjusting the system • Replacing component equipment • Understanding of refrigeration system engineering On the placement the student will need to further develop and hone through activity 3: **Employability skills** • Assessing a situation for potential adverse effects • Investigating: identifying sources, interrogating data, designing, and carrying out tests	*[Insert corresponding reference from the TQ content]*

• Self-managing: managing time, referring to others for advice • Recording: transcribing, noting, capturing, saving, storing • Evaluating: considering and appraising process and evidence, making recommendations • Observing: situational awareness, monitoring • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force **Technical skills and understanding** • Ensuring system components are fit for purpose • Completing maintenance records and reports • Understanding refrigeration system engineering	

Minimum starting requirements

- Information pack from the employer providing the placement
- Attendance at induction day into employer policies and procedures
- Health and Safety Training (Mandatory)
- Any PPE required for carrying out activities
- Training in the use of any specific software
- Details of their mentor or other ways they will be supported by the employer

Suggested prior learning

- Knowledge of typical hazards associated with maintenance activities and related controls
- Experience of maintaining refrigeration systems effectively in controlled environments e.g. college, training centre
- Knowledge of refrigeration engineering science
- Knowledge of the range of tools, equipment and materials that can be used for maintenance and their suitability for different situations
- Knowledge of building technology and how that knowledge is used to plan for maintenance activities
- Knowledge and skills needed to interpret drawings and other sources of information and data
- Typical workplace behaviours needed for role, including:
    - Punctuality
    - Respect for others and their property
    - Clean and tidy in their work
    - Safety conscious
    - Positive thinking and ‘can do’ attitude
    - Polite
    - Awareness of potential risks from the environment to their own safety e.g. dogs on site
    - Awareness of potentially compromising situations e.g. where expensive items are on site and unsecured

T Level: Building Services Engineering for Construction

Occupational Specialism: Ventilation Engineering

Role Profile [INDICATIVE EXAMPLE]

<table>
<tr><td>Role Title</td><td>Working Pattern</td><td>To be agreed between the provider and employer</td></tr>
<tr><td>Ventilation engineering trainee</td><td>Duration</td><td>315 hours</td></tr>
<tr><td colspan="3">Objective(s)</td></tr>
<tr><td colspan="3">To support the ventilation engineering team by contributing to the installation of ventilation systems using quality driven techniques and modern practices in order to contribute to reducing humanities burden on precious resources</td></tr>
<tr><td colspan="3">Typical Activities</td></tr>
<tr><td colspan="3">1. Work under supervision to plan the installation of ventilation systems (at least once a week) by
○ Interpreting installation information and data
○ Producing risk assessments and method statements
○ Identifying additional information requirements and obtaining information required
○ Updating installation documentation, drawings, and sketches as appropriate
○ Costing materials required for installation
○ Calculating installation requirements
2. Work within a team to install mechanical and/or electronic components of ventilation systems (at least once a week) by
○ Installing ductwork systems
○ Installing system components
○ Connecting control systems
3. Work under supervision to evaluate installed ventilation systems (at least once a week)
○ Testing system operation
○ Recording testing data and information
○ Completing installation documentation
○ Updating digital building information systems software</td></tr>
<tr><td colspan="2">Learning goals</td><td>TQ Reference</td></tr>
<tr><td colspan="2">On the placement the student will need to further develop and hone through activity 1:

Employability skills</td><td>[Insert corresponding reference from the TQ content]</td></tr>
</table>

• Planning: identifying discrete steps, estimating time and resources, prioritising, sequencing activities • Analysing: identifying common features, classifying, ordering • Self-managing: setting personal goals, referring to others for advice • Assessing a situation for potential adverse effects **Technical skills and understanding** • Updating records digitally • Calculating task requirements • Understanding of ventilation engineering science and systems On the placement the student will need to further develop and hone through activity 2: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal • Assessing a situation for potential adverse effects • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force • Observing: situational awareness, monitoring **Technical skills and understanding** • Measuring and marking out installation requirements • Cutting, placing, and fixing ductwork • Attaching components to each other in a system • Connecting control systems • Working efficiently with minimum waste in time-bound challenging environments • Understanding ventilation engineering science and systems On the placement the student will need to further develop and hone through activity 3: **Employability skills** • Applying a logical approach to identifying issues and propose solutions • Assessing a situation for potential adverse effects • Investigating: identifying sources, interrogating data, designing, and carrying out tests • Self-managing: managing time, referring to others for advice • Evaluating: considering and appraising process and evidence, making recommendations • Observing: situational awareness, monitoring	

• Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force **Technical skills and understanding** • Connecting control systems • Carrying out tests on systems • Understanding ventilation engineering science and systems	

Minimum starting requirements

- Information pack from the employer providing the placement
- Attendance at induction day into employer policies and procedures
- Health and Safety Training (Mandatory)
- Any PPE required for carrying out activities
- Training in the use of any specific software
- Details of their mentor or other ways they will be supported by the employer

Suggested prior learning

- Knowledge of typical hazards associated with installation activities and related controls
- Experience of installing of ventilation systems effectively in controlled environments
- Knowledge of ventilation systems and science
- Knowledge of installation techniques and potential risks
- Knowledge of the range of tools and equipment that can be used for installation and their suitability for different situations
- Knowledge of building technology and how that knowledge is used to plan for installation, review installation plans and make recommendations for adjustment and change
- Knowledge and skills needed to interpret drawings and other sources of information and data
- Typical workplace behaviours needed for role, including:
    - Punctuality
    - Respect for others and their property
    - Clean and tidy in their work
    - Safety conscious
    - Positive thinking and ‘can do’ attitude
    - Polite
    - Awareness of potential risks to their own safety from the environment e.g. dogs on site
    - Awareness of potentially compromising situations e.g. where expensive items are on site and unsecured

T Level: Design, Surveying and Planning for Construction

Occupational Specialism: Surveying and Design for Construction and the Built Environment

Role Profile [INDICATIVE EXAMPLE]

<table>
<tr><td>Role Title</td><td>Working Pattern</td><td>To be agreed between the provider and employer</td></tr>
<tr><td>Quantity surveying trainee</td><td>Duration</td><td>315 hours</td></tr>
<tr><td colspan="3">Objective(s)</td></tr>
<tr><td colspan="3">To support a project team by carrying out quantity surveying activities in order to provide high quality data to project team members to enable them to make decisions about costs</td></tr>
<tr><td colspan="3">Typical Activities</td></tr>
<tr><td colspan="3">1. Work within a team to obtain information needed to carry out measurement activities (at least once a week) by
a. Meeting with key stakeholders to explore requirements
b. Producing risk assessments and communicating details using appropriate methods to key stakeholders
2. Work within a team to capture data using appropriate measurement methods (at least once a week) by
a. Selecting appropriate measurement methodology and digital tools
b. Receiving and confirming a brief
c. Operating measurement digital tools
d. Quality assuring the measurements
3. Work under supervision to process data using appropriate techniques by (at least once a week) by
a. Collating and classifying project information
b. Inputting and managing project information using digital software
c. Prepare for negotiations with clients
d. Presenting project information using appropriate techniques and formats</td></tr>
<tr><td colspan="2">Learning goals</td><td>TQ Reference</td></tr>
<tr><td colspan="2">On the placement the student will need to further develop and hone through activity 1:

Employability skills
• Communicating: active listening, use of visual, oral, and written methods, engaging an audience, sharing, building rapport, adapting style and tone
• Working with others with different skills, expertise, and experience to accomplish a task or goal</td><td>[Insert corresponding reference from the TQ content]</td></tr>
</table>

• Assessing a situation, a proposal, a product or process for potential adverse effects. **Technical skills and understanding** • Capturing project information • Recording project information to the appropriate level of accuracy • Understanding of methods used to gather project information • Understanding of how project information is used through the project in different ways On the placement the student will need to further develop and hone through activity 2: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal • Planning: identifying discrete steps, estimating resources, prioritising, sequencing activity • Investigating: identifying sources, developing search criteria/queries, interrogating data, designing, and carrying out tests **Technical skills and understanding** • Capturing data and project information • Recording data and project information to the appropriate level of accuracy • Operating measurement digital tools • Quality assuring measurements and project information • Using digital tools with accuracy and efficiency • Understanding of how project information is used through the project in different ways • Understanding the application of measurement standards, guidance, and practice, including measurement rules On the placement the student will need to further develop and hone through activity 3: **Employability skills** • Communicating: active listening, use of visual, oral, and written methods, engaging an audience, building rapport, adapting style and tone • Conveying information to an audience to stimulate discussion, and/or secure consistent understanding • Analysing: identifying common features, organising into types, discerning patterns, deconstructing, classifying, ordering	

• Self-managing: reflecting and inviting feedback on own performance, setting personal goals, referring to others for advice • Negotiation: securing agreement on a course of action through discussion, in order to achieve mutually beneficial results. **Technical skills and understanding** • Skills to use digital tools with accuracy and efficiency • Understanding of how project information is used through the project in different ways • Understanding the application of measurement standards, guidance, and practice, including measurement rules	
Minimum starting requirements	
• One day induction to the organisation, ways of working, health and safety requirements and other relevant policies and procedures • Site Induction for the specific project • Training on the use of digital tools and other measurement tools not previously experienced • PPE requirements • Achievement of a health and safety test to enable the employer to obtain the necessary permits to access the site e.g. visitors' card, trainee card	
Suggested prior learning	
• Experience of using tools for measurement • Knowledge of digital technology and its contribution to the measurement of the built environment • Experience of collating measurement data sets • Knowledge of digital systems • Knowledge of a range of measurement methods and their suitability in different situations • Knowledge of the principles and limitations of measurement • Knowledge of the application of measurement standards, guidance, and practice, including measurement rules • Typical workplace behaviours needed for role, including: o Punctuality o Respect o Politeness o Willingness to give it a go o Working as part of a team o Focus on task at hand o Avoid distractions from social media o Appropriate standards of dress o Application of professional communication	

T Level: Design, Surveying and Planning for Construction

Occupational Specialism: Civil Engineering

Role Profile [INDICATIVE EXAMPLE]

<table>
<tr><td>Role Title</td><td>Working Pattern</td><td>To be agreed between the provider and employer</td></tr>
<tr><td>Civil engineering trainee</td><td>Duration</td><td>315 hours</td></tr>
<tr><td colspan="3">Objective(s)</td></tr>
<tr><td colspan="3">To support the project team by contributing to civil engineering and infrastructure design solutions in order to meet a challenging project brief</td></tr>
<tr><td colspan="3">Typical Activities</td></tr>
<tr><td colspan="3">1. Work under supervision to plan the design of civil engineering solutions (at least twice a week) by
○ Interpreting related information and data from secondary sources
○ Quality assuring provided data
○ Conducting precedent research into potential solutions
○ Sequencing and prioritising tasks
2. Work within a team to design civil engineering solutions (at least twice a week) by
○ Model designs using appropriate digital software and other tools
○ Use appropriate techniques to check accuracy of measurements
○ Testing the system
○ Using software to analyse data from work activity
○ Identify problems and propose solutions
○ Determine performance of materials
○ Apply mathematical principles to the scope of work
○ Present potential solutions
○ Assess commercial risk</td></tr>
<tr><td colspan="2">Learning goals</td><td>TQ Reference</td></tr>
<tr><td colspan="2">On the placement the student will need to further develop and hone through activity 1:

Employability skills
• Planning: identifying discrete steps, estimating time and resources, prioritising, coordinating, sequencing activities
• Self-managing: monitoring, reflecting, and inviting feedback on own performance, managing time, setting personal goals, referring to others for advice</td><td>[Insert corresponding reference from the TQ content]</td></tr>
</table>

• Evaluating: considering and appraising process and evidence, making recommendations • Investigating: identifying sources, developing search criteria/queries, interrogating data **Technical skills and understanding** • Skills to use software to record and analyse data • Skills to conduct precedent research • Skills to apply mathematical principles • Understanding of implications of statutory obligations to designs • Understanding of how measurement standards, guides and practice are applied to civil engineering projects • Understanding of digital technology and how it is applied in designing civil engineering solutions On the placement the student will need to further develop and hone through activity 2: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal • Applying a logical approach to identifying issues and propose solutions • Assessing a situation for potential adverse effects • Analysing: identifying common features, organising into types, discerning patterns, classifying, ordering • Creativity: lateral thinking, making novel connections, handling ambiguity, taking acceptable risks, forming ideas iteratively, futureproofing • Critical thinking: questioning, evaluating pros and cons, using logic and reasoned argument, synthesising and concluding **Technical skills and understanding** • Skills to design solutions to achieve desired outcomes • Skills to apply mathematical principles • Skills to model information using digital software and other reports • Skills to check accuracy of measurements • Understanding of implications of statutory obligations to designs • Understanding of how measurement standards, guides and practice are applied to civil engineering projects • Understanding of structural elements and their application to civil engineering solutions	
Minimum starting requirements	

- One day induction to the organisation, ways of working, health and safety requirements and other relevant policies and procedures
- Site Induction for the specific project
- Training on the use of digital and other equipment not previously experiences
- Achievement of a health and safety test to enable the employer to obtain the necessary permits to access the site e.g. visitors' card, trainee card
- PPE requirements

Suggested prior learning

- Experience of using digital design tools to model design solutions
- Knowledge of structural elements
- Experience of conducting research and extracting relevant information and data
- Knowledge of the mathematical principles to be applied when designing civil engineering solutions
- Typical workplace behaviours needed for role, including:
    - Punctuality
    - Respect
    - Politeness
    - Willingness to give it a go
    - Working as part of a team
    - Focus on task at hand
    - Avoid distractions from social media
    - Appropriate standards of dress
    - Application of professional communication

T Level: Design, Surveying and Planning for Construction

Occupational Specialism: Building Services Design

Role Profile [INDICATIVE EXAMPLE]

<table>
<tr><td>Role Title</td><td>Working Pattern</td><td>To be agreed between the provider and employer</td></tr>
<tr><td>Building services design trainee</td><td>Duration</td><td>315 hours</td></tr>
<tr><td colspan="3">Objective(s)</td></tr>
<tr><td colspan="3">To support the project team by checking prepared building services design solutions in order to meet challenging project milestones</td></tr>
<tr><td colspan="3">Typical Activities</td></tr>
<tr><td colspan="3">1. Work under supervision to obtain information needed to verify building services design solutions (at least once a week) by
○ Collating information and data
○ Verifying the suitability of information and data from appropriate sources
○ Present information and data to team members using a range of media
2. Work within a team to verify building services solutions (at least once a week) by
○ Interpreting information and data
○ Using relevant software to verify items
○ Carrying out calculations of system design criteria
○ Completing whole life analyses
○ Benchmarking design solutions</td></tr>
<tr><td colspan="2">Learning goals</td><td>TQ Reference</td></tr>
<tr><td colspan="2">On the placement the student will need to further develop and hone through activity 1:

Employability skills
• Self-managing: monitoring, reflecting, and inviting feedback on own performance, managing time, setting personal goals, referring to others for advice
• Evaluating: considering and appraising evidence, making recommendations
• Analysing: identifying common features, organising into types, discerning patterns, classifying, ordering
• Conveying information to an audience to stimulate discussion</td><td>[Insert corresponding reference from the TQ content]</td></tr>
</table>

Technical skills and understanding • Skills to use digital applications to record and verify items • Skills to apply mathematical techniques to verifying solutions • Understanding of environmental performance measures and how they are met and measured • Understanding of industry standards, guidance, and practice and how these are used to verify the delivery of the built environment • Understanding the techniques for achieving best value and quality On the placement the student will need to further develop and hone through activity 2: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal • Applying a logical approach to identifying issues and propose solutions • Assessing a situation for potential adverse effects • Critical thinking: questioning, evaluating pros and cons, using logic and reasoned argument, synthesising and concluding **Technical skills and understanding** • Skills to use digital applications to record and verify items • Skills to apply mathematical techniques to verifying solutions • Skills to complete a whole life analysis • Understanding of environmental performance measures and how they are met and measured • Understanding of industry standards, guidance, and practice and how these are used to verify the delivery of the built environment • Understanding the techniques for achieving best value and quality	
Minimum starting requirements	
• One day induction to the organisation, ways of working, health and safety requirements and other relevant policies and procedures • Site Induction for the specific project • Training on the use of digital and other equipment not previously experiences • Achievement of a health and safety test to enable the employer to obtain the necessary permits to access the site e.g. visitors' card, trainee card • PPE requirements	

Suggested prior learning

• Knowledge of environmental performance measures
• Experience of verifying building services solutions in controlled environments
• Knowledge of industry valuation standards, guidance, and practice and how these are used to verify the delivery of building services solutions
• Knowledge of techniques for value engineering
• Experience of completing costings analysis
• Typical workplace behaviours needed for role, including:
  ○ Punctuality
  ○ Respect
  ○ Politeness
  ○ Willingness to give it a go
  ○ Working as part of a team
  ○ Focus on task at hand
  ○ Avoid distractions from social media
  ○ Appropriate standards of dress
  ○ Application of professional communication

T Level: Design, Surveying and Planning for Construction

Occupational Specialism: Hazardous Materials Analysis and Surveying

Role Profile [INDICATIVE EXAMPLE]

Role Title	**Working Pattern**	To be agreed between the provider and employer
Hazardous materials surveying and analysis trainee	**Duration**	315 hours
Objective(s)		
To support the project team by contributing to the analysis of potentially hazardous materials in order to ensure a safe working construction site for workers and visitors		
Typical Activities		
1. Work within a team to identify potential sources of hazardous materials (at least once a week) by o Producing risk assessments and communicating details using appropriate methods to key stakeholders o Using techniques to ensure the integrity of potentially hazardous materials o Monitoring environments where potentially hazardous materials are expected o Collecting and recording data and information from primary and secondary sources o Sequencing and prioritising tasks o Processing data o Completing required documentation 2. Work under supervision to analyse potentially hazardous materials (at least once a week). This could be based on archive and not live projects. The student would be expected to by o Using analytical techniques such as chemical preparation, morphology and composition, Phase Contrast Microscopy and fibre counting. o Applying mathematical techniques to analysis o Operating analytical equipment such as microscopes safely o Recording and manage data to ensure accuracy and security o Using predictive models to check accuracy of analysis o Presenting information to key stakeholders using appropriate methods and media o Applying safe processes to waste disposal		

Learning goals	TQ Reference
On the placement the student will need to further develop and hone through activity 1: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal • Applying a logical approach to identifying issues and propose solutions • Assessing a situation for potential adverse effects • Planning: identifying discrete steps, prioritising, sequencing activities • Analysing: identifying common features, organising into types, discerning patterns, classifying, ordering • Recording: transcribing, capturing, saving, storing • Observation: situational awareness **Technical skills and understanding** • Skills to use software to record and analyse data • Skills to use appropriate equipment and tools with accuracy • Understanding of safe working practices when dealing with potentially hazardous materials • Understanding of techniques used to collect samples for analysis • Understanding of risk management and its application to working with potentially hazardous materials On the placement the student will need to further develop and hone through activity 2: **Employability skills** • Self-managing: monitoring, reflecting, and inviting feedback on own performance, managing time, setting personal goals, referring to others for advice • Applying a logical approach to identifying issues and propose solutions • Conveying information to an audience to stimulate discussion and secure understanding • Assessing a situation for potential adverse effects • Analysing: identifying common features, organising into types, discerning patterns, classifying, ordering • Critical thinking: questioning, evaluating pros and cons, using logic and reasoned argument, synthesising and concluding **Technical skills and understanding** • Skills to use software to record and analyse data • Skills to use appropriate equipment and tools with accuracy	*[Insert corresponding reference from the TQ content]*

• Skills to safely dispose of waste • Skills to use different analytical techniques • Skills to apply mathematical techniques to analysis • Understanding of techniques used for analysis of potentially hazardous materials • Understanding of safe working practices when dealing with potentially hazardous materials • Understanding of risk management and its application to working with potentially hazardous materials	
Minimum starting requirements	
• One day induction to the organisation, ways of working, health and safety requirements and other relevant policies and procedures • Site Induction for the specific project • Training on the use of digital and other equipment not previously experiences • Achievement of a health and safety test to enable the employer to obtain the necessary permits to access the site e.g. visitors' card, trainee card • PPE requirements	
Suggested prior learning	

• Experience of analysing potentially hazardous materials in controlled environments
• Knowledge of hazardous materials and techniques used to locate and identify them
• Experience of conducting research and extracting relevant information and data
• Experience of using a range of tools, equipment, and materials to support analysis of hazardous materials
• Understanding of legal requirements for data collection and management
• Typical workplace behaviours needed for role, including:
  ○ Punctuality
  ○ Respect
  ○ Politeness
  ○ Willingness to give it a go
  ○ Working as part of a team
  ○ Focus on task at hand
  ○ Avoid distractions from social media
  ○ Appropriate standards of dress
  ○ Application of professional communication	

T Level: Onsite Construction
Occupational Specialism: Plastering

Role Profile [INDICATIVE EXAMPLE]

<table>
<tr><td>Role Title</td><td>Working Pattern</td><td>To be agreed between the provider and employer</td></tr>
<tr><td>Plastering trainee</td><td>Duration</td><td>315 hours</td></tr>
<tr><td colspan="3">Objective(s)</td></tr>
<tr><td colspan="3">To support the plastering team by contributing to the application of various plastering systems in different environments in order to meet challenging time and quality standards</td></tr>
<tr><td colspan="3">Typical Activities</td></tr>
<tr><td colspan="3">1. Work within a team to prepare backgrounds for plastering (at least one day per week) by
○ Interpreting information and data e.g. risk assessment, method statements
○ Planning task requirements
○ Inspecting backgrounds for suction and/or defects and making good
○ Applying keys to backgrounds
2. Work within a team to apply plasterboard to specific environments (at least one day per week) by
○ Setting out plasterboard to stud work and direct bond
○ Fixing plasterboard to timber/metal studwork and solid backgrounds
3. Work within a team to apply plaster to specific (at least one day per week) by
○ Mixing mortar, including plaster and render
○ Applying plastering systems to internal and external surfaces
○ Finishing plastering</td></tr>
<tr><td colspan="2">Learning goals</td><td>TQ Reference</td></tr>
<tr><td colspan="2">On the placement the student will need to further develop and hone through activity 1:

Employability skills
• Planning: identifying discrete steps, estimating time and resources, prioritising, sequencing activities
• Self-managing: reflecting and inviting feedback on own performance, setting personal goals, referring to others for advice
• Assessing a situation for potential adverse effects</td><td>[Insert corresponding reference from the TQ content]</td></tr>
</table>

Technical skills and understanding • Interpreting information and data in different formats e.g. specifications, safety data sheets • Inspecting environments for defects and issues e.g. issues with loose backgrounds, suction • Understanding the application of scientific concepts and principles to plastering e.g. how different materials react to different backgrounds and environmental conditions • Understanding of the costs associated with activities and how to minimise waste On the placement the student will need to further develop and hone through activity 2: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal • Applying a logical approach to identifying issues and problems • Assessing a situation for potential adverse effects • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force • Observing: situational awareness, monitoring **Technical skills and understanding** • Working efficiently with minimum waste to set timescales in challenging environments • Measuring environments including area and length • Setting out plasterboard • Fixing plasterboard • Understanding the application of scientific concepts and principles to plastering e.g. how different materials react to different backgrounds and environmental conditions • Understanding of the costs associated with activities and how to minimise waste On the placement the student will need to further develop and hone through activity 3: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal • Assessing a situation for potential adverse effects • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force • Observing: situational awareness, monitoring	

Technical skills and understanding • Mixing mortar to requirements • Applying different types of plaster in different environments • Understanding the application of scientific concepts and principles to plastering e.g. how different materials react to different backgrounds and environmental conditions • Understanding of the costs associated with activities and how to minimise waste	
Minimum starting requirements	
• Attendance at employer induction day to cover organisational policies, procedures, work practices, health and safety requirement including PPE • Site induction • Achievement of a health and safety test to enable the employer to obtain the necessary permits for the student to access the site e.g. visitors card, trainee card	
Suggested prior learning	

• Experience of applying plasterboard in controlled environments such as in a college or training centre
• Experience of applying different plastering systems in controlled environments such as in a college or training centre
• Skills needed to interpret drawings and other sources of information and data
• Knowledge of typical hazards associated with plastering activities and related controls
• Knowledge of mathematical techniques related to area, length, and volume
• Typical workplace behaviours needed for role, including:
  ○ Punctuality
  ○ Prioritisation of quality
  ○ Awareness of own ability and need to improve overall quality and performance
  ○ Respect for others
  ○ Politeness
  ○ Appreciation of others in the team, the expertise they have developed and guidance and support they can offer
  ○ A focus on task at hand and avoidance of distractions such as social media
  ○ A safety- first attitude
  ○ Respect for the environment they are working with which may be someone's home
  ○ Respect for other trades and visitors to the workplace	

T Level: Onsite Construction

Occupational Specialism: Bricklaying

Role Profile [INDICATIVE EXAMPLE]

<table>
<tr><td>Role Title</td><td>Working Pattern</td><td>To be agreed between the provider and employer</td></tr>
<tr><td>Bricklaying trainee</td><td>Duration</td><td>315 hours</td></tr>
<tr><td colspan="3">Objective(s)</td></tr>
<tr><td colspan="3">To support the bricklaying team by contributing to the renovation of masonry structures in order to meet challenging time and quality standards</td></tr>
<tr><td colspan="3">Typical Activities</td></tr>
<tr><td colspan="3">1. Work within a team to prepare for renovation of masonry structures (at least once a week) by
○ Identifying information requirements from different sources
○ Gathering and interpreting information and data
○ Producing risk assessments and method statements
○ Calculating resource requirements
○ Measuring environments
○ Briefing team members on planned activities
2. Work within a team to set out brickwork for construction (at least once a week) by
○ Inspecting masonry for damage and defects
○ Measuring and marking out materials
3. Work within a team to renovate masonry structures (at least once a week)
○ Erecting blockwork/brickwork
○ Applying masonry within existing structures
○ Mixing mortar
○ Blending masonry to existing fabric
○ Inserting supports to maintain structural integrity</td></tr>
<tr><td colspan="2">Learning goals</td><td>TQ Reference</td></tr>
<tr><td colspan="2">On the placement the student will need to further develop and hone through activity 1:

Employability skills
• Working with others with different skills, expertise, and experience to accomplish a task or goal e.g. briefing others
• Planning: identifying discrete steps, estimating time and resources, prioritising, sequencing activities
• Analysing: identifying common features, classifying, ordering</td><td>[Insert corresponding reference from the TQ content]</td></tr>
</table>

• Investigating: identifying sources, developing search queries/questions, interrogating data • Applying a logical approach to identifying issues and propose solutions • Assessing a situation for potential adverse effects • Conveying information to an audience to secure understanding **Technical skills and understanding** • Measuring environments • Understanding of how scientific concepts are applied to brickwork e.g. the relationship between masonry and different types of construction frames • Understanding of building technology e.g. integral building components • Understanding of how geometry is used in brickwork On the placement the student will need to further develop and hone through activity 2: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal e.g. briefing others • Assessing a situation for potential adverse effects • Physical dexterity: precise and controlled movement, coordination, delicacy **Technical skills and understanding** • Inspecting masonry for damage and defects • Measuring and marking out requirements • Understanding of how scientific concepts are applied to brickwork e.g. the relationship between masonry and different types of construction frames On the placement the student will need to further develop and hone through activity 3: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal e.g. briefing others • Assessing a situation for potential adverse effects • Critical thinking: questioning, evaluating pros and cons, using logic reasoned argument, synthesising and concluding • Self-managing: monitoring, reflecting, and inviting feedback on own performance, managing time, setting personal goals, referring to others for advice • Physical dexterity: precise and controlled movement, coordination, delicacy	

Technical skills and understanding • Shaping masonry products • Mixing mortar to application requirements • Removing damaged brickwork • Blending masonry products into existing building fabric • Erecting blockwork/brickwork • Understanding of how scientific concepts are applied to brickwork e.g. the relationship between masonry and different types of construction frames • Understanding of building technology e.g. integral building components	

Minimum starting requirements

- Attendance at employer induction day to cover organisational policies, procedures, work practices, health and safety requirement including PPE
- Site induction
- Achievement of a health and safety test to enable the employer to obtain the necessary permits for the student to access the site e.g. visitors card, trainee card

Suggested prior learning

- Knowledge of building technology
- Knowledge of health and safety risks and associated controls
- Experience in renovating and refurbishing masonry structures in controlled environments such as in a college or training centre
- Knowledge of mathematical techniques related to area, length, and geometry
- Knowledge of scientific concepts and principles e.g. effects of the external environment including trees and drainage on masonry products.
- Knowledge of the range of tools, equipment and materials that can be used for renovating brickwork
- Typical workplace behaviours needed for role, including:
    - Punctuality
    - Prioritisation of quality
    - Awareness of own ability and need to improve overall quality and performance
    - Respect for others
    - Politeness
    - Appreciation of others in the team, the expertise they have developed and guidance and support they can offer
    - A focus on task at hand and avoidance of distractions such as social media
    - A safety-first attitude
    - Respect for the environment they are working with which may be someone's home
    - Respect for other trades and visitors to the workplace

T Level: Onsite Construction

Occupational Specialism: Carpentry and Joinery

Role Profile [INDICATIVE EXAMPLE]

<table>
<tr><td>Role Title</td><td>Working Pattern</td><td>To be agreed between the provider and employer</td></tr>
<tr><td>Joinery trainee</td><td>Duration</td><td>315 hours</td></tr>
<tr><td colspan="3">Objective(s)</td></tr>
<tr><td colspan="3">To support the joinery team by contributing to the production of complex timber-based components in order to meet challenging time and quality standards</td></tr>
<tr><td colspan="3">Typical Activities</td></tr>
<tr><td colspan="3">1. Work within a team to prepare for the production of complex timber-based components (at least one day per week) by
○ Interpreting drawings, specifications, and schedules
○ Producing drawings and sketches
○ Carrying out calculations
○ Marking out measurements onto timber-based products
○ Estimating requirements
2. Work within a team to produce complex timber-based components (at least one day per week) by
○ Using woodworking machinery and equipment
○ Creating templates and work holding jigs
○ Producing test pieces
○ Producing complex shapes
○ Preparing components for assembly</td></tr>
<tr><td colspan="2">Learning goals</td><td>TQ Reference</td></tr>
<tr><td colspan="2">On the placement the student will need to further develop and hone through activity 1:

Employability skills
• Working with others with different skills, expertise, and experience to accomplish a task or goal e.g. briefing others
• Assessing a situation for potential adverse effects
• Planning: identifying discrete steps, estimating time and resources, prioritising, sequencing activity

Technical skills and understanding
• Interpreting information and data in different formats e.g. drawings, method statements</td><td>[Insert corresponding reference from the TQ content]</td></tr>
</table>

• Measuring and marking out environments and materials e.g. length, area, angles, shapes • Carrying out geometrical calculations relating to complex 3D shapes • Producing drawings and sketches • Understanding of the costs associated with activities and how to minimise waste On the placement the student will need to further develop and hone through activity 2: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal e.g. briefing others • Assessing a situation for potential adverse effects • Applying a logical approach to identifying issues and propose solutions • Critical thinking: questioning, evaluating pros and cons, using logic reasoned argument, synthesising and concluding • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force **Technical skills and understanding** • Interpreting information and data in different formats e.g. drawings, method statements • Operating equipment e.g. set them up, adjust them, feed materials safely and efficiently • Carrying out geometrical calculations relating to complex 3D shapes • Producing complex shapes from timber-based products • Understanding of wood science and how the understanding is applied when producing complex timber-based components e.g. how defects arise and their implications to the production process • Understanding of the costs associated with activities and how to minimise waste	
Minimum starting requirements	
• Attendance at employer induction day to cover organisational policies, procedures, work practices, work environment, health and safety requirement including PPE • Training on the use of specific equipment if no prior knowledge or experience	

Suggested prior learning

- Experience of using a range of tools and equipment
- Experience of working with a range of timber-based products to produce timber-based components
- Experience of measuring and marking out timber-based products
- Experience of producing complex shapes from timber-based products in controlled environments such as a college or training centre
- Skills needed to interpret drawings and other sources of information
- Knowledge of typical hazards associated with working with timber-based products and associated tools and equipment
- Knowledge of mathematical techniques related to geometrical shapes
- Typical workplace behaviours needed for role, including:
    - Punctuality
    - Prioritisation of quality
    - Awareness of own ability and need to improve overall quality and performance
    - Respect for others
    - Politeness
    - Appreciation of others in the team, the expertise they have developed and guidance and support they can offer
    - A focus on task at hand and avoidance of distractions such as social media
    - A safety-first attitude

T Level: Onsite Construction

Occupational Specialism: Painting and Decorating

Role Profile [INDICATIVE EXAMPLE]

<table>
<tr><td>Role Title</td><td>Working Pattern</td><td>To be agreed between the provider and employer</td></tr>
<tr><td>Painting and decorating trainee</td><td>Duration</td><td>315 hours</td></tr>
<tr><td colspan="3">Objective(s)</td></tr>
<tr><td colspan="3">To support the painting and decorating team by contributing to the application of surface coatings and wallcoverings in order to meet challenging time and quality standards</td></tr>
<tr><td colspan="3">Typical Activities</td></tr>
<tr><td colspan="3">1. Working under supervisions to prepare for the application of surface coatings and/or wallcoverings (at least once a week) by
○ Identifying information requirements from different sources e.g. a brief, drawings, specifications
○ Preparing for meeting with customers to discuss design choices
○ Designing a decorative scheme to meet customer requirements
○ Producing scaled drawings of designs
○ Estimating resource requirements
○ Producing risk assessments and method statements
2. Work within a team to apply coating techniques for complex areas e.g. broad, liner and specialist (at least once a week) by
○ Using different types of equipment e.g. sprayers, special effect tools
○ Applying different types of coatings e.g. water-borne, solvent-borne
○ Rectifying irregular surface coating problems
○ Measuring and marking out backgrounds
○ Inspecting finish against required standards
3. Work within a team to apply wallcoverings (at least once a week)
○ Measuring and cutting wallcoverings, minimising waste
○ Applying adhesives to wallcoverings
○ Applying techniques for the hanging of a range of wallcoverings e.g. patterned paper, embossed paper
○ Inspecting finish against required standards</td></tr>
<tr><td colspan="2">Learning goals</td><td>TQ Reference</td></tr>
<tr><td colspan="2">On the placement the student will need to further develop and hone through activity 1:</td><td>[Insert corresponding reference from the TQ content]</td></tr>
</table>

Employability skills • Self-managing: reflecting and inviting feedback on own performance, managing time, setting personal goals, referring to others for advice • Assessing a situation for potential adverse effects • Applying a logical approach to identifying issues and propose solutions • Critical thinking: questioning, evaluating pros and cons, using logic reasoned argument, synthesising and concluding • Creativity: making novel connections, handling ambiguity, forming ideas iteratively **Technical skills and understanding** • Designing decorative schemes • Presenting decorative schemes digitally and by hand • Understanding of how geometry is used in the preparation and application of coatings and wallcoverings On the placement the student will need to further develop and hone through activity 2: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal e.g. briefing others • Assessing a situation for potential adverse effects • Applying a logical approach to identifying issues and propose solutions • Planning: identifying discrete steps, estimating time and resources, prioritising, sequencing activity • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force **Technical skills and understanding** • Using different tools and equipment to apply coatings • Using different techniques for the application of coatings • Inspecting the quality of finish • Understanding of how principles of moisture transmission and ventilation affect surface coatings and their application On the placement the student will need to further develop and hone through activity 3: **Employability skills** • Working with others with different skills, expertise, and experience to accomplish a task or goal e.g. briefing others • Assessing a situation for potential adverse effects	

• Applying a logical approach to identifying issues and propose solutions • Critical thinking: questioning, evaluating pros and cons • Physical dexterity: precise and controlled movement, agility, coordination, delicacy, appropriate application of force **Technical skills and understanding** • Using different tools and equipment to apply wallcoverings • Using different techniques for the application of wallcoverings • Cutting wallcoverings whilst minimising waste • Inspecting the quality of finish • Understanding of how principles of moisture transmission and ventilation affect wallcoverings • Understanding of how geometry is used in the preparation and application of coatings and wallcoverings	

Minimum starting requirements

- Attendance at employer induction day to cover organisational policies, procedures, work practices, health and safety requirement including PPE
- Site induction
- Achievement of a health and safety test to enable the employer to obtain the necessary permits to access the site e.g. visitors card, trainee card

Suggested prior learning

- Experience of using a range of tools for the application of coatings and wallcoverings
- Experience of applying coatings in controlled environments
- Experience of applying wallcoverings in controlled environments
- Experience of identifying and rectifying issues with coatings and wallcoverings
- Knowledge of mathematical techniques related to area, length, and geometry
- Knowledge of the types of information required for the application of coatings and wallcoverings
- Typical workplace behaviours needed for role, including:
    - Punctuality
    - Prioritisation of quality
    - Awareness of own ability and need to improve overall quality and performance
    - Respect for others
    - Politeness
    - Appreciation of others in the team, the expertise they have developed and guidance and support they can offer
    - A focus on task at hand and avoidance of distractions such as social media

- A safety-first attitude
- Respect for the environment they are working with which may be someone's home
- Respect for other trades and visitors to the workplace